

Report Misdirects Concerns about Girls' Bone Health

By ACSH Staff — June 6, 2000

A study published in a respected scientific journal initiated a flurry of anti-soda rhetoric. The main message was that adolescent girls' consumption of sodas, especially colas, increases their risk of bone fractures.

Supposedly, the increased risk occurs both when the girls are young and involved in athletic activities, as well as in later years when they will have an increased risk of osteoporosis. Unfortunately, these reports send an inaccurate message that distracts attention from important issues. First, the study did not really show that soda of any sort causes weak bones, and second, some reports presented the author's speculations as fact.

In the study, published in the June issue of the *Archives of Pediatric and Adolescent Medicine*, 460 female high school freshmen and sophomores were asked to complete a questionnaire about their physical activity level, whether they drank carbonated beverages and if so, what kind, and their history of bone fractures. Significantly, there was no attempt to determine the girls' consumption of dairy products or their usual calcium intake, nor did the author determine how much soda the girls drank.

In addition to a lack of quantitative information about food, dairy food, and soda consumption, there was no attempt made to ascertain whether there was any difference between soda drinkers and non-drinkers with respect to bone density. A lower than normal bone density would indicate a greater risk of bone fracture.

Other factors that might influence fracture occurrence, but were not determined in the study include smoking history, alcohol consumption, and any history of eating disorders. These weaknesses in methodology mean that conclusions based on this study must be viewed with strong reservations.

Another flaw in some of the reports on the study is the acceptance of the author's speculation as fact. Dr. Wyshak, the author, speculated that the phosphoric acid content of colas, because phosphorus could combine with calcium, was responsible for their supposed effect on the girls' bones. There are two problems with this interpretation, however. First, colas have no more phosphorus than do similar quantities of orange juice and no one would blame bone fractures on orange juice consumption. Second, girls who drank carbonated beverages other than colas beverages that typically do not contain phosphoric acid also seemed to have bone fractures more frequently. Obviously, this does not support the phosphoric acid hypothesis.

Aside from the weaknesses in the study design and data, there is another, perhaps more important issue that the reports miss: the nature of the advice that typically results. The message that comes from such reports is simple and clear Girls should not drink soda because it can

weaken their bones. The problem is that this negative message is not necessarily true. The emphasis is thereby placed on what girls should not do, not on what positive steps they should take to protect their bones.

Such negative messages leave the impression that if one avoids these "bad" foods and beverages, the problem is solved. Nothing could be farther from the truth. It is perfectly possible for a person to consume no soda at all, and still have a poor diet.

If further research does indeed indicate that dietary deficiencies, especially of bone-building nutrients like calcium and vitamin D, are linked to impaired bone strength in adolescent girls, then they should be informed of what foods and beverages to consume to help rectify the problem.

The Food Guide Pyramid, developed by the US Department of Agriculture, indicates that beverages like soda, as well as foods like most candies, which are not nutrient-rich, should be consumed sparingly not that they have to be eliminated from the diet. We should concentrate on educating youth, indeed all consumers, with positive messages not confuse them with inaccurate messages about "bad" foods.

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