

Italian adolescents wrongly believe energy drinks are comparable to soda and sports drinks

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Energy drinks (EDs) are marketed as having the ability to improve energy, alertness, concentration, and athletic performance. These beverages have become increasingly popular among teenagers and young adults over recent years, often mixed with alcohol, yet their excessive use may have serious health consequences and also serve as an indicator for other risky behaviors. A recent study of ED consumption among Italian adolescents has found a strong need for comprehensive educational programs that focus on the potential health effects of EDs, alcohol, and a combination of the two.

Results will be published in the June 2014 online-only issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"In Italy, [consumption](#) of [energy drinks](#) (EDs) has increased from 2.67 million litres in 2006 to 2.97 million litres in 2009 – an increase of 11 percent," said Maria Pavia, a professor of public health in the department of health sciences at the University of Catanzaro 'Magna Græcia,' as well as corresponding author for the study. "North America is still the leading consumer, at consumption levels of 36 percent of global volumes. Sales of EDs have increased substantially in recent years, approaching \$20 billion in the U.S. in 2013. Although there is no information readily available about how much of this is attributable to youth consumption, it is known that approximately 30 to 50 percent of

adolescents and [young adults](#) report regularly consuming EDs."

"The most noticeable trend regarding EDs in Italy is the growing availability of them across different channels," added Emilia Prospero, professor of hygiene at the Università Politecnica delle Marche. "EDs are widely available in pubs, discos, and cafés/bars. Italians consume EDs mainly in bars and nightclubs, as a mixer for alcoholic drinks, or for direct consumption. EDs are also attracting adolescents with a hectic lifestyle seeking to increase their energy levels during the day, and furthermore benefit from consideration as a "stay-awake" agent for studying. EDs seem to be regarded as the dynamic alternative to carbonates."

"EDs contain amounts of caffeine that are substantially higher than what is found in a standard cup of coffee," described Pavia. "Other main active ingredients of EDs include glucose, taurine, B vitamins, and herbal extracts, such as guarana, that could be a source of supplementary caffeine. Excessive caffeine intake by adolescents can produce a number of deleterious [health effects](#), such as irritability, cardiovascular symptoms, sleep impairment, and feelings of nausea and nervousness."

Prospero agreed. "Caffeine toxicity from ED consumption has been reported from poison centres, and increasingly among adolescents," she said. "Moreover, it should not be overlooked that the high-sugar content in caffeinated EDs is similar to other soft drinks and is known to contribute to obesity."

Pavia and her colleagues collected data from 870 adolescents aged 15 to 19 years, who were recruited from a random sample of public secondary schools in the Calabria region of southern Italy. A total of 616 participants (353 females, 263 males) completed a self-administered anonymous questionnaire, for a response rate of 70.8 percent.

"More than half of respondents reported consuming EDs during the 30 days before the survey," said Pavia. "This confirms that ED consumption is a very popular practice among young people, largely due to its appeal based on the temporary benefits of increased alertness, improved mood, and enhanced mental and physical energy. A sizeable percentage believed that drinking EDs is the same as drinking carbonated beverages or rehydrating sport drinks. In addition, 63 percent of adolescents had drunk alcohol mixed with EDs during the 30 days before the survey, while more than half reported having consumed alcohol alone - not mixed with EDs - at least once during the 30 days before the survey. This alcohol/ED consumption is typically higher in males, current smokers, as well as those using marijuana, having more sexual partners, and those who rode with a driver who had been drinking alcohol."

"The ED industry uses aggressive and innovative marketing strategies to target teens and young adults," observed Prospero. "Consequently, it is not surprising that teens and young adults report regular consumption. Given that these findings suggest excessive ED consumption is not motivated by the intention to consume large doses of caffeine, then an important focus of health education interventions may be providing information about the content and the consequences of consuming these popular beverages."

For example, she added, EDs should not be confused with sports drinks that re-hydrate the body and provide sugars, which the body then burns to create energy and replenish electrolytes. "EDs are safe, but should be consumed in moderation," said Prospero. "In some cases, one ED could have more caffeine than the safe daily intake for many teens. Adolescents should be aware of how much caffeine they are consuming each day from EDs, as well as from other sources, since it is important to stay within moderate, safe intake levels. Moreover, adolescents should avoid mixing EDs with alcohol."

"Our findings suggest that comprehensive educational programs among youths focusing on the potential health effects of EDs, [alcohol](#), and the two combined, are strongly advisable," Pavia said. "Moreover, parents, teachers, and other caregivers should recognize excessive ED use as a potential warning sign for other problems or difficulties. Furthermore, ED manufacturers need to label their product's caffeine content ... from all sources contained in the beverage in order to enable consumers to enjoy EDs moderately and responsibly."

Prospero agreed. "Given the observed negative effects of caffeine consumption, particularly in a vulnerable adolescent population, health authorities should require that labeling and any marketing of these products should include appropriate health warnings as well as the national poisons hotline number," she said. "EDs are marketed for similar effects and should carry similar warning labels as non-prescription, over-the-counter caffeine tablets."

More information: "Consumption Of Energy Drinks, Alcohol And Alcohol-Mixed Energy Drinks Among Italian Adolescents," *Alcoholism: Clinical & Experimental Research*, 2014.

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