Health Care Review: Alcohol in the Media

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Article ID: WMC001845
Article Type: Review articles
Submitted on: 25-Mar-2012, 01:45:52 PM GMT  Published on: 26-Mar-2012, 12:52:16 PM GMT
Article URL: http://www.webmedcentral.com/article_view/1845
Subject Categories: PUBLIC HEALTH
Keywords: Alcohol, Media

How to cite the article: Shafique A, Siddiqui MR. Health Care Review: Alcohol in the Media. WebmedCentral PUBLIC HEALTH 2012;3(3):WMC001845

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Source(s) of Funding:
None

Competing Interests:
None
Health Care Review: Alcohol in the Media

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Abstract

This review aims to look at the importance of excess alcohol consumption within the UK population and the current media’s view. The effects of alcohol on the body and its metabolism are explored. Online literature searches, that were relevant to excess alcohol consumption, were conducted to obtain newspaper articles and journals. Four recent newspaper articles were selected, two from a broadsheet and two from a tabloid. They were then analysed in order to examine how they report their information and the effect this has upon the readers.

Introduction

The term ‘alcohol’ originated from Arabic and is known chemically as ethanol. Throughout history alcohol has been valued all around the world and seen as being of great importance. The earliest known chemical evidence of alcohol was found in an Iranian jug dated c. 3500-3100 BC (1).

Alcohol has been of religious significance, particularly amongst ancient Egyptians, as wine was often sent as a gift to the gods. It has many other uses such as an analgesic, antiseptic, relaxant, an aphrodisiac and lately as a social lubricant at gatherings by enhancing the enjoyment of life.

In 2005 the UK Alcoholic beverages market was valued at over £50 billion, which is over two thirds of the NHS yearly budget of 2005 (£74 billion) (2). Given the enormous revenues gained by the alcohol industry, it is also a huge source of government revenue.

Alcohol, once consumed, begins to be absorbed in the stomach as it is a small water-soluble molecule. However, it is absorbed much more rapidly once it enters the duodenum due to the larger surface area available for absorption. Consuming fat-rich foods with alcohol causes blood alcohol concentrations (BAC) to rise more slowly due to slower gastric emptying (1). The rate of absorption is quicker when alcohol is drunk on an empty stomach and the concentration of alcohol is between 20-30%. Drinks such as champagne, soda and whisky which are aerated with CO₂ also raise BAC quicker (5).

Absorption and Metabolism

Alcohol is distributed throughout the water in the body so that most tissues are exposed to the same concentration as in the blood. The liver’s exposure is much greater due to it receiving blood directly from the larger surface area available for absorption. Consuming fat-rich foods with alcohol causes blood alcohol concentrations (BAC) to rise more slowly due to slower gastric emptying (1). The rate of absorption is quicker when alcohol is drunk on an empty stomach and the concentration of alcohol is between 20-30%. Drinks such as champagne, soda and whisky which are aerated with CO₂ also raise BAC quicker (5).

Alcohol is distributed throughout the water in the body so that most tissues are exposed to the same concentration as in the blood. The liver’s exposure is much greater due to it receiving blood directly from the stomach and small intestine as part of the hepatic portal circulation (5). Fat is a poor absorber of alcohol because fatty tissues have a poor blood supply. This is why women, who have more subcutaneous fat, and a smaller blood volume than men, achieve a higher BAC for a given amount of alcohol. BAC is dependent upon sex, body size, phase of menstrual cycle (highest premenstrually and at ovulation). Certain drugs such as anti-histamines enhance gastric emptying and therefore increase absorption and BAC (5,7).

In the body 2-5% of alcohol is excreted unchanged in urine, sweat and breath and the rest is eliminated by the liver at a rate of 1 unit per hour (7). The police force use a breathalyser to see if a driver is above the legal drink drive limit as the alcohol content of exhaled air reflects the BAC. This is currently a breath alcohol level of 35mg/100ml which is equivalent to 80mg/100ml in the blood (5). Different BACs have various effects on an individual. This is shown in table 2.
Hepatocytes contain 3 pathways for ethanol metabolism: the alcohol dehydrogenase pathway (ADH), the microsomal ethanol oxidising system (MEOS), found in the smooth endoplasmic reticulum, and the catalase pathway located in the peroxisomes. All 3 pathways initially convert ethanol to acetaldehyde, a toxic substance which is then oxidised to harmless acetate by aldehyde dehydrogenases. The MEOS pathway involving the cytochrome P450 enzyme plays a minor role in ethanol metabolism, but its role increases after chronic consumption of alcohol. Catalase plays a minor role in ethanol oxidation (3). The MEOS pathway affects the metabolism of many drugs, including anaesthetic agents and paracetamol, by converting them into toxic metabolites (4). Hence therapeutic doses of paracetamol can cause hepatic damage in heavy drinkers (5).

Through the ADH pathway there is a build up of free hydrogen ions. This impairs hepatic gluconeogenesis which increases the risk of hypoglycaemia. The oxidation of fatty acids is also impaired which results in a fatty liver as the accumulated fatty acids are converted into ketones and lipids (5,11).

Effects on organs

**Effects of Ethanol on the Heart:** There is a positive correlation between hypertension and excessive drinking (12). Binge drinking is particularly implicated. Studies indicate a 'j-shaped' relationship between alcohol consumption and the risk for coronary heart disease (CHD). Moderate drinkers seem to have a lower rate of morbidity compared to non-drinkers. Heavy drinkers have an elevated risk of CHD (13).

The protective effect of alcohol is thought to come from reducing the process of atherosclerosis, platelet stickiness and aggregation, and also by increasing fibrinolysis. Alcohol is associated with cardiomyopathy due to the toxic action on the myocardium and also arrhythmias such as ventricular fibrillation (7).

**Liver:** Liver disease is the main known consequence of heavy drinking. Excess alcohol causes reduced oxidation of fatty acids in the liver. As a result, fats accumulate in the liver and this is known as steatosis. This is reversible with abstinence but otherwise will develop into cirrhosis and eventually cancer of the liver in 10% of individuals (14). Cirrhosis develops due to fibrosis of hepatocytes. Occasionally alcohol can also cause inflammation of the liver. This is known as hepatitis which can also lead to cirrhosis (7,15).

**Gastrointestinal tract:** Alcohol increases the risk of oesophagitis and gastro-oesophageal reflux disease.

Heavy drinkers are also prone to bleeding due to a tear at the gastro-oesophageal junction caused by vomiting (Mallory-Weiss syndrome), gastritis and a failure to absorb nutrients from the intestines.

Alcohol is also associated with carcinoma of the mouth, oesophagus, pharynx and larynx (7). Chronic excessive alcohol use accounts for 70% of the cases of chronic pancreatitis in adults (16).

**Nervous system:** Alcohol is a psychoactive drug that results in changes in an individuals mood in a euphoric way when used moderately. Excess consumption causes blackouts and amnesia, presenile dementia and cognitive impairment. Those dependent on alcohol will suffer from many unpleasant withdrawal symptoms including tremors, agitation, confusion, nausea and insomnia (7). Less than 10% of individuals may suffer from delirium tremens. The symptoms include confusion and visual hallucinations that generate fear and panic (17). In England 15-25% of all suicides may be associated with alcohol misuse (18).

**Aims**

The objective of this article is to evaluate the media’s current views on excessive alcohol consumption in the UK.

**Methods**

Relevant books on alcohol were obtained through the Harold Cohen Library and background reading was conducted. In addition to this, many newspapers were read to get a general idea of the media’s views on alcohol. Numerous websites were also accessed including the BBC Health, National Institute of Clinical Excellence, the Office for National Statistics and the British Medical Association. Online literature searches were performed using a range of databases including Medline (1996-2008) via the Ovid search engine, PubMed, Google Scholar and ScienceDirect. Limits on searches were applied in order to cut down the number of results. These included language (English), species (human), and type of article (Clinical Trial, Meta-Analysis, Randomised Controlled Trial, Review). To ensure only relevant articles were found, MeSH terms such as ethanol were applied to the search (table 3). The LexisNexis search engine was used to obtain relevant newspaper articles on alcohol. Articles were only used if they were published in British National newspapers within the last 3 months. The results of the search are shown in table 4 and information regarding the chosen 4 articles are shown.
in table 5.

Discussion

Article 1 - Smart kids are more likely to be heavy drinkers (The Times)

This article which featured on page 11 of the Times main supplement, T2, contained various lifestyle columns. It was written by Dr Thomas Stuttaford, a qualified British Doctor and a regular medical correspondent for The Times. The author has also written a book on alcohol and is not only a well-known enthusiast but also a promoter of drinking red wine in moderation.

The article starts by talking about the Colony Club, a famous private members drinking club in Soho, London, and how many artists, actors and creative writers were regular drinkers there. A reasonable assumption was made by the author in that the private members of the Colony Club would have had high IQs, as they were all major British talents in their respective fields.

He continues by mentioning how many parents would be very proud to be told that their child has a high IQ compared to their peers. However he draws this to a negative by saying nobody would associate these intelligent children with becoming alcohol enthusiasts in adult life.

He validates his opinion by referring to the results of a study that has been published in the American Journal of Public Health, which makes the reader think his opinion is true due to the authenticity of the source. This article challenges the presumption of parents that their intelligent child is guaranteed a bright future, thus generating concern. The results of the study seem reliable to the reader as a large number of children were included (8,170) and the results are conveyed very simply and are easy to understand. The study showed that the likelihood of a bright girl developing a drinking problem in later life was increased by 38% compared to an increase of 17% for boys.

He continues by reminding us to re-evaluate our thinking on alcohol as Christmas approaches, and also claims that modest drinking is even life preserving. Studies undertaken confirm this 20. The article also presents statistics from the Department of Health, arguing that only 6% of women and 8% of men drink to a hazardous level.

The article has been written in response to recent medical evidence and seems very reliable as all the facts are portrayed in a simple yet effective manner, and are supported by credible sources. Furthermore, the readers already know that the author is in fact a doctor and therefore would be duty-bound to tell the truth. On the other hand, Dr Stuttaford does not make full use of scare tactics or inflammatory language, and consequently does not leave a huge, lasting impression on the reader.

Article 2 - Who will teach teenagers not to binge drink? (The Independent)

The article is aimed at a limited audience, specifically targeting older readers. The title of this article does not convey the seriousness or consequences of binge drinking. However, the title does succeed in drawing the reader in, as they will want to find out who actually will teach teenagers not to binge drink.

The article begins by commenting on a radio documentary that highlights the number of children getting drunk regularly and its negative effects. It moves on to say that research shows 11 to 13 year olds, and 15 to 16 year olds drink double the amount weekly compared to 20 years ago. Furthermore, it alleges the number of units they consume weekly has doubled from 5 to 12. This shocks the reader as it emphasises the seriousness of the issue as it involves children. However, as the article does not give the source of the research, or details of the study conducted, this would render the claims futile. The facts seem to be used simply as a scare tactic.

She also mentions that 150 underage drinkers got arrested for being drunk in one town in Scotland in the last 18 months. Parents were asked to collect their children and were offered support to prevent it from happening again. This is irrelevant considering the small number of children involved over a period of 18 months. This equates to about 8 children being arrested for being drunk every month which is not a huge figure. The article then states that only one in four children give up drinking for good but the source of this statistic is unknown. Again, these figures seem to have been used in order to exaggerate the seriousness of the issue.

The author appears to make assumptions of children at comprehensive schools, by saying children at private schools are equally likely to get drunk as those from comprehensive schools. There is a great deal of bias shown here by not informing the reader on what evidence these claims are based on.

Towards the end of the article the author talks about various British comedians and musicians and how they drink very little. She says that there are plenty of role models out there that should be hugely influential on children and therefore does not understand why
these children are still drinking. However, the author does not reveal how she knows that celebrities drink very little. It could be argued that the celebrities want to appear as role models in the public eye and hence may distort the true nature of their drinking patterns.

The author, Janet Street-Porter, is a former editor of The Independent, and is a famous television presenter. Her intentions can be questioned as it is in her best interests to report news that sells. It could appear that the information the article conveys is biased due to the lack of figures used and not fully informing the reader about the research mentioned.

**Article 3 - The dementia timebomb facing binge drinkers (The Daily Mail)**

The title of this article is immediately very striking due to the word ‘timebomb’ being used. A reader may at first impression think that a binge drinker may get dementia at any point. The inflammatory language used in the title has a huge impact on the reader, urging them to read on.

The article starts off with a warning from doctors saying that binge drinkers put themselves at risk of Alzheimer’s in later life. The title of the article is exaggerated as the risk of developing dementia is greater in later life and it is no longer a ‘timebomb’.

Figures, such as the number of people suffering from dementia, are shown along with a claim that 10% of those are alcohol related. The author tries to increase the validity of the figures by saying ‘experts’ claim this.

Quotes from various professionals, including two psychiatrists, are used throughout the article as a way of increasing the credibility and authenticity of the authors claims mentioned in the article.

To demonstrate the seriousness of excessive alcohol consumption, the article claims that the amount of alcohol consumed per person has almost doubled from less than 6 litres a year in 1960, to 11.5 litres in 2000. The article tries to blame this increase on the drink companies and their marketing of alcohol.

The author at the end of the article tries to inform the reader in an unbiased way the definition of binge drinking and what one unit is equal to in terms of drinks. Also highlighted are the mortality rates associated with alcohol and the death rates of common diseases. It is apparent that statistics used by the author are reliable as they have been selected from valid sources such as the Alzheimer’s Society. Overall, the article is very informative and raises awareness of excessive alcohol consumption, which is an important public health issue.

**Article 4 - £2500 FINE FOR BOOZING IN STREET; CRACKDOWN ON BINGE-DRINKING CULTURE POWERS TO TAKE AWAY KIDS’ ALCOHOL 2 FOR PRICE OF 1 DEALS TO BE BANNED**

The bold, eye-catching title aims to shock readers by mentioning, very bluntly a huge penalty for those found ‘boozing’ in streets. It goes on to mention that the government is coming down hard on binge drinkers by fining them £2500, which is five times the current maximum. It could be argued that in addition to clamping down on boozing in the street, they could also profit from raising the maximum fine limit.

The article goes on to say that two-for-one promotions on drinks sold in bars will be banned under proposed new laws and pubs will be forced to display exactly how many units are in each drink. The author tries to praise the government by illustrating that they are trying to promote responsible drinking by enforcing tougher laws. He also quotes Jacqui Smith, the Home Secretary, saying that these new measures were needed to stamp out the UK’s binge-drinking culture as people are fed up seeing drunken louts lying on pavements and being sick. This was done to influence readers by illustrating the seriousness of UK’s binge-drinking culture by quoting the comments of a high ranking government official. He further highlights this by saying that even the Queen will, in her speech, mention the new stricter measures on binge drinking.

To show both sides of the argument the author also presents the opposing argument against the government’s new plans. This is shown through comments from a representative of the major drink companies. This is shown effectively to the reader by mentioning that the drink companies already have stringent regulations and that they have removed 1,560 irresponsibly marketed drinks. It finally challenges the government’s proposals by saying that the binge drinking problem can be solved through better education and proper enforcement of the existing alcohol laws. However, it is worth noting that the drink companies will oppose proposals that will decrease their sales and hence profits.

Overall, the article is reliable due to unbiased, balanced reporting on the proposals to tackle binge drinking. The article could have been more effective in leaving a lasting impression on the reader by including the medical and social consequences of binge drinking.

**Conclusion**

Out of the four articles analysed in depth, only article 1(19) briefly mentions the protective effect of
moderate alcohol consumption on the body. Article 3 (22) exclusively talked about the medical effects of binge drinking. Other articles neglected this in favour of using scare tactics, in the form of statistics, in order to appeal to a wider audience.

In general, all the articles that were read and analysed, agree that the increase in excessive levels of alcohol consumption is of concern, particularly amongst youths.

The media exert a substantial degree of influence on the health beliefs of readers. Some articles report exaggerated claims but, nonetheless, they tend to agree on the need for an end to the binge drinking epidemic in the UK.

References

19. Stuttford T. Smart kids are more likely to be heavy drinkers. The Times, 15 December 2008, p.11.
23. Beattie J. £2,500 FINE FOR BOOZING IN STREET; CRACKDOWN ON BINGE-DRINKING CULTURE POWERS TO TAKE AWAY KIDS’ ALCOHOL 2 FOR PRICE OF 1 DEALS TO BE BANNED. The Mirror, 1 December 2008, p.25.
Illustrations

Illustration 1

Table 1

<table>
<thead>
<tr>
<th>Drinking pattern</th>
<th>Units per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social - within normal limits</td>
<td>Men &lt; 21, Women &lt; 14</td>
</tr>
<tr>
<td>Moderate - occasional dinking over limits</td>
<td></td>
</tr>
<tr>
<td>Heavy - hazardous: socio-economic and minor physical</td>
<td>Men 22-29, Women 13-35</td>
</tr>
<tr>
<td>problems</td>
<td></td>
</tr>
<tr>
<td>- harmful: risk of physical damage</td>
<td>Men &gt;50, Women &gt;36</td>
</tr>
<tr>
<td>Binge - on any occasion</td>
<td>Men 10 +, Women 7 +</td>
</tr>
<tr>
<td>Dependent - drink takes over life</td>
<td>Men &gt;50, Women &gt;36</td>
</tr>
</tbody>
</table>

Definitions of drinking patterns (the figures are approximate guidelines) (7).
Illustration 2

Table 2

<table>
<thead>
<tr>
<th>Blood alcohol concentration mg/100ml</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Disinhibition, mild euphoria</td>
</tr>
<tr>
<td>50</td>
<td>Impairment of skills and judgement</td>
</tr>
<tr>
<td>80</td>
<td>Motor impairment, accident risk doubled</td>
</tr>
<tr>
<td>100</td>
<td>Garrulous, elated, aggressive</td>
</tr>
<tr>
<td>160</td>
<td>Accident risk increased tenfold</td>
</tr>
<tr>
<td>200</td>
<td>Slurred speech, gross unsteadiness</td>
</tr>
<tr>
<td>400</td>
<td>Severe intoxication, hypotension, hypothermia, coma, death from respiratory depression</td>
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*Physical and mental effects at different blood alcohol concentrations (7).*
Illustration 3

Table 3

<table>
<thead>
<tr>
<th>Search Term</th>
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<th>Hits with limits</th>
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<td>4350</td>
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<td>ethanol/effects</td>
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<td>ethanol/effects/liver</td>
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<tr>
<td>ethanol/effects/cancer</td>
<td>3126</td>
<td>206</td>
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Illustration 4

Table 4

<table>
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<tr>
<th>Newspaper</th>
<th>Number of Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Daily Mail and Mail on Sunday</strong></td>
<td>37</td>
</tr>
<tr>
<td><strong>The Daily Telegraph</strong></td>
<td>11</td>
</tr>
<tr>
<td>The Express Newspapers (Daily and Sunday Star)</td>
<td>6</td>
</tr>
<tr>
<td><strong>The Guardian</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>The Independent</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>The Mirror and The Sunday Mirror</strong></td>
<td>9</td>
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<tr>
<td><strong>News International Newspapers Information</strong> (The Sun)</td>
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</tr>
<tr>
<td><strong>The Observer</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>The Sunday Express</strong></td>
<td>4</td>
</tr>
<tr>
<td>The Times &amp; Sunday Times</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>112</strong></td>
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</table>

Results of the LexisNexis newspaper article search.
Illustration 5

Table 5

<table>
<thead>
<tr>
<th>-</th>
<th>Article 1</th>
<th>Article 2</th>
<th>Article 3</th>
<th>Article 4</th>
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<td>Newspaper</td>
<td>The Times</td>
<td>The Independent</td>
<td>The Daily Mail</td>
<td>The Mirror</td>
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<tr>
<td>Page</td>
<td>Page 11 of the T2 supplement</td>
<td>Page 36</td>
<td>Page 8</td>
<td>Page 25</td>
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<td>17/12/08</td>
<td>1/11/08</td>
<td>1/12/08</td>
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<tr>
<td>Title</td>
<td>Smart kids are more likely to be heavy drinkers</td>
<td>Who will teach teenagers not to binge drink?</td>
<td>The dementia timebomb facing binge drinkers</td>
<td>£2,500 fine for boozing in street; crackdown on binge-drinking culture powers to take away kids' alcohol 2 for price of 1 deals to be banned</td>
</tr>
<tr>
<td>Reporter</td>
<td>Dr Thomas Stuttaford</td>
<td>Janet Street-Porter</td>
<td>Jenny Hope</td>
<td>Jason Beattie</td>
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<td>Word Count</td>
<td>735</td>
<td>949</td>
<td>486</td>
<td>598</td>
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</table>

*Selected four articles.*
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