



Mixing drinks and concocting troubles

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BACKGROUND

Consumption of dietary carcinogens contributes to the prevalence of cancer in society.

Alcohol

Alcohol is a known calmativ, soporific, tranquilizer, and carcinogenic agent. It affects both sexes. For example, when considering alcohol consumption in relation to women, the epidemiology is revealing. Of every 1000 women under 75 years of age, 117 develop cancer. Analysis of more than 1,280,296 women over a 7-year follow up (1996–2001) showed that 68,775 developed invasive cancers.

Even 1 drink daily—350 mL beer (a 12-oz bottle), 145 mL (5 oz) wine, or 45 mL (1.5 oz) spirits—increases the prevalence of breast cancer by 11 cases per 1000. Estimates deem that 5% of all cancers in women are attributable to moderate alcohol use¹.

Caffeine

Caffeine is a known stimulant and energy booster; it is generally considered benign. It is universally consumed in naturally derived beverages (tea and coffee) as well as in manufactured non-alcoholic beverages and soft drinks. Many energy drinks are legally available in Canada. For example:

- Classic Coca-Cola (Atlanta, GA, U.S.A.), 0.10 mg/mL [34.5 mg in about 355 mL (12 oz)]
- Regular Coca-Cola, 0.10 mg/mL [36 mg in 355 mL (about 12 oz)]
- Pepsi-Cola (PepsiCo, Purchase, NY, U.S.A.), 0.11 mg/mL [38 mg in about 355 mL (12 oz)]

- Dr Pepper (Dr Pepper Snapple Group, Plano, TX, U.S.A.), 0.12 mg/mL [41 mg in about 355 mL (12 oz)]
- Regular tea, 0.13 mg/mL [30 mg in 237 mL (about 8 oz)]
- Mountain Dew (PepsiCo), 0.15 mg/mL [54 mg in about 355 mL (12 oz)]
- No Fear (SoBe, Norwalk, CT, U.S.A.) energy drink, 0.20 mg/mL [94.6 mg in 473 mL (about 16 oz)]
- Red Bull (Fuschl am See, Austria) energy drink, 0.32 mg/mL [80 mg in 250 mL (about 8 oz)]
- Rockstar (Las Vegas, NV, U.S.A.), 0.33 mg/mL [160 mg in about 480 mL (16 oz)]
- Monster (Corona, CA, U.S.A.) energy drink, 0.36 mg/mL [170 mg in 473 mL (about 16 oz)]
- Regular drip coffee, 0.45 mg/mL [107 mg in 237 mL (about 8 oz)]
- Boo Koo Energy (Boo Koo Beverages, Addison, TX, U.S.A.), 0.50 mg/mL [360 mg in about 710 mL (24 oz)]
- Starbucks (Seattle, WA, U.S.A.) “tall” beverage, 0.55 mg/mL [195 mg in 355 mL (about 12 oz)]
- Wired X505 (Wired Energy Drinks, Everett, WA, U.S.A.), 0.71 mg/mL [505 mg in about 710 mL (24 oz)]
- Fixx (Fixxtreme, North Arlington, NJ, U.S.A.), 0.85 mg/mL [500 mg in about 590 mL (20 oz)]
- Redline RTD (VPX Sports, Weston, FL, U.S.A.), 1.04 mg/mL [250 mg in about 240 mL (8 oz)]
- Redline Power Rush (VPX Sports), 4.67 mg/mL [350 mg in about 75 mL (2.5 oz)]

THE PROBLEM AND A DISCUSSION

As a social drinking habit, the consumption of caffeineated drinks mixed with alcohol is becoming more prevalent and frequent, especially among teens. This practice is a source of concern. From a pharmacologic perspective, alcohol and caffeine are both highly bioactive drugs; combined, they have antagonist physiologic effects. Many consumers drink much

more alcohol when that alcohol is combined with caffeinated mixers. Consumption of both drugs simultaneously at higher doses not only leads to toxic inebriation, with cardiovascular and neural stress reactions that are potentially damaging, but also to higher alcohol consumption, which in the long run increases the potential for producing cancers.

CONCLUDING REMARKS

Although caffeine and alcohol may have short-term antagonistic effects physiologically, the chronic effects of increased consumption of both drugs may be agonistic with respect to the increasing prevalence of cancers. The derivation of caffeine from organic sources does not substantiate or qualify any drink containing caffeine as a “natural health product.” The so-called energy drinks are nothing more than decorated canned beverages, designed for oral delivery of psychoactive stimulant drugs—namely, caffeine. It should be patently obvious these goods are not organic natural products; “energy drinks” do not grow on trees. They are clearly manufactured, and claims of health benefits are spurious. The amounts of active psychoactive compounds in these drinks should be clearly indicated on the labels².

In capping the amount of caffeine in “energy drinks” at 180 mg^{2,3}, Health Canada’s expert panel is allowing a 355-mL drink to approximate the 195 mg caffeine in a “tall” or “large” coffee beverage.

The mixture of coffee and alcohol has long been noted for special flavour in cocktails (for example, Irish coffee). At its best, the mixture is organoleptically

satisfying, but has undesirable side effects. At worst, it is a paradoxical mix. Rarely is coffee (caffeine) and alcohol a first choice; however, the mixing of “energy drinks” with counteractive alcohol is irrational, counterproductive, and for the reasons already cited, dangerous. The drinks are not *per se* “junk drinks,” but consumers of them are “junkies.”

Accordingly, health care workers need to counsel against excess alcohol consumption, warn about side effects, and advise against imbibing mixed concoctions of caffeinated energy drinks and alcohol.

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CONFLICT OF INTEREST DISCLOSURES

The author has no conflict of interests to declare.

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