

Alcohol and the young: how does the press face the problem?

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ABSTRACT

BACKGROUND: alcohol is an important component of the Mediterranean diet and its moderate use is protective against cardiovascular risk. Binge drinking, i.e. the heavy consumption of alcohol over a short period of time, is the main consumption pattern of young people in Western countries and may lead to severe toxic effects in many organs. Mass media often address the issue by suggesting prevention measures; however, they may also have the unintended effect of encouraging alcohol misuse. This study aims to assess how the Italian press faces excessive alcohol consumption in young people, comparing the messages given by the press with scientific recommendations.

METHODS: articles published by the 6 best-selling Italian newspapers and the 4 best-selling Italian magazines were collected from October 15th to November 14th 2009. Medline database, governmental and non-governmental sources were searched for scientific recommendations regarding primary prevention of alcohol misuse. Press articles were described and analysed by filling out a predefined form.

RESULTS: fourteen newspaper articles regarding alcohol were found, 79% belonging to the news section. Six quotations of scientific recommendations were found: two about drink-driving, two about raising public awareness, one about Monitoring and Evaluation, and one about community and workplace action.

CONCLUSIONS: scientific recommendations were often inadequately reported by the Italian press. The most covered recommendations, designed driver and public educational intervention, are also the least effective according to international literature. Therefore, a further effort is needed to tackle this issue in a more scientifically sound way.

Key words: Alcohol; Press; Guidelines; Scientific recommendations

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INTRODUCTION

Alcohol is a fundamental part of the Mediterranean diet. In countries such as

Italy, its use is characterised by moderate intake. The Mediterranean pattern of alcohol consumption is known to be protective for the cardiovascular system. Regular drinkers (i.e.,

those who drink alcohol more than 2 days a week) exhibit a reduction in cardiovascular risk (RR 0.75; 95%CI 0.64-0.89; $p < 0.001$) compared to abstainers or irregular heavy drinkers [1]. This is due to increased levels of circulating LDL and to decreased LDL oxidation, systemic inflammation, and platelet aggregation [2].

Alcohol is also a major risk factor for human health. Globally, 1.8 million deaths and a loss of 58.3 million disability-adjusted life years (DALYs) are attributable to alcohol [3]. In Italy, alcohol is estimated to be responsible for 24 000 deaths in 2002 and more than 100 000 alcohol-attributable hospital admissions in 2006. Both indicators show a long-lasting downward trend [4]. Alcohol is known to increase mortality both (a) directly, by increasing the risk for liver cirrhosis and oral, oropharyngeal, hypopharyngeal and laryngeal cancers, and (b) indirectly, by increasing the risk for car accidents and sexually-communicable diseases [5-8].

Italian patterns of consumption varied substantially in recent years, with younger generations deviating from the Mediterranean drinking pattern. From 1998 to 2008, prevalence of people drinking alcohol outside meals at least one time per year increased from 12.6% to 18.7% among 14-17 years old and from 30.3% to 41.6% among 18-24 years old [9]. Evidence reporting increases in binge drinking is of particular concern. Binge drinking, or heavy episodic drinking, is defined as drinking five or more drinks on a single occasion, usually intended as within 2 hours [10]. It is associated with an increased risk for car accidents, sexually communicable diseases and alcohol dependence [11, 12]. Additionally, although it is not completely clear which variables can provide an early prediction of adult drinking patterns [13], both teenage recurrent frequent drinking (3 or more drinks in a week) and recurrent binge drinking are strongly associated with alcohol dependence in young adults (OR 8.1, 95%CI 4.2-16.0; OR 6.7%, 95%CI 3.6-12.0, respectively) [14]. In Europe, 25 million people aged 15 and older, i.e. 6.7% of the whole adult population, reported that binge drinking was their usual pattern of consumption in the past 30 days [11]. In Italy, the whole-population prevalence is 7.3% and a peak is reported among people aged 18-24 (14.4%).

Evidence shows that mass media may effectively influence public health [15-19]. In Italy

alcohol misuse among young people is periodically tackled by mass-media prevention interventions funded by the Ministry of Health or by local governments. The national campaign "Ragazzi vediamoci chiaro!" (translated as, "Lads, let's see clearly") was active from August 2nd to September 9th 2009 and included advertising on popular newspapers and magazines, online advertising, and posters in clubs [20]. Unfortunately, the role of mass media is sometimes ambivalent. Television, radio, and printed advertising are often employed to advertise alcoholic beverages, resulting in reduced impact of anti-alcohol recommendations [21].

Consistency of mass-media messages with national and international recommendations is seldom evaluated. Although a paper comparing scientific recommendations regarding prevention of H1N1 influenza and Italian press messages has recently been published [22], we are not aware of studies addressing the consistency of recommendations against alcohol misuse among young people in Italy.

The objective of our study is therefore to compare messages regarding alcohol misuse given by the Italian press with scientific literature.

METHODS

The study compares scientific literature with the messages found in a sample of Italian press during one month in 2009. It was conducted by 14 medical students as a curricular activity for their "Public Health, Occupational Medicine and Evidence-Based Medicine" course at Avogadro University - Novara.

Preliminary search of the scientific literature

Medline was searched for meta-analyses and reviews regarding alcohol epidemiology and risk factors for alcohol misuse. The search strategy combined the following Mesh terms: (((“Adolescent” [Mesh] AND (“Alcohol Drinking” [Mesh] OR “Alcohol Drinking/adverse effects” [Mesh])) AND (“Alcohol Drinking” [Mesh] OR “Alcohol Drinking/epidemiology” [Mesh])) AND “Ethanol” [Mesh]) AND “Risk Factors” [Mesh]. The following limits were used: Goal, Review, Links to full text and Abstract.

91 titles were retrieved. A first selection was made from titles and abstracts, then a second selection was based on full texts.

Scientific recommendations

Recommendations were retrieved from WHO Europe [23] and the National Research Institute for Food and Nutrition (INRAN). Though INRAN provides recommendations on alcohol, they are an adaptation of WHO recommendations [24]. To avoid redundancy we decided to use only WHO recommendations.

In order to search for effective prevention strategies against alcohol abuse and damage to health, the following Mesh Terms were used: (“Alcohol Drinking” [Mesh] AND “epidemiology” [Subheading]) AND “Harm Reduction” [Mesh] OR “Alcoholism/prevention and control” [Mesh]. We set the following limits: articles published after 2005, links to full text, abstracts, Humans, Editorial, Goal, Practice Guideline, Review, English and Italian. We did a first selection based on titles and abstracts, excluding articles focusing on specific populations (e.g., students of American colleges, pregnant women, aboriginal populations or patients suffering from particular diseases), and then a second selection based on full texts.

Scientific recommendations were classified according to the Institute of Medicine 1994 four-category classification of prevention interventions: environmental, universal, selected and indicated prevention strategies [25, 26]. Environmental strategies are aimed at altering the immediate cultural, social, physical and economic environments in which people make their choices. Universal prevention strategies address the entire population (local community, pupils, and neighbourhood). Selective prevention serves specific sub-populations whose risk for a disorder is significantly higher than average. Indicated prevention aims to identify individuals who are exhibiting indicators that are highly associated with an individual risk of developing substance abuse later in their life (such as psychiatric disorder, school failure, dissocial behaviour etc.) or early signs of problematic substance use (but not clinical criteria for dependence) and to target them with special interventions.

All recommendations were then summarised in Table 1.

Press articles

The six best-selling Italian general daily newspapers from June 2008 to May 2009

were provided by the official list of top Italian newspapers [27]: La Stampa, La Repubblica, Il Corriere della Sera, Il Messaggero, Il Giornale and Il Sole 24 Ore. The four best-selling non-specialised Italian magazines were also selected. Two of these are sold individually, L'Espresso and Panorama, and two are weekly supplements of daily newspapers, Il Venerdì di Repubblica and Il Corriere della Sera Magazine.

Press articles were collected from 15th October 2009 to 14th November 2009. A rota was organised, and every day a member of the study group scanned selected newspapers and magazines for articles about alcohol. Two group members independently confirmed or rejected selected articles, and jointly classified them according to the following criteria: (a) articles about anti-alcohol recommendations and policies; (b) articles about alcohol misuse and its consequences in the young; (c) articles about both topics. The same two members jointly analysed articles in detail and described them in a table (Table 2), including the section where the article was published (i.e., politics, national news, etc), length (i.e., up to 1 column, between 2 and 4 columns, over 4 columns), author status (i.e., journalist, physician or expert, journalist interviewing or citing an expert). At any step, every disagreement between the two assessors was solved with the consultation of a third person.

The table was made more compact by merging the columns of magazines because none of them was found to report recommendations to prevent alcohol misuse in the young.

Comparison between scientific recommendations and press messages

Scientific recommendations included in each press article were tabulated by category of recommendation (pricing, availability, marketing, illegally and informally produced alcohol, drinking-driving, drinking environments, health care interventions, raising public awareness, community and workplace action, monitoring and evaluation). If non-scientific recommendations were available, they were counted in the “Other suggestion” category.

The table was made more compact by keeping only recommendation categories included in press articles.

TABLE 1

SUMMARY OF FOUND SCIENTIFIC RECOMMENDATIONS AND RELATED EVIDENCE

| | DESCRIPTION | STRATEGIES | PROS | CONS | LEVEL OF EVIDENCE [§] |
|---|--|---|--|--|--------------------------------|
| ENVIRONMENTAL PREVENTION | | | | | |
| Pricing | Rising price of alcoholic beverages by taxation and invest money in alcohol prevention | Set uniform tax per gram of alcohol across all beverage categories or special taxes for products that are especially attractive to young consumers | <ul style="list-style-type: none"> - First age of drinking delayed and effective on the young in the long term - Reduction of overall consumption and related acute and chronic harm. - High cost-effectiveness | <ul style="list-style-type: none"> - Less effective in deep-rooted drink cultures - Illicit market can make pricing policy ineffective - Heavy drinkers tend to buy cheaper products | 1 |
| Availability | To reduce alcohol availability, especially to the young | <ol style="list-style-type: none"> 1) Preserve alcohol monopolies and introduce retail licences 2) Avoid extension of sale hours and days 3) Raise minimum purchase age to 18, if lower | <ul style="list-style-type: none"> - Reduction of alcohol-related harm and damages such as car accidents - Urban settings and low-income areas are associated to high density of sellers | <ul style="list-style-type: none"> - Revenues from taxation of retail licenses may encourage states to release a higher number of licences - Restrictions may favour illicit market - High cost-effectiveness only if fully applied | 2, 3 |
| Marketing | To limit the amount and to control the content of alcohol advertising during TV and radio programmes, in films or as sponsors of cultural and sport events | <ol style="list-style-type: none"> 1) Review existing systems to control the content and volume of media communications and adapt them to restrict or ban alcohol advertising 2) Monitor enforcement of such restrictions | <ul style="list-style-type: none"> - First age of drinking delayed - More effective than alcohol producers' self-regulation | <ul style="list-style-type: none"> - Advertising restrictions may be effective only if they aim to ban direct and indirect marketing - High cost-effectiveness only if fully applied | 1, 5 |
| Illegally and informally produced alcohol | To limit alcohol smuggling and to reduce adverse health effects of products containing ethanol or other contaminants | <ol style="list-style-type: none"> 1) Update estimates of the size of the illegal market 2) Computerise tracking of alcohol and introduce tax stamps as for other tobacco 3) Work with producers of surrogate alcohol, whenever possible 4) Transfer some accountability for reducing illegal trade and surrogate alcohol to alcohol industry | <ul style="list-style-type: none"> - Avoidance of methanol use as a denaturing agent - Control of selling of alcohol in medicines and container dimensions | n/a | 5 |
| Drinking environment | To standardise conduct of managers and staff working in places where alcohol beverages are sold | <ol style="list-style-type: none"> 1) Develop guidelines and standards for the design of premises and for staff training; disseminate guidelines to pub owners 2) Review existing license regulations, develop guidelines to strengthen them and monitor their application; disseminate guidelines to licensing authorities | <ul style="list-style-type: none"> - Increased safety in bars and reduction of alcohol-related violence | <ul style="list-style-type: none"> - Effectiveness of guidelines implementation is associated with police control and verification of sale license | 2 |

TABLE 1 (CONTINUED)

| SUMMARY OF FOUND SCIENTIFIC RECOMMENDATIONS AND RELATED EVIDENCE | | | | | |
|--|---|---|--|--|--------------------------------|
| | DESCRIPTION | STRATEGIES | PROS | CONS | LEVEL OF EVIDENCE [§] |
| UNIVERSAL PREVENTION | | | | | |
| Raising public awareness | Informational and educational campaigns on alcohol | 1) Design and invest in school-based educational and public information campaigns on alcohol 2) Use campaigns to support other evidence-based action on alcohol 3) Make warning labels compulsory for containers of alcoholic beverages and alcohol advertising 4) Avoid funding from alcohol industries | <ul style="list-style-type: none"> - Evidence of significant effects in the short term (>12 months) - Compulsory health warning labels affect intention to change drinking pattern | <ul style="list-style-type: none"> - Little evidence of effectiveness in the long term - Parenting and social marketing programmes are often funded by alcohol industries and lead to positive attitudes about alcohol - Compulsory health warning labels not change drinking behaviour | 1, 2 |
| SELECTED PREVENTION | | | | | |
| Drinking-driving | To lower minimum BAC allowed for driving | 1) If minimum BAC is above 0.5 g/l, reduce to 0.5g/l; if already 0.5 g/l, reduce to 0.2g/l 2) Reinforce control and ensure immediate consequences if minimum BAC limit is broken | <ul style="list-style-type: none"> - Reduction of offences and alcohol-related car accidents - Alcohol ignition interlock system lowers offences | <ul style="list-style-type: none"> - No evidence of effectiveness of appointed driver in reducing accidents - No effectiveness of ignition interlock system if driver disables it | 1, 2 |
| Community and workplace action | To develop community and workplace resources for actions on alcohol | 1) Control availability, sale and distribution of alcohol 2) Create an ongoing system to evaluate and monitor programmes to change drinking habits 3) Review national alcohol legislation | <ul style="list-style-type: none"> - Media involvement would increase political attention on alcohol misuse issues - Reduction in car accidents and violent behaviour - Cheap | Low effectiveness | 2, 5 |
| INDICATED PREVENTION | | | | | |
| Healthcare interventions | To implement early identification and brief advice groups in primary care settings for harmful drinking patterns | Offer early identification and brief advice programmes to 30% (then to 60%) percent of the population at risk for hazardous or harmful alcohol consumption | <ul style="list-style-type: none"> - Most effective evidence-based treatment method for at-risk people - Increased ability to identify harmful drinking patterns | <ul style="list-style-type: none"> - Cost-effectiveness not favourable if used without other alcohol control strategies | 1, 2 |
| INTERDISCIPLINARY | | | | | |
| Monitoring and evaluating | To control the volume of per capita consumption, the patterns of assumption and the years of life lost for alcohol-related events | 1) Combine all available data on alcohol each year in one report 2) Refine analytical methods used in generating data on alcohol | | | |

§ 1 more than one systematic reviews; 2 one SR; 3 two or more randomised controlled trials; 4 one RCT; 5 observational evidence; 6 not assessed

BAC: blood alcohol concentration

RESULTS

Scientific recommendations

Scientific recommendations were arranged in 10 topics classified into the four Institute of Medicine (IOM) areas [25, 26]. All four recommendations and their level of evidence are summarised in Table 1.

Environmental prevention

Pricing - a meta-analysis based on 132 studies demonstrated that increasing the price of alcoholic beverages decreases their use [28]. Influence of taxation on alcohol use is lower for culturally preferred beverages such as beer or wine. Furthermore, increased taxes do not necessarily mean increased prices, because alcohol producers and retailers sometimes offset tax increases by reducing prices. One way to control this unwanted effect is to introduce a legal minimum price per unit of alcohol, especially on products attractive to young consumers such as alcopops.

Availability - evidence shows that alcohol consumption is associated with availability. According to a recent experience, in Diadema (Brazil) prohibition of selling alcohol beverages after 11 pm resulted in a 44% drop of the murders rate [15].

Marketing - longitudinal studies showed that exposure to alcohol advertisements anticipates starting age in non-drinkers and worsens the pattern of consumption in those who already drink alcohol. Restrictions in advertising are effective only if they aim to ban both direct and indirect marketing [28].

Illegally and informally produced alcohol - illegally produced alcohol and products not conceived for consumption (e.g., mouthwash, fragrances) could be harmful because of higher concentration of ethanol and contamination by methanol and lead. This is not a problem in Italy, therefore we will not discuss possible solutions, which may be found elsewhere [28].

Drinking environment - projects oriented to increasing safety in pubs and bars, such as displaying recommended alcohol intake in information panels and further training staff, can reduce violent habits. They are however more effective if associated with police control and with sale license verification. Toughened

glassware does not reduce accidents and injuries [28].

Universal prevention

Raising public awareness - 14 systematic reviews show that school programmes have low effectiveness in reducing alcohol use and alcohol related damage in the long term. The effectiveness appears to be limited to a small number of specific programmes [29]. Similar results were obtained by public campaigns informing about risks of excessive alcohol use and about existence of harm-reduction treatments, and by labels containing strong anti-alcohol messages – which are known to be a useful strategy in anti-smoking campaign [28]. This evidence should discourage implementation of anti-alcohol informational campaigns as standalone interventions.

Selected prevention

Drink-driving - it is recommended to reinforce control through breath testing and sobriety checkpoints supported by public educational campaigns. Establishing 0.8 g/L as legal limit for alcoholic blood value and zero for young and novice drivers reduces car accident by 9-24%; the legal limit in Italy was already lower (0.5 g/L) so we did not expect the press to give suggestions about this. However, parallel immediate actions could be taken, such as driving licence penalty points, suspension of driving licence, compulsory medical treatment and alcohol ignition interlock system.

Community and workplace action - an urban setting with low social capital can be a risk factor for harmful levels and patterns of alcohol use. The media should increase mobilisation of the audience in order to help governments and authorities focus on at-risk communities. There is some evidence that community interventions which introduce an ad-hoc tax to fund education and treatment are effective in reducing car accidents [21]. Workplace stress and low satisfaction at work can also increase the risk of alcohol misuse and work-related consequences, such as absenteeism and low productivity. Evidence shows that workplace programmes can change drinking norms and reduce harmful drinking [21].

Indicated prevention

Healthcare interventions - healthcare is the most expensive sector, hence the cost-effectiveness of such interventions is not favourable if used without additional alcohol control policies. It is recommended that early identification and brief advice programmes should be offered to 30% (then to 60%) of the population at risk for hazardous or harmful alcohol consumption (i.e., more than 40 g/day for men and 30 g/day for women). Early identification educational programmes increase by 13% the ability to identify hazardous and harmful drinking pattern. Brief advice, which comprises 10-to-15-minute sessions with a trainer guiding the group and providing written material and verbal suggestion on alcohol effects, is the most effective evidence-based treatment method for subjects with hazardous and harmful alcohol use. Additionally, people with dependence and alcohol-related damages could be given specific treatments (cognitive-behavioural and pharmacological), even if a different effectiveness is not proved [21].

Monitoring and evaluation

Despite not being an intervention *per se*, monitoring and evaluation are interdisciplinary skills which are often useful during the implementation of other interventions. Use of reliable and internationally recognised indicators and data may help to control the volume of per capita consumption, drinking patterns, and the years of life lost for alcohol-related events.

Press articles

Table 2 describes relevant findings concerning selected press articles. Among all the analysed articles in the 206 issues included in the study published from June 2008 to May 2009, 14 articles related to alcohol in the young were detected. No magazine article was eligible for inclusion. Six newspaper articles (43%) were published by *Il Messaggero*, three (21%) by *Il Corriere della sera*, two (14%) by *Il Giornale*, one each (21%) by the three remaining newspapers (*La Stampa*, *La Repubblica* and *Il Sole 24 Ore*). The section with the highest

proportion of published articles was local news (50%); only one (7%) was released by the scientific section of the newspaper (Science, Health and Medicine).

Most articles were between two and four columns long (43%). Almost all the articles (71%) were written only by journalists; we were able to find out only four interviews or expert citations; none were written by an expert.

Comparison between scientific recommendations and press messages

Health messages consistent with scientific recommendations on alcohol were found in only six out of 14 papers (Table 3 and 4). No recommendations different from the ones given by WHO were found. They concern mainly drinking and driving, raising public awareness, community and workplace action and monitoring and evaluation. None of the following issues are raised by the press: need for increased prices, to reduce availability and limit marketing; illegal production; action on drinking environments; and health care interventions. The only scientific reference found in the examined press refers to the Zutphen Study in *La Stampa* "Salute e star bene" ("Health and wellbeing") supplement (16th October 2009). This cohort study describes the protective effect of moderate doses of alcohol consumption (≤ 20 g per day) and reports a strong and inverse association with cerebrovascular disease, total cardiovascular disease and all-cause mortality.

DISCUSSION

A survey of the ten best selling Italian newspapers and magazines carried out during one month in 2009 showed that the press appears reluctant to face the problem of alcohol. Out of the 14 articles focusing on alcohol consumption published during the survey period, only 6 reported health messages consistent with scientific recommendations, and 3 of them were published by one newspaper (*Il Messaggero*).

Drinking and driving recommendations were the most frequently quoted in our press sample. The raising public awareness recommendation, dealing with public educational interventions, was also frequently

TABLE 2

| DESCRIPTION OF SELECTED PRESS ARTICLES | | | | | | | | | | | | | | | | | |
|--|---------------------------------|------|-----------|------|---------------|------|-------------|------|----------------|------|---------------|------|-----------|-----|-----|-------|--|
| | PRINT MEDIA | | | | | | | | | | | | | | | TOTAL | |
| | IL CORRIERE DELLA SERA | | LA STAMPA | | LA REPUBBLICA | | IL GIORNALE | | IL SOLE 24 ORE | | IL MESSAGGERO | | MAGAZINES | | | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % | |
| COLLECTED ISSUES | 31 | 15.0 | 31 | 15.0 | 31 | 15.0 | 31 | 15.0 | 31 | 15.0 | 31 | 15.0 | 20 | 9.7 | 206 | 100.0 | |
| INCLUDED ARTICLES | 3 | 21.4 | 1 | 7.1 | 1 | 7.1 | 2 | 14.3 | 1 | 7.1 | 6 | 42.9 | - | - | 14 | 100.0 | |
| ANALYSIS OF INCLUDED ARTICLES | | | | | | | | | | | | | | | | | |
| SECTION | POLITICS | | | | | | | | | 1 | | | | | 1 | 7.1 | |
| | NATIONAL NEWS | | | | | 1 | | | | | | 3 | | | 4 | 28.6 | |
| | LOCAL NEWS | 3 | | | | | | 1 | | | | 3 | | | 7 | 50.0 | |
| | SCIENCE, HEALTH AND MEDICINE | | | | | | | 1 | | | | | | | 1 | 7.1 | |
| | SUPPLEMENTS | | | 1 | | | | | | | | | | | 1 | 7.1 | |
| LENGTH | BOX | 2 | | | | | | | | | | 1 | | | 3 | 21.4 | |
| | UP TO 1 COLUMN | | | | | | | | | 1 | | | | | 1 | 7.1 | |
| | BETWEEN 2 AND 4 COLUMNS | 1 | | | | 1 | | 1 | | | | 3 | | | 6 | 42.9 | |
| | OVER 4 COLUMNS | | | 1 | | | | 1 | | | | 2 | | | 4 | 28.6 | |
| AUTHOR | JOURNALIST | 3 | | | | 1 | | 1 | | 1 | | 4 | | | 10 | 71.4 | |
| | INTERVIEW/CITATION OF AN EXPERT | | | 1 | | | | 1 | | | | 2 | | | 4 | 28.6 | |
| | PHYSICIAN OR EXPERT | | | | | | | | | | | | | | 0 | 0.0 | |
| | TOTAL | 3 | | 1 | | 1 | | 2 | | 1 | | 6 | | - | 14 | 100.0 | |

quoted. One article also emphasised the “appointed driver” prevention measure, which is the choice of one person who accepts to remain sober for driving. No reference to the most effective scientific recommendations such as reduction of alcohol availability, increasing alcohol taxation, and promotion of the role of general practitioners were found. Interestingly, 79% of included press articles were published in the news sections, thus justifying why alcohol-

related events such as car accidents were more emphasised than health recommendations.

The only expert opinion found during the observation period was from a Wageningen University nutritionist advising alcohol drinkers to reduce intake to one/two units of alcohol per day, better if wine, because evidence shows that drinking half glass of wine per day reduces general mortality by 40% and cardiovascular death by 48% (30).

TABLE 3

| ANALYSIS OF SCIENTIFIC RECOMMENDATIONS INCLUDED IN PRESS ARTICLES | | | | | | | | | | | | | | | | |
|---|------------------------|---|-----------|---|---------------|------|-------------|------|----------------|---|---------------|------|-----------|---|-------|-------|
| | PRINT MEDIA | | | | | | | | | | | | | | TOTAL | |
| | IL CORRIERE DELLA SERA | | LA STAMPA | | LA REPUBBLICA | | IL GIORNALE | | IL SOLE 24 ORE | | IL MESSAGGERO | | MAGAZINES | | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| DRINKING-DRIVING | | | | | | | 1 | | | | 1 | | | | 2 | 14.3 |
| RAISING PUBLIC AWARENESS | | | | | | | 1 | | | | 1 | | | | 2 | 14.3 |
| COMMUNITY AND WORKPLACE ACTION | | | | | 1 | | | | | | | | | | 1 | 7.1 |
| MONITORING AND EVALUATION | | | | | | | | | | | 1 | | | | 1 | 7.1 |
| NO RECOMMENDATION | 3 | | 1 | | | | | | | 1 | | 3 | | | 8 | 57.1 |
| OTHER SUGGESTIONS | | | 1 | | | | | | | | | | | | 1 | 7.1 |
| TOTAL RECOMMENDATIONS | - | - | - | - | 1 | 16.7 | 2 | 33.3 | - | - | 3 | 50.0 | - | - | 6 | 42.9 |
| TOTAL ARTICLES | 3 | | 1 | | 1 | | 2 | | 1 | | 6 | | - | | 14 | 100.0 |

Note. None of the following recommendations were cited in included articles: pricing, availability, marketing, illegally and informally produced alcohol, drinking environments, health care interventions

TABLE 4

| SCIENTIFIC RECOMMENDATIONS AND MESSAGES FOUND IN THE ITALIAN PRESS | | |
|--|----------|---|
| SCIENTIFIC RECOMMENDATION | ARTICLES | |
| | N | MESSAGE |
| Drinking-driving | 2 | Maximum blood level for drivers is a legitimate policy |
| Raising Public Awareness | 2 | Importance of prevention campaigns against consequence of alcohol misuse targeting students in middle and high school |
| Community and Workplace Action | 1 | Initiative of an alpine hut which offered to bring its clients back downhill after dinner or parties, in order to reduce accidents due to alcohol intoxication |
| Monitoring and Evaluation | 1 | Survey regarding the "Stasera guida io 2009" campaign. Compared to previous year, an increase in the proportion of young people agreeing with designed driver was reported, as well as a reduction of those opposing blood alcohol limits |

Our study had a number of limitations. For one, none of the twenty analysed magazines contain articles corresponding to the inclusion criteria. This might depend on the emphasis given to news with strong media impact. General-interest magazines often deal with popular health topics such as diet, research innovations and health systems, but alcohol related harm on

health is not frequently covered.

We were not able to find studies comparing messages of alcohol-related scientific recommendations with those disseminated by the Italian press. It was therefore not possible to compare this study's findings with those of previous similar studies.

A further possible limitation of this study

may be the collection period. Although it followed shortly the Ministerial Campaign “Ragazzi vediamo chiaro” (“Lads, let’s see clearly”, September 2009), collection started with the outbreak of influenza A. The influenza pandemic prevailed among the media’s health-related information in October and November. But the low scientific content of messages could also be explained by fact that in Italy, contrary to scientific literature, many people often consider alcohol misuse more a social issue than a healthcare problem.

In conclusion, this study shows that scientific recommendations are poorly quoted by the Italian national press. The topic of alcohol is dealt with indirectly, mainly in news articles, and its impact on health is not emphasised. Printed media should put more emphasis on the epidemiology of binge drinking and on prevention recommendations.

Furthermore, they should promote evidence-based interventions and involve experts more frequently. Further research, increasing the observation period and include a larger press sample, would be beneficial. Analysis of the international press would increase the generalizability of the findings.

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References

- [1] Bagnardi V, Zatonski W, Scotti L, et al. Does drinking pattern modify the effect of alcohol on the risk of coronary heart disease? Evidence from a meta-analysis. *Journal of epidemiology and community health.* 2008; 62(7): 615-9
- [2] Walzem RL. Wine and health: state of proofs and research needs. *Inflammopharmacology.* Birkhäuser Basel; 2008; 16(6): 265-71
- [3] World Health Organization. *Global Status Report on Alcohol 2004*
- [4] Ministry of Health. *Relazione del Ministro della salute al parlamento sugli interventi realizzati ai sensi della legge 30.3.2001 N.125 “Legge Quadro in Materia di Alcol e problemi alcolcorrelati”. Anni 2007-2008.* 2009
- [5] Haddad RI, Shin DM. Recent advances in head and neck cancer. *The New England journal of medicine.* 2008; 359(11): 1143-54
- [6] Lucey MR, Mathurin P, Morgan TR. Alcoholic hepatitis. *The New England journal of medicine.* 2009; 360(26): 2758-69
- [7] Hibell B, Guttormsson U, Ahlström S, et al. The 2007 ESPAD Report. *Drugs.* 2009. p. 408
- [8] Gilbertson R, Ceballos NA, Prather R, Nixon SJ. Effects of acute alcohol consumption in older and younger adults: perceived impairment versus psychomotor performance. *Journal of studies on alcohol and drugs.* 2009; 70(2): 242-52
- [9] Italian National Institute of Statistics (ISTAT). *L’uso e l’abuso di alcol in Italia.* 2009 p. 17
- [10] National Institute on Alcohol Abuse and Alcoholism (NIAAA). *Moderate and Binge Drinking [Internet].* 2012 [cited 2012 Jun 13]. Available from: <http://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/moderate-binge-drinking>
- [11] Farke W, Anderson P. Binge drinking in Europe. *Adicciones.* 2007; 19(4): 333-9
- [12] Grant BF, Dawson DA. Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of substance abuse.* 1997; 9: 103-10
- [13] Maggs JL, Patrick ME, Feinstein L. Childhood and adolescent predictors of alcohol use and problems in adolescence and adulthood in the National Child Development Study. *Addiction (Abingdon, England).* 2008; 103 Suppl 7-22
- [14] Bonomo YA, Bowes G, Coffey C, et al. Teenage drinking and the onset of alcohol dependence: a cohort study over seven years. *Addiction (Abingdon, England).* 2004; 99(12): 1520-8

- [15] Duailibi S, Ponicki W, Grube J, et al. The effect of restricting opening hours on alcohol-related violence. *American journal of public health*. 2007; 97(12): 2276-80
- [16] Hilliard N, Jenkins R, Pashayan N, Powles J. Informal knowledge transfer in the period before formal health education programmes: case studies of mass media coverage of HIV and SIDS in England and Wales. *BMC public health*. 2007; 7: 293
- [17] Niederkrotenthaler T, Sonneck G. Assessing the impact of media guidelines for reporting on suicides in Austria: interrupted time series analysis. *The Australian and New Zealand journal of psychiatry*. 2007; 41(5): 419-28
- [18] Bala M, Strzeszynski L, Cahill K. Mass media interventions for smoking cessation in adults. *Cochrane database of systematic reviews (Online)*. 2008; (1): CD004704
- [19] Grilli R, Ramsay C, Minozzi S. Mass media interventions: effects on health services utilisation. *Cochrane database of systematic reviews (Online)*. 2002; (1): CD000389
- [20] Ministry of Health. Campagna contro l'abuso di alcol "Ragazzi vediamoci chiaro" [Internet]. 2009 [cited 2012 Mar 5]. Available from: <http://www.salute.gov.it/servizio/galleria.jsp?lang=italiano&id=664&dad=s&men=campagne09&label=alcol>
- [21] Anderson P, Chisholm D, Fuhr DC. Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *Lancet*. 2009; 373(9682): 2234-46
- [22] Monti S, Zuccaro V, De Vecchi F, et al. H1N1 2009 influenza vaccine prevention : a comparison between the Italian press and the scientific recommendations. *Italian Journal of Public Health* 2011; 8(1): 49-59
- [23] World Health Organization. Handbook for action to reduce alcohol-related harm. Director. 2009
- [24] National Institute of Research for Food and Nutrition (INRAN). Linee guida per una sana alimentazione italiana. Bevande alcoliche: se si, solo in quantità controllata. 2003. p. 53-64
- [25] Institute of Medicine. Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research. Mrazek PJ, Haggerty RJ, editors. Washington, D.C.: The National Academies Press; 1994
- [26] European Monitoring Centre for Drugs and Drug Addiction. Responses to drug use in the EU [Internet]. [cited 2012 Feb 24]. Available from: <http://www.emcdda.europa.eu/responses>
- [27] Accertamenti Diffusione Stampa. Area testate [Internet]. [cited 2009 Oct 10]. Available from: <http://www.adsnotizie.it/testate/index.phpit>
- [28] Anderson P, De Bruijn A, Angus K, et al. Impact of alcohol advertising and media exposure on adolescent alcohol use: a systematic review of longitudinal studies. *Alcohol and alcoholism (Oxford, Oxfordshire)*. 2009; 44(3): 229-43
- [29] Foxcroft DR, Tsertsvadze A. Universal school-based prevention programs for alcohol misuse in young people. *Cochrane database of systematic reviews (Online)*. 2011; (5): CD009113
- [30] Streppel MT, Ocké MC, Boshuizen HC, et al. Long-term wine consumption is related to cardiovascular mortality and life expectancy independently of moderate alcohol intake: the Zutphen Study. *Journal of epidemiology and community health*. 2009; 63(7): 534-40

