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VIEWS & REVIEWS

PERSONAL VIEW

Energy drinks and alcohol: research supported by industry may be downplaying harms

Mixing alcohol with so called energy drinks has become popular, but with what risk? **Peter Miller** worries that research does not consider real world levels of consumption and that researchers' conflicts of interest need to be declared in full

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Concern is growing about the harms that may arise from heavy drinkers mixing alcohol with so called energy drinks to enable them to drink for longer and achieve higher levels of

intoxication. On Friday and Saturday evenings, about 40% of people on Australian city streets are heavily intoxicated (breath alcohol concentrations (BAC) greater than 0.087 mg alcohol/100 ml) and nearly a quarter of these drinkers will have consumed more than two energy drinks.¹ Data are lacking on energy drink use by alcohol drinkers in other countries but in samples, 73% of US college students² and 85% of Italian college students³ reported consuming energy drinks mixed with alcohol in the past month.

Epidemiological studies show that drinkers who consume energy drinks are more likely to record a higher breath alcohol concentration than those who do not.⁴ They are also more likely to report drinking more alcohol⁵; engaging in aggressive acts¹; being injured¹⁶; symptoms of alcohol dependence⁷; having driven while drunk or been a passenger in a car with an alcohol impaired driver¹; and having taken sexual advantage of, or having been taken advantage of, by another person.

The role that energy drinks may play in facilitating intoxication is under-researched. Because of ethical concerns about people getting too drunk and drinking too many energy drinks, much of the research in laboratory settings has studied only the effects of combining low levels of alcohol intoxication (BAC less than 0.1 mg alcohol/100 ml) with a single energy drink (equivalent to a strong cup of coffee).

Some researchers doing these studies have concluded that we should not be concerned about the risks of combining alcohol and energy drinks. But evidence from these studies does not convincingly refute the hypothesis that more energy drinks consumed with more alcohol facilitates intoxication and increases the risk of alcohol related injuries and assaults.

Many of the researchers who draw reassuring conclusions from this research have been funded by a major producer of energy drinks, Red Bull. These researchers have presented their findings at special sessions on alcohol and energy drinks at international conferences where, because of limited disclosure requirements, audiences may not be aware of the extent of their industry sponsorship. Many conferences have no requirements that authors declare specific potential conflicts of interest, although several have recently introduced general requests, which rely on authors' perceptions and have been found inadequate for journal articles, leading to comprehensive requirements.⁸

At a 2012 Australasian Professional Society on Alcohol and Drugs conference, for example, four out of five researchers who presented research on alcohol and energy drinks had received financial support from Red Bull (for example, funds to attend international conferences or for research). The four presenters who had received such support all concluded that no evidence showed that the combination of energy drinks and alcohol increased drinking or harm.⁹⁻¹² The non-industry funded researcher also reported no significant difference between alcohol and alcohol with energy drink sessions, but went on to highlight that there is simply not enough evidence to answer the key questions yet.¹³ I am not implying a causal relation here, simply an association.¹ Only the presenters, who were the first authors of each paper, supplied declarations of competing interests.

These researchers were all critical of the epidemiological evidence to the contrary. ⁴ Yet they drew strong conclusions about their own studies despite substantial limitations, most notably the lack of research into the effects of real world levels of alcohol intoxication (greater than 0.1 mg alcohol/100 ml blood) and consuming typical amounts of energy drinks (2-5 drinks).¹ Only the presenter who did not declare industry funding argued that we needed more research to assess the associations between energy drinks and harmful alcohol use in epidemiological studies.¹³

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There are concerns about the role that Red Bull is playing, especially in supporting conference attendance of researchers whose findings and conclusions are favourable. Red Bull has, to my knowledge, been supportive of some researchers, contacting them as soon as they hear of their research and offering to check their protocols and supplied placebos to studies whose protocols they approve. It has also funded some research, such as the studies mentioned,⁹⁻¹² though none of these studies to my knowledge has experimentally investigated the effects of more than a single 250 mL energy drink. Energy drinks manufacturers should provide placebo versions of their product to any researcher who asks, not just those whose protocols they approve.

On a more ideological note, having four talks out of five from industry funded researchers might inhibit our ability to have a fruitful public health discussion. Having the same speakers funded to attend conferences around the world by a company with strong financial interests raises questions of propriety and the presentation of research findings being used as a commercial marketing strategy.

It is critical that the public can be confident in the findings of research on these products. Conference organisers and journal editors should require researchers working on energy drinks to declare whether they have received research funding or unrestricted grants, financial support to attend meetings or conferences (accommodation and speaking fees), institutional or centre funding (including scholarships, purchase of equipment, or endowments), and whether they have any applications under consideration by alcohol or energy drink companies, or bodies associated with these industries.

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