The magic bullet?

Recent studies suggest we have found the magic bullet in terms of improving our life, health and longevity. Two papers have clearly identified the key factors that we can alter if we wish to live longer healthier lives - most of us know what they are - yet few of us in the developed world seem willing or able to adhere to a lifestyle of not smoking, eating a Mediterranean style diet rich in vegetables, fruits, fish, pulses, lean meat and low in salt and saturated fat, exercising for 30 minutes a day, staying slim and drinking in moderation.

Research by Chiuve SE, Sacks FM, Rimm EB studies the primary prevention of ischemic stroke by healthy lifestyle factors. The authors compared, using data from the Health Professionals Follow-up Study, how adhering to 5 healthy lifestyle habits (not smoking, no obesity, getting 30 minutes or more of exercise/day, following a healthy diet, and consuming some but not more than 3 alcoholic beverage drinks/day) and the risk of ischemic stroke.

As has been found for coronary disease and diabetes, the small percentage of subjects (6% of their population) who met all 5 criteria had a risk ratio for stroke of 0.31 (in comparison with subjects not following all 5 components of the healthy lifestyle). The lowering of risk of stroke was 44% without moderate alcohol consumption (versus 69% with the alcohol component included). Thus, even for people who have a very healthy lifestyle, the moderate consumption of alcohol led to considerably greater reduction in their risk of ischemic stroke.

A second paper by Danaei G et al, studied the causes of cancer in the world: (Comparative Risk Assessment of Nine Behavioural and Environmental Risk Factors. Lancet 2005; 366:1784-1793). The authors state that primary prevention through lifestyle and environmental interventions remains the main way to reduce the burden of cancers. The authors estimated mortality from 12 types of cancer attributable to nine risk factors in seven World Bank regions for 2001. They found that of the 7 million deaths from cancer worldwide in 2001, an estimated 2.43 million (35%) were attributable to nine potentially modifiable risk factors. Of these, 0.76 million deaths were in high-income countries and 1.67 million in low-and-middle-income nations.

Among low-and-middle-income regions, Europe and Central Asia had the highest proportion (39%) of deaths from cancer attributable to the risk factors studied. A total of 1.6 million of the deaths attributable to these risk factors were in men and 0.83 million in women. Smoking, alcohol misuse, and low fruit and vegetable intake were the leading risk factors for death from cancer worldwide and in low-and-middle-income countries. In high-income countries, smoking, alcohol misuse, being overweight and obesity were the most important causes of cancer. Sexual transmission of human papilloma virus is a leading risk factor for cervical cancer in women in low-and-middle-income countries.

The authors conclude that reduction of exposure to key behavioural and environmental risk factors would prevent a substantial proportion of deaths from cancer. A second paper in the same edition Bofetta P et al, Alcohol and Cancer: Review Lancet Oncology 2006; 7:149-156 provides a balanced review of alcohol’s implication in various cancers.

AIM’s Forum on Alcohol and Health - current evidence, future trends looked at the development of our knowledge about the impact of alcohol and lifestyle on our health, since St Legers findings in 1979 that those who drank in moderation had lower rates of CHD than heavy drinkers or abstainers.

The research illustrated at the Forum (full report on pages 13-19) made clear that we have a much greater understanding of the mechanisms of how alcohol effects our health (both positive and negative implications) and it was also emphasised that the health benefits of moderate drinking only outweigh the risks in men over 35 and post menopausal women.
France

The Moderation and Prevention Council has finally been given the official seal of approval in the form of a decree which in-stitates members and defines the Council’s missions. The new body is designed as a think-tank in which the drinks industry, the authorities, health representatives and anti-alcohol organisations can discuss policy issues related to alcoholic drinks. It is entitled to deliver formal recommendations on these issues, can propose research topics, assessments and information campaigns and can be consulted on all of these. (Source Journée Vinicole).

Denmark

Denmark reports a reduction in alcohol consumption for both 2004 and 2005. The reduction in 2004 was 3.5% while it was 2.5% in 2005. This occurred at the same time as Denmark reduced its alcohol taxes. The connection between prices and consumption can therefore be questioned.

US

The US Beer Institute has formed an independent panel to study complaints made about beer advertisements - the panel will intervene when a complainant is not satisfied with a brewer’s response concerning an ad. “Our members have a strong tradition of self-regulation,” said Jeff Becker, president of the Beer Institute. “We have continually updated our advertising and marketing code in response to societal changes and technological advancements. This panel is yet another step we are taking to assist brewers in their efforts to comply with our code.”

The board members will be independent from the brewing industry and will have worked in advertising and be familiar with US government alcohol policy, the Institute said.

EU

The European Commission is asking drinks companies for comments on how EU legislation covering excise duties can be reformed.

Acknowledging opposition from member states to greater harmonisation of national rates, a report for the consultation exercise focuses on simplifying the EU excise system, making these taxes easier to pay, levy and account for, and making the most of the recent computerisation of EU customs controls.

The Commission has suggested outlawing using paper administration, except when the computer system is not available, and to “simplify and modernise procedures”.

This would allow traders in excisable goods registered in one EU country to carry out excise formalities in another member state, including warehousing, production and distribution.

China

China’s efforts to reduce underage drinking could founder on a lack of awareness among the country’s retailers. The Chinese Government has begun phasing in a ban on alcohol sales to minors but, according to local reports, many vendors said they either had not heard of the law or thought it would be difficult to enforce. The ban is merely a regulation, not a law, and it remains unclear how it would be enforced.

Along with banning underage drinking, regulations from the Chinese Commerce Ministry also require retailers to obtain licences for alcohol sales and ensure alcohol purity and safety.
Alcohol advertising may contribute to increased drinking among young people

Young people who view more alcohol advertisements tend to drink more alcohol, according to a new study in the January issue of Archives of Pediatrics & Adolescent Medicine, one of the JAMA Archives journals.

Young people are beginning to drink at an earlier age than ever before and their actions can have consequences ranging from poor grades to alcoholism and car accidents, according to background information in the article. Several studies have found an association between exposure to alcohol advertisements and youth drinking, but have not been able to establish causality, the authors write. The alcohol industry has no federal restrictions on its advertising but is subject to voluntary codes dictating that 70 percent of the audience for their advertisements be adults older than age 21. The authors report that these ads still appear frequently in media aimed at young people.

Leslie B. Snyder, Ph.D., of the University of Connecticut, Storrs, and colleagues interviewed a random sample of young people aged 15 to 26 years in 24 U.S. media markets four times between 1999 and 2001. The researchers interviewed 1,872 young people in the first wave, 1,173 of the same respondents in the second, 787 in the third and 588 in the fourth.

Young adults who reported viewing more alcohol advertisements on average also reported drinking more alcohol on average—each additional advertisement viewed per month increased the number of drinks consumed by 1 percent. The same percentage increase, 1 percent per advertisement per month, applied to underage drinkers (those younger than age 21) as well.

The authors also analyzed youth drinking in relation to advertising dollars spent in respondents’ media markets, based on information purchased from an industry source. They also purchased information about total alcohol sales in each state. “It is important to control for total alcohol consumption levels because markets with greater sales may attract more alcohol advertising from brands competing to sell in markets with more heavy drinkers,” they write. Even with this control, young people drank 3 percent more per month for each additional dollar spent per capita in their market.

Youth in markets with high advertising expenditures ($10 or more per person per month) also increased their drinking more over time, reaching a peak of 50 drinks per month by age 25.

“Given that there was an impact on drinking using an objective measure of advertising expenditures, the results are inconsistent with the hypothesis that a correlation between advertising exposure and drinking could be caused entirely by selective attention on the part of drinkers,” the authors report. “The results also contradict claims that advertising is unrelated to youth drinking amounts: that advertising at best causes brand switching, only affects those older than the legal drinking age or is effectively countered by current educational efforts. Alcohol advertising was a contributing factor to youth drinking quantities over time.”

Diageo launches Guinness Mid-Strength and sensible drinking advert

Diageo Ireland is introducing a new category to the Irish beer market. The company is to launch a Guinness mid-Strength stout at 2.8% ABV. The product will initially be test marketed in 80 Limerick pubs from 9 March for a six-month period, following which potential for a national roll out will be assessed, the company said. “The development of Guinness Mid-Strength follows significant research that highlighted a need for premium drinks with a lower alcohol content that do not sacrifice taste or quality,” the company said. The launch of the new beer also delivers against one of the 2004 Strategic Taskforce on Alcohol recommendations to the drinks industry to develop lower alcohol content products.

Diageo has also launched two responsible drinking TV advertisements. Over 8 million people in the UK will be targeted by two television advertisements encouraging them to drink responsibly as part of Diageo Great Britain’s (GB) commitment to promoting responsible drinking. The advertisements, titled ‘Many Me’ and ‘Mirror’ were launched in February in the London, Manchester and Nottingham regions, running for a two-month period. The advertisements illustrate how excessive drinking for both men and women can ruin a good evening.

Andy Fennell, Diageo Europe Marketing and Innovation Director said: ‘This campaign shows the negative impact that irresponsible drinking can have on you and the way others perceive you. It also shows the positive impact of being in control and at your social best. It is an empowering message, demonstrating that how you drink comes down to personal choice.’

The ‘Many Me’ advertisement shows a man considering the route a typical night out at a bar could go. He sees himself enjoying the company of friends, however, he also sees himself having too much to drink and becoming unruly and messy. The barman’s question to the man at the end, ‘So, what’ll it be?’, has an obvious double meaning and emphasises the message that everyone has a choice about how much they drink. The ‘Mirror’ advertisement follows a woman at a house party. At the start of the evening, she is enjoying herself and chatting to friends. Later she becomes aware that, reflected in the mirror and other surfaces, she is seeing someone who looks like herself also at the party. The difference is this woman’s behaviour - she is losing control and her friends are no longer as warm or welcoming as before. The ad closes with the strapline ‘Make sure you like what you see’.

Ontario’s graduated driver license

In 1994, Ontario, Canada, instituted a new graduated driver license (GDL) system that effectively set the legal blood alcohol content (BAC) threshold at zero for the first few years of a youth’s driving eligibility. The author used data from the 1983-2001 Ontario Student Drug Use Surveys (OSDUS) to examine whether the Zero Tolerance (ZT) policy reduced self-reported drinking and alcohol-involved driving among youth.

The researcher wrote, “I find that rates of drunk driving reported by 16- to 17-year-olds who faced new, lower legal limits after adoption of the ZT policy were about 5 percentage points lower after the law was implemented. Visual inspection of the data, however, shows that the estimated reduction is an artifact of a pre-existing trend: drunk driving rates in this age group were falling steadily throughout the 1980s and into the 1990s.” Furthermore, it is suggested that “Ontario age-targeted drunk driving law - despite being harsher than similar policies in the United States - was not responsible for reductions in Canadian youth road fatalities over the past two decades.”


Bullying in middle school may increase substance abuse in high school

A recent study by Julie C. Rusby and colleagues from the Oregon Research Institute, published in the November 2005 issue of the Journal of Early Adolescence by SAGE Publications, found significant associations between peer harassment of students in middle school and a variety of problem behaviors, such as alcohol abuse, once these students reach high school.

Although most previous studies have largely focused on elementary school students and have found associations between peer harassment and low self-esteem, depression, loneliness and anxiety of harassed victims, the ORI study focused on other consequences such as substance abuse, aggressive behaviour, and the association with deviant peers.

The researchers studied the relationships between verbal and physical peer harassment in middle school and how this was associated with problem behaviours (aggression, antisocial behavior, associating with deviant peers, cigarette use, and alcohol use) during middle school and high school. The results of the study show that frequent verbal harassment is the norm in middle school rather than physical harassment and that both forms of harassment decrease once students reach the high school years.

One of the most interesting findings was that verbal harassment during the middle school years increased the likelihood of alcohol use during high school almost three fold. The evidence also suggests that peer harassment may be fueling aggression and antisocial behaviours, especially among boys who tend to be harassed both verbally and physically at a higher rate than girls. Further study in this area may provide a better understanding of the prevalent school violence in today’s society.

Does alcohol labelling encourage sensible drinking?

Clear labelling on shop-bought alcohol, showing the alcohol units contained and health advice, may not be effective in promoting sensible drinking, says a letter in the BMJ.

In a snapshot survey of 263 supermarket shoppers in Edinburgh, two university lecturers investigated whether information labels on alcoholic drinks influenced drinking awareness.

Although most of those surveyed could define what constitutes a unit of alcohol, less than a fifth of men and just a quarter of women used the information to monitor how much they drank.

Very few - just 8% of women and 5% of men - were aware of the current guidelines which outline sensible daily drinking levels. Many instead estimated the maximum number of units per day from older guidelines defining weekly levels, while a third offered no suggestion at all.

Nearly half of the shoppers surveyed preferred wine, but a fifth of those gave no estimate on how many units are in a bottle. Another third thought the alcohol content to be less than it is - guessing seven units or fewer, when the right answer is closer to nine.

Most participants said they were in favour of alcohol labelling. However, the survey found price offers influenced buying more than label information.

Despite the enthusiasm for labelling amongst the participants, evidence from other countries on its effectiveness is not supportive, say the authors. This survey shows there may be “considerable confusion about sensible drinking messages in the UK,” they conclude.


Consumer trends in Europe from datamonitor

Market analyst Datamonitor predicts that women are challenging men’s dominance in on-trade consumption in the UK while natural, organic and ethical products are rising in popularity.

Datamonitor states: “European women currently drink much less than men in pubs, bars, cafés and restaurants: the average European man drinks just over 2.5 times as much alcohol in the on-trade as the average European woman. But the gap is narrowing, driven partly by changing demographics and partly by the increased attractiveness of on-trade drinks offerings to female drinkers of all ages. In the UK, women have significantly increased their on-trade drinks intake in recent years... In 2005, women accounted for just 32% of total UK on-trade alcoholic drinks consumption, but they are forecast to drink almost 38% of the alcohol sold in the on-trade by 2010.

Violent crime reduction bill update

The Violent Crime Reduction Bill will receive its Second Reading in the House of Lords on Wednesday 29 March. This Bill will potentially introduce the power to allow local authorities to introduce Alcohol Disorder Zones (ADZs) in areas that are particularly associated with alcohol-related crime and disorder. By creating an ADZ a local authority will be able to charge all licensed businesses within the ADZ a percentage of turnover for services such as cleaning and extra policing, irrespective of the efforts being made by individual businesses to avert such behaviour.

The Bill also contains additional offences that will be inserted into the Licensing Act 2003, including an offence of persistently selling alcohol to children and further grounds for closure orders of up to 48 hours. We still await the Guidance to the Bill, from the Home Office, which will contain the full practical details of how this will operate. The WSTA is continuing its work with MPs and Lords representing the interests of the trade.

Worldwide alcohol-related research and the disease burden

A recent study aimed to determine the international commitment to alcohol-related research relative to its global burden of disease, which is 4% of disability-adjusted life years (DALYs).

The investigators explained, “Biomedical research and the global disease burden due to alcohol both increased during 1992-2003, whilst the number of papers from alcohol-related research remained static and declined to < 0.7% of all biomedical research literature. Nearly 58% of all alcohol-related research papers were from Canada and the United States, 30% from Western Europe, and 10% from Australia, New Zealand, or Japan. However, these regions suffer only 13% of the global burden of disease due to alcohol; meanwhile, the rest of the world contributed only 8% of the total research whilst suffering from 87% of the disease burden. The estimated annual expenditure on alcohol-related research in 2001 was $730 million, or about $12 per DALY due to alcohol.”

Furthermore, they wrote in the study conclusion, “The global commitment to alcohol-related research is only one-sixth of that warranted by the burden of disease due to alcohol. Most related research is conducted in the developed world but is still less than that appropriate to the regional burden of disease. There is a need for more interest in alcohol-related research in the developing world, particularly in Latin America and Eastern Europe, in view of their high burden of disease due to alcohol.”

Mixed findings on the raising of alcohol prices

Researchers say the rate of violent crime in Western Australia could be slashed if the Federal Government adopts a renewed push to cut the cost of low-alcohol drinks.

It is a move doctors and crime researchers say could change the drinking habits of Australians and save the country millions by reducing alcohol-related crime.

The Australian Medical Association and the Royal College of Physicians have presented the proposal to the Government.

It argues that beverages should be taxed according to alcohol content.

Currently wine is taxed at a much lower rate, equivalent to six cents a glass, compared to more than 50 cents for light beer.

The Crime Research Centre’s David Indermaur says the evidence in favour of the proposal is overwhelming.

“Drinkers are very price-sensitive so if we can encourage someone to get a carton of beer for example at a lower price but they’re consuming a lower alcohol product, obviously the alcohol-related harm won’t be so great,” he said.

Mr Indermaur argued that impulsive violent crime in particular, would drop.

However, a study in the January issue of Alcoholism: Clinical & Experimental Research has found that across-the-board price increases may not always have the intended effects on alcohol sales.

“Our study accepts the assumption that alcohol is a “complex good,” composed of different beverage types - such as beer, wine and spirits - as well as quality brands that can be high-, medium- or low-end,” said Paul J. Gruenewald, senior research scientist at the Prevention Research Center and first author of the study.

“We then go on to examine the impacts of the broad distribution of alcohol beverage prices upon sales of alcohol. Our results show that higher alcohol prices may and may not cause reductions in alcohol sales and related problems. These effects will depend upon how the distribution of prices is affected. In other words, the same tax may have different impacts in different markets and with different distributions of prices.”

“In general,” added Raul Caetano, professor of epidemiology and regional dean at The University of Texas School of Public Health, “the evidence suggests that as you increase taxes, and alcoholic beverages become more expensive, individuals tend to use alcohol less. However, the findings in this paper indicate that the reality is not so simple, because there are alcoholic beverages at different levels of price, and when you implement taxation, what happens is that the individuals who are able to purchase the alcoholic beverages that were more expensive just switch to less expensive ones. In fact, the paper shows that there may be situations where the intent of the taxation is reversed, in that alcohol consumption increases rather than decreases because the alcohol of choice has become cheaper. Basically, they buy more and end up drinking more.”

For this study, researchers analyzed Swedish price and sales data for the years 1984 through 1994 for price effects on alcohol consumption. “We had four major findings,” said Gruenewald. “One, the distribution of prices for alcohol is very broad. Two, increases in prices of expensive alcohol have little impacts on sales. Three, increases in prices of inexpensive alcohol have large impacts on sales. Therefore, four, tax increases can have different impacts on sales, depending upon how they are passed on to the consumer.”

Source: This study was published in the January 2006 issue of Alcoholism: Clinical & Experimental Research.

Soft drinks firms draw up advertising code

The association representing Europe’s soft drinks producers has drawn up plans to limit advertising to children and sales in schools to counter rising child obesity on the continent.

The Union of European Beverages Associations (UNESDA), which represents firms including Coca-Cola, PepsiCo and Cadbury Schweppes, in January 2006 announced a raft of measures to ward off the threat of EU legislation on the marketing and sale of soft drinks.

The plans include a ban on marketing soft drinks to children under the age of 12, greater dialogue on the sale of beverages in schools and an increase in the number of low-sugar and sugar-free drinks available to children.

Dominique Reiniche, president of UNESDA and Coke’s EU Group, said the rising level of obesity was “a major public health issue” and soft drinks firms wanted to “support fully” the EU in tackling the problem.

“The European non-alcoholic beverage industry is determined to play its part within this joint effort by all stakeholders. We are doing so by offering concrete commitments to the EU Platform and we are ready to offer independent monitoring of their implementation over time.” Reiniche added.

The agreement comes after a warning from European Union Health Commissioner Markos Kyprianou that the industry should stop advertising junk food and drink to children or face fresh EU legislation.

The European non-alcoholic beverage sector has an annual turnover of around EUR150bn (US$184bn) with almost 2,000 brands on sale in the EU.
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 Responsible Drinking and Health’ on moderate drinking and health – comprehensively indexed and fully searchable without charge
· To communicate with consumers on responsible drinking and health via www.drinkingandyou.com and via publications based on national government guidelines
· 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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AIM Chairman

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Editorial Director

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Boston University School of Medicine

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Boston University School of Medicine

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Scandinavian Medical Alcohol Board

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The Australian Wine Research Institute

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Medical Correspondent to the Times and Author

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President American Council on Science and Health

SOCIAL, SCIENTIFIC AND MEDICAL COUNCIL
Alcohol and coronary heart disease risk - is there an unknown confounder?

Researchers from Finland have carried out a population-based cross-sectional study to evaluate whether confounding by several known or suspected coronary heart disease risk factors are likely to explain the lower coronary heart disease risk among light alcohol drinkers compared with never-drinkers. Data on 41,099 participants (6,222 men, 34,877 women) were derived from two ongoing cohort studies, the “10-Town Study” and “Finnish Hospital Personnel Study,” in Finland in 2000-02. Hypertension, body mass index (BMI), diabetes, depression, sleep disturbances, smoking, physical activity, life satisfaction, psychological distress, trait anxiety, independent and dependent life events, length of working hours, job control, job strain and effort reward imbalance were compared between never-drinkers and light drinkers (<70 g of alcohol per week).

Of the 16 comparisons under study, seven showed significant differences between never-drinkers and light drinkers. Five of the differences favored never drinkers and two showed a disadvantage. The latter were low BMI and low leisure-time physical activity, both more common among never-drinkers than among light drinkers. In contrast, smoking, sleep disturbances, trait anxiety, effort reward imbalance and dependent life events were less common among never-drinkers than among light drinkers. The investigators concluded, “None of the risk factors studied was a likely candidate for an unknown confounder.”

Curtis Ellson comments: This is an interesting analysis to deal with the oft-quoted suggestion that associated lifestyle factors and cardiovascular risk factors are more favorable in moderate drinkers than in abstainers, and these factors (and not alcohol) are the reasons for less coronary disease among drinkers. This paper investigated the prevalence of a large number of lifestyle factors that have been suggested as increasing or decreasing the risk of coronary disease. Included were a number of psychological and behavioral factors that are often not included as “risk factors” and adjusted for in epidemiologic studies. These included depression, sleep disturbances, life satisfaction, psychological distress, trait anxiety, independent and dependent life events, length of working hours, job control, job strain and effort reward imbalance.

In these analyses, many factors considered to be protective against coronary disease were more common in abstainers, indicating that such factors could not explain lower heart disease rates among drinkers. However, since the relation between each of these factors, or alcohol consumption itself, are not reported in this paper, we cannot judge the extent to which such factors might relate to heart disease in this study population. Further, this is a cross-sectional study, and there is always the possibility that subjects who had developed heart disease had modified their lifestyle habits, and prospective studies are needed. Still, this analysis tends to support the hypothesis that alcohol itself is the cause of the lower risk of coronary disease seen routinely among moderate drinkers.

Gene mutation protects fetus from alcohol’s effects

Research in the Journal of Pediatrics reported a mutation of an enzyme gene which seems to protect the fetus against alcohol consumed by the mother, according to a study of mothers and their infants.

Lead researcher Dr. Sandra W. Jacobson of Wayne State University in Detroit and colleagues report on their study of 263 mother and child pairs. Two hundred fourteen of the women consumed alcohol during pregnancy.

Jacobson states that “our research has shown that about 20 percent of African American children are born to mothers with a particular genetic (mutation), which makes it less likely that maternal drinking during pregnancy will adversely affect their child’s development.”

This mutation, she added, “has been shown to be related to the speed with which alcohol is metabolized by the mother. Unfortunately, most African American as well as Caucasian children are not protected by this (mutation) and are, therefore, at risk of developing fetal alcohol effects if their mothers drink heavily during pregnancy.”

Women with one or two copies of the genetic mutation, termed ADH1B*3, tended to drink less during pregnancy, and their offspring were free of toxic effects. “The negative effects of alcohol exposure were seen only in infants whose mothers lacked the mutation altogether, the team found”.

“Some women who drink during pregnancy will, therefore, give birth to unaffected children,” concluded Jacobson. “However, others should recognize that this does not mean that they are similarly protected.”

Moderate drinking and staying slim

People who drink small amounts of alcohol regularly are less likely to be obese than people who do not drink at all, according to a study published in the open access journal BMC Public Health. Consuming no more than a drink or two a few times a week reduces the risk of being obese. Consuming four or more drinks per day, however, increases the risk of being obese by 46%.

Ahmed Arif, from Texas Tech University Health Sciences Center, in Lubbock, USA and James Rohrer, from Mayo Clinic, Rochester, USA, analysed the results of the National Health and Nutrition Examination Survey III in a subset of 8,236 non-smoker respondents. The respondents had all filled a questionnaire about their drinking habits and their body mass index (BMI) had been measured.

Out of the sample studied, 46% were ‘current drinkers’ and drank at least one drink a month on average. Individuals who drank four or more drinks per day were classified as heavy drinkers. Obesity was defined as a BMI equal to or higher than 30. The results of the study show that current drinkers had 0.73 lower chances of being obese than non-drinkers. Current drinkers who drank one to two glasses regularly, but less than five drinks per week, were significantly less likely to be obese than non-drinkers and heavy drinkers. Heavy drinkers were 46% more likely to be obese than non-drinkers. The mechanisms of the protective effect of alcohol in relation to obesity are not yet well understood.


Resveratrol prolongs lifespan and delays onset of aging-related traits in a short-lived vertebrate

By studying a particularly short-lived fish species, researchers have been able to show that the natural compound resveratrol previously shown to extend lifespan in non-vertebrate organisms can also do so in at least one vertebrate species.

The findings, reported by Alessandro Cellerino of the Scuola Normale Superiore, Pisa, and colleagues, support the potential utility of the compound in human aging research. Resveratrol is an organic compound naturally present in grapes—and particularly enriched in red wine—and was previously shown to prolong lifespan in non-vertebrate model organisms such as yeast, the worm C. elegans, and the fruit fly Drosophila. However, until now, life-long pharmacological trials were performed in the worm or fly model organisms because of their very small size, very short natural lifespan, and affordable cultivation costs.

A small fish species with a captive lifespan of only three months were used to test the effects of resveratrol on aging-related physiological decay. The researchers added resveratrol to daily fish food and found that this treatment increased longevity and also retarded the onset of aging-related decays in memory and muscular performance.

Resveratrol appears to be the first molecule to consistently cause life extension across very different animal groups such as worms, insects, and fish, and it could become the starting molecule for the design drugs for the prevention of human aging-related diseases.


Red wine and gum diseases

Researchers are finding that components found in red wine can help in preventing and treating inflammatory periodontal diseases. Periodontitis is a progressive infectious disease affecting the gums and bone that surround and support teeth, often causing tooth movement and leading to permanent tooth loss. About 15% of adults between 21 and 50 years of age and 65% of adults over 50 are affected by this disease.

In recent years, the benefits of consuming fresh fruits and yellow-green vegetables and beverages, particularly green tea and red wine, have been reported to reduce human cancer incidence and mortality.

Scientists from Université Laval (Québec, Canada), reported at the 35th Annual Meeting of the American Association for Dental Research, conducted a study to investigate the role of polyphenols, including those from red wine, in scavenging free radicals released by immune cells stimulated with components of bacteria causing periodontal diseases. Because free radicals are generated by immune cells during periodontitis, it is critical to keep them at low levels to maintain healthy gums. Their results indicated that red wine polyphenols significantly modulate several inflammatory components released by macrophages (a population of host immune cells) in response to bacterial stimuli. Specifically, polyphenols efficiently scavenged and inhibited free-radical generation by host immune cells by controlling intracellular proteins involved in their release. These anti-oxidant properties of red wine polyphenols could be useful in the prevention and treatment of inflammatory periodontal diseases as well as other disorders involving free radicals.

Researchers are finding that components found in red wine can help in preventing and treating inflammatory periodontal diseases. Periodontitis is a progressive infectious disease affecting the gums and bone that surround and support teeth, often causing tooth movement and leading to permanent tooth loss. About 15% of adults between 21 and 50 years of age and 65% of adults over 50 are affected by this disease.
Females, alcohol and hormones

Although women consume less alcohol than men, they are more susceptible to some of the negative medical consequences of alcohol use, such as cirrhosis of the liver, cardiac disease, and cognitive impairments. Animal studies have also shown that males and females differ on behavioral as well as electrophysiological measures of alcohol’s effects. A study in the January issue of Alcoholism: Clinical & Experimental Research has found that female rats are not only less sensitive to the sedating effects of alcohol, but that cycling hormonal levels can mediate alcohol’s effects.

The study’s first author, Young May Cha, a research analyst at Duke University Medical Center stated “In both humans and animal models, females can drink less and for a shorter period of time, and yet experience the same level of effects produced in males. This ‘telescoping’ phenomenon strongly suggests that there is something unique about the female sex that lends it to being so susceptible to alcohol’s effects.”

Cha and her colleagues decided to use an animal model to examine what effects the adult females’ estrous cycles might have on alcohol’s effects. “The four stages of the rat estrous cycle can be viewed as similar to the different stages of the human menstrual cycle,” she explained. “In both humans and rats, sex hormone levels rise and fall in a cyclical pattern”.

Following administration of 5 g/kg alcohol, adolescent and adult male and female rats were observed for loss of the righting reflex (the ability to right themselves onto all four paws). In addition, researchers used whole-cell recordings to measure the response of spontaneous, GABAA receptor-mediated IPSCs (an inhibitory process) in brain slices from drug-naïve adult males and females. This combined approach allowed researchers to describe the behavioral difference between the effects of alcohol on males and females, and also to address a possible mechanism at the cellular level.

“The promotion of GABA-mediated neuronal inhibition is thought to be a primary mechanism of alcohol-induced sedation, and may also account for some of its anti-anxiety effects,” explained Scott Swartzwelder, professor of psychiatry at Duke and senior author of the study. “This measurement is particularly significant in our study because it correlates with the result that the females are less sensitive to alcohol-induced sedation. Since these measurements are made in isolated brain sections, the effects cannot be due to sex differences in alcohol absorption or elimination in the body.”

The female rodents’ lesser sensitivity, compared with the adult males, to the behavioral sedative effects of alcohol was most pronounced in the proestrus (the first phase of the estrous cycle, which corresponds to the onset of mating behavior) and diestrous (the last phase of the estrous cycle) states.

Swartzwelder commented “This study shows a way in which females are less sensitive than males. People generally think that alcohol is more potent in females, but that is because women are smaller than men and it generally takes fewer drinks for them to become impaired. Our study shows that when you control for that, and just look at the potency of alcohol on the brain mechanisms that cause sedation, females actually appear to be less sensitive to alcohol. Furthermore, the study emphasizes the need to explore how factors associated with the estrous cycle (or menstrual cycle in humans) may mediate this effect.”

The study also shows that adolescent male and female rats are similarly sedated by alcohol, but that adult male and female rats are not.

“Men and women are not equal when it involves being affected by alcohol. In particular, this study’s findings suggest that women, as the gender less affected by alcohol’s sedative effects, should take greater care when gauging how much they have had to drink. This study underscores the need to look more closely at the factors that cause this sex difference in alcohol effects, and emphasizes that in some ways, alcohol is less potent in females than in males. We propose that hormonal fluctuations - or substances affected by those hormonal fluctuations, such as neurosteroids - may play a role in mediating this sex difference.”

Source: This article was published in the January issue of the journal Alcoholism: Clinical & Experimental Research.
Spare a Thought for the Catechins and Anthocyanins
By Gordon J. Troup
School of Physics, Monash University, Clayton 3800, Victoria Australia

This article complements an article on Resveratrol by Dr. Philip Norrie published in AIM [1].

Resveratrol is a polyphenol belonging to the ‘stilbene’ family, roughly dumbbell shaped molecules with a phenolic ring at each end. A phenolic ring is a benzene (hexagonal) hydrogen-carbon ring with at least one hydroxyl (OH) group on it. The more OH groups, the greater the antioxidant action. The term ‘catechins’ in the title includes the various single molecular forms, and their dimers and trimers also. Fig.1 illustrates (-) epicatechin, and shows the three ringed ‘skeleton’ of the catechins (also shared by the anthocyanins, the wine colourants). Fig.2 shows (+) gallocatechin, so called because it has three OH groups on the ‘B’ ring (the phenolic gallic acid has three OH groups on its single phenolic ring). The (-) means that the barred bond to the OH group in fig.1 shows that the group lies below the plane of the page, and the (+) that the same bond darkened in Fig.2 shows that the (OH) is above the plane of the page.

The discussion of the molecular structures is necessary for two reasons. First, to illustrate the statement that the more OH groups there are on the phenolic rings, the greater the antioxidant action. Fig.3 shows the molecule Epigallocatechin gallate (EGCG), The extra three OH groups on the extra phenolic ring are easily seen. This molecule is the major antioxidant in green tea, of which Epigallocatechin, so called because it has three OH groups on the extra phenolic ring are easily seen. This molecule is the major antioxidant in green tea, of which the anticancer and antioxidant properties have been well proven. It also occurs in red wine, from the grapeseeds coats, and is leached from the cask or barrels during oak ageing.

The second reason is to show the importance of the geometric 3-dimensional structure of a molecule in chemical reactions. If it is not ‘correct’, certain reactions will not occur, just as if key is not the right shape, it will not open a lock A recent study [2] of the mixture of catechins in (Dark!) chocolate showed that it could relax blood vessels. The chocolate mix is similar, but not identical to the red wine mix. The researchers then determined what particular molecules/molecule caused the effect. It turned out that it was only due to our first friend, (-) epichatichin (Fig.1).

Does this mean that we should go for dietary supplements of concentrates of the above two molecules? The answer is no, because all the other catechins are antioxidants, and help the ‘special’ ones do their work., and vice-versa.

Now for the anthocyanins (pigment). These are polyphenols, and have the same A B C ring ‘skeleton’ (Fig.1) as the catechins, but with different chemical groups on them. In red wine there are many anthocyanins, and they are all attached to sugars. The mix of anthocyanins depends on the grape variety, the wine acidity, and other factors as well. A good, short account of this is given by Waterhouse [3]. These sugared molecules are bulky and can carry an electric charge, so some sort of carrier-mediated mechanism of absorption is likely to be necessary from the digestive tract. In blood plasma (both human, and of laboratory rats) they are detected at very low levels (in the milliMole and microMole range), and in fact the majority are excreted (again, in humans and laboratory rats) without metabolism [4].

So, how and where are these molecules absorbed into the bloodstream? A group in Italy has shown that they are transported directly through the stomach wall, which has cells in it containing a transport protein which they discovered and named Bilitranslocase [5]. This molecule is also used by the body to get the waste product bilirubin out of the bloodstream into the liver, where it is metabolised for excretion: it is the product of the decay (natural) of red bloodcells. Bilirubin causes neonatal jaundice, and is responsible for the yellowish colour around bruises.

It seems quite amazing that bilitranslocase, fortunately, can also interact with anthocyanins, and transport them first into the bloodstream directly from the stomach, and then even into the liver and into brain tissue* These effects have all been verified by experiments on laboratory rats [6], giving them a standardised anthocyanin mix as found in the wine from Cabernet Sauvignon grapes. While the amount absorbed is small, it gets to the named organs very rapidly. This is a good reason for moderate daily drinking of red wine, and the eating of blueberries for example. The human body’s mechanisms becomes more wonderful the more it is researched!

It would be unwise to discount the results of the experiments on laboratory rats as being irrelevant to humans, because: (i), humans and rats behave very similarly physiologically with respect to anthocyanins [4]; and (ii), some of the first experiments to reveal the protective effects of red wine were carried out on laboratory animals.

* This author researched the photophysica of bilirubin for some years. Neonatal jaundice is curedby phototherapy, which changes the bilirubin in the blood to another form, more easily excreted by the liver.

Acknowledgements.
Sincere thanks are due to Professor Sabina Passamonti, Dipartimento Biochimica Biofisica e Chimica delle Macromolecole, Universita’ di Trieste, Italy, and Dr. Fulvio Mattivi, Istituto Agrario di San Michele, 38010 San Michele all’ Adige, Italy, for their kind correspondence and help with obtaining their publications.
Tobacco and alcohol consumption and risk of lymphoma

The authors of a recent study in Germany state that changing trends in lifestyle exposures are suggested to be contributing factors to the increasing incidence rates for lymphoma. They investigated the relationship between smoking and alcohol consumption and the risk of lymphoma among adult participants of a population-based case-control study recently conducted in Germany. In 710 case-control pairs, an increased risk of lymphoma was associated with a long duration of smoking and smoking of > 20 cigarettes per day. Elevated odds ratios were seen for most lymphoma subentities, albeit mostly without reaching statistical significance. A strong association was evident between smoking and multiple myeloma and Hodgkin’s lymphoma among men.

Alcohol consumption 10 years prior to the date of interview appeared to decrease the risk of lymphoma. Odds ratios for men who reported alcohol consumption were 53% lower compared to men who drank very little or no alcohol. The same tendency was evident for women, although the association was less pronounced. The inverse relationship was also seen for low amounts of alcohol and did not appear to be restricted to specific types of beverages. Although biologic rationale for a protective effect of alcohol consumption may be given, a more in depth analysis involving genetic markers is indicated to clarify if ethanol, other components in alcoholic beverages, or factors associated with moderate drinking reduce lymphoma risk among adults. In conclusion, this investigation suggests a positive association between tobacco smoking and lymphoma risk and finds decreased odds ratios among consumers of alcohol.

This study showed that smoking is associated with an increased risk of lymphoma. The increased risk appeared to be greater for heavier current smokers and long-term smokers, and the increased risk was seen for up to 15 years after cessation of smoking. Alcohol consumption was associated with lower risk of lymphoma. The investigators used men who were complete abstainers or consuming less than 2 gms of alcohol per day, and women consuming < 0.5 grams per day, as the referent group; when they excluded complete abstainers, however, the results were unchanged. The magnitude of association for drinkers (regardless of the amount consumed or the type of beverage) was an approximately 50% lower risk of lymphoma for men and 30% lower risk for women.
On March 8th, AIM held its third Forum at the International Wine and Spirit Centre in Bermondsey, kindly hosted by The Wine and Spirit Education Trust on ‘Alcohol and Health – current issues and future trends’. AIM welcomed delegates from all sectors of the industry and its associations for a morning of interesting debate following a selection of in depth presentations. The aim of the forum was to give non specialists a better understanding of where the benefits of moderate drinking end and the risks begin. *A good understanding of units, definitions of moderation, the key benefits of moderate drinking and the key harms associated with excess are, we would argue, fundamental* commented Helena Conibear, having given an update on AIM’s work and plans.

Presentation by Helena Conibear, Editorial Director of AIM

Helena presented some of the issues facing the alcohol research community; ‘In terms of social research and drinking patterns, the lack of accurate statistics is still an issue, due to several factors; the lack of an international definition of a unit mean studies from around the world cannot be accurately compared and contrasted. A unit varies from 8g in Britain to 19.75g in Japan. Even definitions of light or moderate drinking vary between studies, making meaningful comparisons between data difficult’. Helena also drew on new research showing that nearly 58% of all alcohol-related research papers emanate from Canada and the United States, 30% from all of Western Europe, and 10% from Australia, New Zealand, or Japan. Yet, these regions suffer only 13% of the global burden of disease due to alcohol; ie the rest of the world contributed only 8% of the total research whilst suffering from 87% of the disease burden. The estimated annual expenditure on alcohol-related research in 2001 was $730 million (Ref.: Rajendram R et al, Worldwide Alcohol-Related Research and the Disease Burden, Alcohol and Alcoholism, Vol 41, 1, 2006)

With the new EU members from Eastern Europe, AIM considers addressing the alcohol misuse in Eastern Europe a particular priority. Recent papers on cancer and causes were discussed in the light of AIM’s goal of achieving

* A recognition by the academic community that alcohol in moderation in most cases is not harmful and indeed more protective than abstention

* A recognition that lifestyle and patterns of drinking are as important as daily guidelines on responsible drinking

* The importance of culture – in developed countries where the risk of heart disease is higher (higher BMI, diabetes etc.), the benefit of moderate drinking is greater. In countries where alcohol consumption is not historic, or where there is greater poverty, unemployment and poor diet the levels of alcohol misuse are higher

* A recognition of alcohol’s harm in balance with benefits and enjoyment

AIM influences the above by;

* Translating complex science into understandable language, in context with other research
* Encouraging Informed debate – scientifically and academically based with the gravitas of a social, scientific and medical Council offering an International perspective
* Increasing the knowledge base amongst the broader beverage alcohol industry and the scientific and policy making community
* Reaching out to the consumer directly within government guidelines
* Working in partner programmes with companies, associations and publishers
* By recognising and stressing alcohol’s harms – particularly under age drinking, binge drinking. The rise in women’s drinking, the anti social behaviour linked to excessive drinking – balanced with the fact that the overwhelming majority of adults enjoy alcohol in moderation.

AIM has always believed if this is to be done effectively it must operate as a non profit organisation and it should adhere to two fundamentals – maintaining a non industry board and not to lobby.
Presentation by R. Curtis Ellison, MD
Professor of Medicine & Public Health,
at Boston University School of Medicine and founder member of AIM’s Social Scientific and Medical Council

Curtis presented on the advances in alcohol and health in general and the heart in particular. The key to Curt’s address was that if you adhere to the 5 components of a healthy lifestyle, that is not smoking, eating moderate amounts of fat and lots of fruits and vegetables each day, taking exercise, avoiding obesity, and drinking in moderation, your risk of cardiovascular disease decreases by 80% and late onset diabetes by 92%.

‘For years, we have been seeing very large differences among countries in reported rates of death from CHD. The highest rates have recently been in Scotland, Northern Ireland, Finland and Eastern Europe. The lowest, with only one-fifth the number of heart disease deaths as Northern Europe, is Japan, due primarily to the very low amounts of fat in the traditional Japanese diet. We have always explained the lower rates of heart disease in Italy, Spain and Greece from the lower fat diet and other features of what is known as the Mediterranean diet. But France has even lower rates of coronary heart disease than Italy or Greece. Why do the French have such low rates of heart disease? We do not know. Their diet is higher in fat, their hypertension rates are the same, their blood cholesterol worse than the UK an most other European countries. Further, genes studied so far seem to be about the same as in countries with much higher rates of heart disease.

The suggested explanations of the low rates in France include more intake of fruits and vegetables containing high levels of anti-oxidant vitamins, and a lower percentage of fat intake from red meat, as the meat in France is very low in fat and smaller portions are generally served then in the US. But the theory that has received the most scientific support is that the French consume alcohol, on a regular basis, and particularly in the form of wine.

This is not a new story, as we know from paper by St Leger et al back in 1979, that of all the lifestyle factors related to CHD in different countries, the strongest relation was with the average wine consumption in the country. Since then there have been a large number of studies on alcohol consumption among individuals and their risk of CHD, and the results have been remarkably consistent: individuals who consume alcohol moderately have fewer heart attacks.

How does alcohol produce this protective effect?

We know many of the reasons why alcohol reduces the risk of CHD, as we have identified many of the biologic, physiologic effects of alcohol. Alcohol in any form affects the blood lipids. Alcohol will increase HDL-cholesterol, the so-called good cholesterol that lowers the risk of heart disease.

Alcohol also tends to decrease slightly the LDL or bad cholesterol which increases the risk of CHD. But alcohol, and red wine in particular, also favourably affect the coagulation of blood within the arteries. For example, it decreases platelet aggregation, and it also has favourable effects on fibrinogen and fibrinolysis, factors related to blood clotting and the removal of clots within the arteries. The effects of alcohol on blood clotting may be just as important as the effects on the HDL-cholesterol.

The effects on coagulation are short-term effects, lasting for a day or so. The short-term beneficial effects were well-demonstrated by Jackson et al. These investigators compared the risk of heart attack and cardiac death among regular drinkers and found that if a regular drinker had had one or more drinks in the preceding 24 hours, his or her risk was reduced (to about 75% for men and 61% for women) when compared with drinkers who had not had anything to drink in the preceding 24 hours.

These results suggest that you should consume alcohol on a regular basis, perhaps daily. Unfortunately, many do not have good drinking patterns, and tend to drink nothing all week, then drink heavily at weekends, which is a very unhealthy way to consume alcohol -it is not so much the amount that you drink, but how frequently you drink that is important in preventing CHD. It takes only about one drink per day, or even every other day, to get most of the benefit in terms of reducing coronary heart disease (CHD). It should also be emphasized that the protective effects are relevant to Men over 40 and post menopausal women, the time when the risk of coronary heart disease and stroke begin to increase.

We all realise that even moderate drinking can have adverse effects if someone quickly consumes several drinks then takes their car on the road. So I always refer to moderate and responsible drinking. But in terms of diseases, most are related to heavy drinking, namely cancers of the oral cavity, pharynx, larynx, oesophagus, liver, colon, rectum. The only condition that may relate to even light to moderate drinking is breast cancer in women, which it is being increasingly shown can be mitigated by adequate folate intake.

### Drinking Frequency and Risk of MI in Men

*Mukamal, Gronbaek, et al - 2004*

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<th>Drinking frequency</th>
<th>Odds Ratio for MI</th>
<th>95% CI</th>
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<td>&lt; 1 day /wk</td>
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<td></td>
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<tr>
<td></td>
<td>1-2 days /wk</td>
<td>0.92</td>
<td>(0.60-1.42)</td>
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<td>3-4 days /wk</td>
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<td>(0.44-1.39)</td>
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<tr>
<td></td>
<td>5-7 days /wk</td>
<td>0.61</td>
<td>(0.38-0.97)</td>
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AIM FORUM REPORT
A number of research reports suggest that a small increase in the risk of breast cancer begins to appear among women who normally consume only one or two drinks per day. This is not found consistently in all studies. At our Institute at Boston University we have carried out a study of wine, beer and spirits as they relate to breast cancer, using data from the Framingham Study that has been following more than 5,000 women for 25 to 45 years. We found that women who have consumed wine or other alcoholic beverages moderately over a lifetime do not have increased rates of breast cancer in fact, they tend to have slightly lower rates.

Let's turn to the total mortality rates. In other words, are you more likely, or less likely, to die of any cause during a specified period if you drink or if you do not drink? In essentially every prospective study carried out, the net effect on total mortality of consuming one or two drinks per day is a lower death rate. As long as the alcohol intake is light to moderate, up to a couple of drinks per day, the risk of most diseases is lower, and the risk of dying of any cause is reduced.

Data from the Copenhagen Heart Study, that followed over 13,000 men and women for over 10 years, illustrate how reducing moderate drinking might increase mortality. The results from the Copenhagen Heart Study show the typical J-shaped relationship between the relative risk of death from any cause and alcohol consumption. Drinkers who stated that they averaged one to six drinks per week had about 40% lower death rates than non-drinkers; heavy drinkers had higher death rates.

Should we encourage non-drinkers to start drinking moderately?

We know that there is always the possibility that a patient will not follow his or her doctors suggestions and begin to drink very heavily. Taking all these risks into our consideration, data suggest that for all women from age 55 and for all men aged 45-75, individuals who began to drink would be expected to have lower mortality rates. The results indicate that a non-drinking patient would actually have a reduced risk of dying over the next 10 years if he begins to drink moderately, even if 5% of such subjects became alcohol abusers. As an example, for a 65 year old non-drinking man in the US, government statistics show that 278 will die over the next 10 years; if these men all became moderate drinkers, only 251 would die, a reduction of about 10%. Our data are based on the consumption of any type of beverage.

In addition to cardiovascular effects (much lower coronary disease and ischemic stroke for moderate drinkers), there is reliable and reproducible data showing that moderate drinkers have much lower risk of developing diabetes. The current estimate is a 30% lower risk of diabetes among moderate drinkers in comparison with non-drinkers. And for someone who already had diabetes, the risk of dying of cardiovascular disease is reduced dramatically, by 50% in many studies.

One other effect of moderate drinking that is gaining scientific support relates to the risk of cognitive decline with age, or even of the development of alzheimer’s disease. Numerous prospective studies now show reduced risk of cognitive decline or the diagnosis of dementia (usually in the range of 20%) for moderate drinkers.

Taking all of the current scientific data into consideration, it is now quite clear that moderate, regular consumption of an alcoholic beverage, without binge drinking, is associated with longer life and fewer of the typical diseases of aging. Data are increasing that if moderate drinking is in the form of wine with meals, there may be even more benefits. For individuals without contraindications to the use of alcohol (such as religious prohibitions, a history of abuse, or a few medical conditions), we can now say that moderate drinking can well be included as part of a “healthy lifestyle.”
Presentation by Marsha Morgan  
F.R.C.P. Reader in Medicine and Honorary Consultant Physician at The UCL Institute of Hepatology, Hampstead Campus, The Royal Free and University College Medical School, London and Editor of the Journal Alcohol Research.

Marsha Morgan is working with individuals with alcohol-related problems many of whom have significant liver disease. Her presentation began with a definition of the steps involved in the development of alcohol-related liver injury, namely fatty change, alcoholic hepatitis, alcoholic cirrhosis and hepatocellular carcinoma (HCC).

Deaths from cirrhosis are increasing in Great Britain, especially in Scotland, whilst they are declining in Western Europe. Individuals with cirrhosis usually present between the ages of 35 and 65, in a ratio of three men for each woman, crossing every social and economic divide. Of particular concern is the fact that 20% of individuals presenting with alcohol-related cirrhosis are under the age of 30. Worryingly alcohol related liver injury is essentially ‘silent’, remaining undetectable in many individuals until they present with significantly impaired liver function.

One of the most interesting problems facing researchers today is why ONLY 20% of individuals who misuse alcohol develop cirrhosis. Clearly the amount, timing and pattern of alcohol usage are important but the factors which determine individual susceptibility are less clear. However, gender, ethnicity, genotype, and various constitutional and environmental factors are known to play a role.

The generally agreed thresholds at which the risk of developing alcohol-related liver injury begins is low at 20g a day, or 2.5 UK units for women, and 40g or 4.5 units for men. Risk increases in a permissive fashion according to dose, with a sharp increase of risk for men and women at levels of consumption of up to 60g of alcohol a day but thereafter the risk levels out (Kamper Jorgensen et al 2004).

The risk of developing alcoholic liver damage increases if you drink outside of meal times and unlike most sensible drinking advice, regular daily drinking causes more harm to the liver than weekend drinking, which gives the liver time to regenerate between drinking episodes. There is some evidence that the risk may vary in relation to the type of beverage consumed but no consensus opinion.

The risk of developing alcohol-related liver injury is the same for men and women although there is evidence that women may develop significant liver injury after a shorter drinking history. This is because women have a smaller body water compartment than men and so attain higher blood alcohol levels than their male counterparts after ingestion of similar weighted doses of alcohol. Thus, if a woman drinks a double gin then a man of the same weight would need to drink a triple gin to achieve the same blood alcohol level.

There is gathering evidence that the propensity to develop alcohol-related liver injury may vary with ethnicity. Douds et al 2003, shows a significantly higher incidence of cirrhosis among non-Muslim South Asian males in Birmingham, UK than reflected in the population, with a high proportion of them being under 40 years old. However Afro-Caribbeans were significantly underrepresented in the same survey.

Considerable research effort has been expended to see if genetic variance plays a role in determining individual susceptibility to develop alcohol-related cirrhosis. Candidate genes have been sort amongst those controlling the alcohol metabolising enzymes and the factors responsible for the genesis of alcohol-related liver injury, for example, those involved in oxidative stress, encoding cytokines and influencing immune responses. However, only 20% of the variance in susceptibility to alcoholic cirrhosis can be explained by genetic variance at least within the factors that have been explored to date.

Factors such as obesity, ‘toxins’ for example, prescribed medicines, OTC preparations, herbal medicines, dietary supplements, illegal drugs, and industrial chemical, and the Hepatitis C virus (HCV) are all associated with the development of liver disease in their own right. There is now clear evidence that alcohol accelerates the liver injury caused by these other agents. For example patients infected
HCV who also drink, and the intake need not be at misuse levels, increase their risk of developing HCV-related cirrhosis by a factor of 31, increase their risk of developing HCC and have a much poorer response to anti-viral agents. In many instances the liver injury in these individuals is wrongly attributed to alcohol. Indeed as many as 20% of individuals who misuse alcohol may have another cause for their liver injury.

Because the factors determining individual susceptibility to alcohol related cirrhosis are largely unknown, there are predictive markers to indicate which individuals will be affected.

Finally Marsha called for a more detailed break down of sensible drinking guidelines by age, making it clear that the beneficial effects of moderate drinking do not apply to individuals under the age of 45, where the risk of accident and injury associated with alcohol are significant and where risk of CHD is low. She also called for unification of the ‘standard’ drink pointing out that currently this can contain anything from 8 to 19 grams of alcohol by country. This makes international epidemiological comparisons very difficult. The simplest measure would be to express content in grams of absolute alcohol. In a later debate it was suggested that millilitres of absolute alcohol could be considered as a more understandable benchmark (8 g absolute alcohol is equivalent to 10 ml absolute alcohol).

Alcohol-Related Liver Injury

- Only 20% of individuals misusing alcohol will develop cirrhosis
- Of these 20% will be <30 years old
- Only 20% of the variance in susceptibility can be explained by genetic predisposition
- About 20 % of individuals misusing alcohol will have non-alcoholic liver disease

Antioxidants, which protect against the sun’s UV are found in fruits with a high density of skin to flesh and coming from a warm climate - hence a cherry tomato from Spain contains many more antioxidants than a beef tomato from Jersey for example, similarly small compact wine grapes are much richer sources than table grapes.

Research presented by Dr Alan Crozier from Glasgow University highlighted which grape varieties are the highest in antioxidants. Levels depend on country of origin, size and variety of grape, climate that year maturity, altitude and production methods. The research also established that antioxidant activity in unfermented grape juice is lower than in the finished wine - antioxidant activity increases during fermentation and maturation.

Presentation by Alan Crozier PhD, Professor of Plant Biochemistry and Human Nutrition at the University of Glasgow

Alan Crozier is a specialist in polyphenols and has studied wines from all over the world as well as other dietary sources of antioxidants. His findings are that there is a 30% reduction in CHD for those on a high antioxidant diet (sources include apples, onions, green and black tea, chocolate, berries and red wine).

A number of scientists have shown that red wine contains, in addition to alcohol, phenolic antioxidants include a whole range of compounds who share the ability to quench or eliminate potentially damaging free radicals in the body.

Evidence continues to appear suggesting that wines polyphenolic antioxidants may help to prevent and counter cancers. Phenolics might protect against cancer by:

- Shielding DNA from oxidative damage (perhaps the oxidation is sometimes promoted by acetaldehyde);
- Inducing enzymes that protect against malignant mutation;
- Modulating carcinogenic inflammatory reactions;
- Promoting normal cellular differentiation and maturation;
- Inhibiting growth of cancer cells;
- Enhancing the effects of chemotherapy.

We are in the early days of understanding these mechanisms.

Phenolic compounds tend to reduce blood clotting, and have other effects that should reduce heart disease risk. For example, we have data from the US showing that moderate amounts of red wine will prevent blood platelets from clumping together to form a blood clot which may lead to a heart attack. It has been established that the consumption of two 100ml glasses of red wine a day increases the phenolic content of the average diet by 40%, but only a weak correlation exists between polyphenolic content and antioxidant activity.
What is also coming to light in Professor Crozier’s research is that quantity may not be the most relevant issue - more important may be the size and absorbability or the bioavailability of the various antioxidants present in wine, beer and cider. Although this has not been completely established, it would be expected that the larger bulky antioxidants are likely to stay in the gut rather than to get absorbed. The types and levels of antioxidants in cider are fairly similar to wine whereas beer is very different (being cereal rather than fruit). Beer tends to have the smaller antioxidants in a higher proportion such as catechin, epicatechin, and ferulic acid - but it also has bulky complex antioxidants originating from the hops and roasted cereals. Taking resveratrol as an example, recent research suggests that its bioavailability could be low, ranging from 20-40%. This contrasts with reports on the bioavailability of ferulic acid from an alcoholic beverage of nearer 100% (this time from beer).

Furthermore, research suggests that once absorbed, antioxidants are often metabolised into other forms - forms which may have different biological activity. For example, much of the resveratrol is modified in the liver by coupling to glucuronic acid. Therefore establishing the absorption and further metabolism of antioxidants is a key factor in establishing their biological effects. We have also learnt that ethanol has a pro-oxidative effect on plasma lipids. Hence the usefulness or bioavailability of the antioxidants available in alcoholic beverages is not yet fully established. However the importance of antioxidants themselves in vasodilation, fighting cancer and dementia are established and further research as to absorption by the human body is needed.
Barry Sutton, Chairman of the Wine and Spirit Trade Association spoke on balancing moderate drinking with social and responsibility issues. He began ‘It must be stressed, stressed, and stressed again and again that the trade has no commercial interest at all either in having senseless customers or pictures of legless drunks in newspapers or TV. On the contrary, the commercial interest of the trade as a whole is for alcohol consumers to drink regularly but moderately into a very long old age. A George Best is far less profitable than my great aunt Rose who drank a couple of glasses of tonic wine a day and a teaspoon of whisky in her tea and lived to 107! If anyone in the trade believes that encouraging maximum drinking per session is more profitable than the ‘lifetime profitability’ of sensible customers they are simply not commercially literate.

However, we are not seen in that light by the media and this is something that we have to live with whilst doing our best to encourage moderation.

It’s a Balancing Act

What we have to do as a trade is to make it as easy and as painless as possible for the average sensible adult to access the widest possible range of alcoholic beverages in whatever quantity they wish and in any place that they prefer to be in. At the same time we have to make it harder for minors and excessive drinkers to get hold of their alcohol. How?

Retail of Alcohol Standards Group

The most recent initiative binds the vast majority of retailers and 8,500 outlets with the explicit aim of eliminating underage sales by the end of this year. Not just by exhortation but by practical measures including heavy in store promotion, staff training (maybe this goes too far as my mother in law was asked to provide proof of age recently – though she was flattered), research and strong coordination with other entities.

Other initiatives

We have the Portman Group continuing its excellent work in controlling irresponsible advertising and its more recent initiative to get the whole trade committed to www.drinkaware.co.uk

We have the PASS scheme that sets up a viable system to produce proof of age cards.

There are Responsible Retailing Awards for companies that are effective in their campaigns to reduce under age drinking and abuse.

There are new codes of conduct covering both ‘on’ and ‘off’ trades

All of the above are fully supported by the WSTA, and our staff have been ultra active in developing and promoting the schemes both to the trade, the public and government.

The Future

The WSTA and, I believe, the whole trade, has a commitment to continue to develop initiatives to promote sensible and moderate drinking and to control abuse and under age purchasing. Our work will be research based focussing on effectiveness rather than cheap publicity.

We will need continuing help and support.

From AIM, from The Portman Group, from the medical and research community, from our fellow trade associations, from our members and from any body that can give us information support and advice.

May we thank AIM for giving us all the opportunity to contribute to the mission. What I want to repeat is that the commercial interest of the trade is to support the moderation mission with all the strength it has. This is the route to ongoing health for all the companies in our great trade. Here’s to long life through moderation.

Ian Harris spoke on the work of the Wine and Spirit Education Trust in promoting responsible consumption, he commented; ‘The WSET is to introduce modules on the responsible retailing, marketing and sale of alcoholic drinks and the ‘the Social Responsibility ‘Standards’ into Foundation and Intermediate Certificate programmes. The WSET distributes the ‘The Wise Drinkers Guide’ and links to the AIM websites - making ‘Alcohol in Moderation’ available to 15,000 students a year’.

Helena Conibear concluded:

‘We are very lucky in the UK that we have a government that recognises that the vast majority of people drink in moderation the majority of the time and is united with the industry in the recognition of the key target areas of misuse that need addressing - particularly under age drinking, binge drinking, the rise in women’s drinking, the anti social behaviour linked to excessive drinking and above all encouraging the population to limit their consumption to within the sensible drinking guidelines that is 2-3 units of 8g a day for women and three to four for men. We hope the presenters today, demonstrated the scientific base for the parameters of moderate drinking – where the benefits end and the risks begin’.

- We recognise the importance of having a well informed trade
  - both as to units of alcohol, guidelines, and the law
  - and the implications of alcohol
- We recognise that ’Alcohol in Moderation’ is key to the future of our industry
- Balance and facts from experts
A seminar organised by ‘Citizen Card’ to discuss the issues surrounding minimum purchase ages in the UK and tools for retailers to control and manage under age sales took place in London in January. The ‘NO ID, NO SALE’ age related issues include tobacco, gambling, purchase of alcohol, buying knives, fireworks and solvents. The day presented a broad spectrum of perspectives presented by traders, police and government.

Paul Goggins, Home Office Minister and Parliamentary Under Secretary of State outlined why the Government has taken such a tough stance on clamping down on alcohol sales to minors in retail and the on trade.

“Recent findings from the 2004 Offending Crime and Justice Survey showed that:
• Nearly all 16 to 17 year olds who had tried to buy alcohol in the past twelve months had been successful at least once.
• Most 10-15 year olds who had tried to buy alcohol from the off trade in the past 12 months had been successful at least once.
• Over one in five 10-15 year olds were successful in purchasing alcohol from the on trade.

Clearly these statistics illustrate that underage sales of alcohol is a problem, and the Government is very much committed to tackling it.

As part of this, we are taking forward a wide range of activities through the Alcohol Harm Reduction Programme which is being jointly led by the Home Office and Department of Health but involves other departments and agencies across Government.

For example, in November, Charles Clarke and Tessa Jowell launched the latest Alcohol Misuse Enforcement Campaign (AMEC). As a central part of the AMEC is the targeted, intelligence-led action on those premises which are badly run and contribute to the problems associated with crime and disorder.

The police, trading standards, and licensing authorities have been using the full range of powers on those premises, especially where they have been found selling alcohol to children, and we make no apology for that. And I am grateful for the active support that many in the trade have been giving to these agencies in taking the action they have.

The six-week campaign, which coincided with the expanded licensing laws, began in November last year, and tackled alcohol-related behaviour.

It particularly targetted those who sell alcohol to under-age youths”.

Results released in March show that, Police and trading standards officers carried out more than 6,000 test purchases, during which they identified 30,000 offences and made more than 25,000 arrests.

The campaign was very effective. Police force data from the Alcohol Misuse Enforcement Campaign (AMEC) shows that, in the regions that took part, serious violent crime levels fell by 21% – the biggest drop ever identified from an alcohol crackdown.

I am hopeful, of course, that we will see a continuation of the kind of impact that we have had in previous AMECs on the incidence of violent crime (see statistics on facing page) as well as a reduction in the level of underage sales. An extended AMEC is taking place in the areas taking part in the Tackling Violent Crime Programme (TVCP).

The Government’s Violent Crime Reduction Bill, introduced last June, includes a number of measures to further reduce alcohol-fuelled violence. The Bill would:
• create Alcohol Disorder Zones in which licensed premises would have to contribute to the cost of alcohol-related crime and disorder prevention.

AMEC data

All violent crime decreased by 11 per cent during the campaign;
Serious violent crime decreased by 21 per cent; within this category wounding and other acts endangering life fell by 14 per cent;
During the six week campaign police dealt with 33,358 offences;
Police and partners visited 27,154 licensed premises (21,995 on and 5,159 off licence);
25,486 arrests were made;
Out of test purchase operations, 29 per cent of on licence and 19 per cent of off licence premises were found to be selling to minors;
Police issued 8,179 fixed penalty notices - 38 per cent for being drunk and disorderly, 37 per cent for public order offences and harassment, 10 per cent for selling to minors and 15 per cent for other alcohol-related offences;
649 summonses were issued as a result of test-purchase operations or visits, including:
- 593 for selling to minors;
- 17 for selling to drunks;
- 39 for other alcohol offences.
• exclude individuals responsible for alcohol-related disorder from entering licensed premises by imposing ‘Drinking Banning Orders’
• create powers for the police to ban the sale of alcohol from licensed premises for up to 48 hours for selling alcohol to under-18s
• provide police with the power to exclude individuals at risk of carrying out alcohol-related crime and disorder from a specific area for up to 48 hours

“We have also introduced the Licensing Act 2003, which came into force on 24 November 2005 - the biggest reform in licensing law for 40 years. The Act introduces new flexibilities for licensees and licensing authorities. And it expands police powers to tackle badly run premises through more effective reviews and revocation of licences where appropriate.

It also increases many of the penalties and fines for alcohol-related offences. For instance, the Act has increased penalties for selling alcohol to children with a maximum fine on conviction to £5000, and the ability to suspend or forfeit personal licence at first offence.

The Licensing Act also provides protection from internet sales of alcohol to children. The company delivering the alcohol is now responsible for ensuring that they have not sold to children by asking for a proof of age card if in doubt about the age of the recipient. This was done to protect against irresponsible Internet and call centre businesses based outside the UK selling alcohol to underage children and being free of prosecution. Those that break the law risk having their licence changed, suspended or revoked and they could be hit with a £5000 fine.

We have also been working directly with the drinks industry to tackle underage sales. The Principles and Standards document, which was launched in November last year, contains clear protocols around seeking proof of age - this includes putting in place clear point of sale messages, proper staff training, and disciplinary procedures where staff contravene company policy on underage sales.

The Government supports this document and we would encourage all sectors of the drinks industry to sign up and implement it.

Furthermore, the Home Secretary met with supermarket representatives in November about combating underage sales. As a result of some of the very hard work and the personal commitment of those involved, an action plan has been drawn up by the supermarkets and I was pleased to attend the launch of their universal signage on “Challenge 21” on 6 December which was a direct result of this. It has been very encouraging to see clear evidence of the various signs and badges over Christmas and since.

The Government understands, of course, that there are very real problems of financial loss, disruption to business and threats to security when challenging people for proof of age. This is why we want to see a culture change whereby young people accept it as the norm to be asked for a valid form of proof of age whenever they try to buy alcohol or other age restricted products. Regularly challenging young people for a valid proof of age card will help with this. Which is why we are supportive of industry owned initiatives like the “NO ID, NO SALE” campaign.

This message is relevant to both customers and staff, and it will be imperative that it’s put routinely into practice in order to change the culture. We know that we can’t tackle this problem without you the trade playing an increasingly active part in the solution.

Under age sales is one of those issues – like anti-social behaviour – that has sometimes been perceived as a problem that we can do little about. What we are proving in campaigns like NO ID No SALE is that by working together- government, industry, law enforcement and local authorities – we can make a difference. That’s good for business, good for children and good for the wider community – and I am grateful for the personal contribution you are making”.

Under 21?

If you look under 21 please do not be offended if we ask you for proof of age when you buy alcohol.