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Lactose intolerance: When drinking school milk makes students feel sick

Few alternatives for students in federal lunch program, despite high rates of lactose intolerance among minorities



Schools participating in the National School Lunch Program must serve milk, and Chicago Public Schools officials say the only way a student can receive a substitute drink is for a doctor to say he or she has a milk allergy. (José M. Osorio, Chicago Tribune)

By Monica Eng, Chicago Tribune reporter

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Khalil Beckwith has never been formally diagnosed with lactose intolerance. He just knows that drinking milk makes him feel lousy.

"When I drink milk with nothing else ... finishing the carton can be a nauseating endeavor," said Beckwith, a senior at King College Prep High School in Chicago.

Yet when Beckwith takes a meal through the federal school lunch program, milk is the only beverage available. Usually he avoids drinking it, but sometimes he said he feels pressure to take the milk. Then he either throws it away or winds up feeling queasy.

People with lactose intolerance lack the enzymes needed to digest lactose, resulting in bloating, cramping, nausea and diarrhea after milk consumption. The condition is common among African-Americans like Beckwith, as well as

Hispanics, Asians and Native Americans — groups that make up 91 percent of students in the Chicago Public Schools.

Schools participating in the National School Lunch Program must serve milk, and CPS officials say the only way a student can receive a substitute drink is for a doctor to say he or she has a milk allergy. That is a different condition, which qualifies as a disability.

But the U.S. Department of Agriculture, which runs the lunch program, says it is acceptable to give students an alternative (such as lactose-free milk, soy milk or almond milk) if a parent submits a simple request.

"USDA provides schools with the flexibility to offer milk substitutes that meet federal nutrition requirements to accommodate students' nondisabling allergies, culture, religion or ethical beliefs," a spokeswoman said.

Estimated rates of lactose intolerance among minority groups range from 50 to 100 percent, though a national conference on the topic in 2010 concluded that good data on prevalence remain elusive. Even the lowest estimates, however, suggest that millions of children in the federal lunch program could experience gastrointestinal problems after consuming milk.

And although the USDA allows schools to provide a substitute, those products tend to be more expensive, discouraging officials from publicizing the option. For example, the Broward County Public Schools in Florida have been offering soy milk to any lactose-intolerant child whose parent requests it, but officials say the option is not widely advertised because of the costs involved.

In Chicago elementary schools, milk is the only beverage offered at lunch. High school students often can buy bottled water and juices in the lunchroom at their own expense but cannot take them as part of a federally funded lunch.

The lack of choices worries parents and health advocates who believe it will contribute to massive waste — an audit at one CPS school found that a third of the milk taken at lunch was thrown away — and leave lactose-intolerant students feeling sick and unfocused.

"If they are required to take milk during the lunchtime and actually drink it, how are they going to feel after lunch sitting in that classroom?" said Amy Lanou, a University of North Carolina at Asheville assistant professor of nutrition. "Are they going to behave? Are they going to be focused on their studies?"

Yasmin Gorelku, of Evanston, sends her 8-year-old daughter, Belise, to school with a water bottle every day, "or else she will have nothing to drink." For Belise, drinking milk triggers nausea, vomiting and diarrhea, Gorelku said. Gorelku said Belise's school complied with her request not to give the girl milk at meals. But Gorelku says the lunch line should offer alternatives — even cups of water — to students who get sick when they drink milk.

"It all comes down to asking, 'Are your students comfortable during that day?'" she said. "If they are there to learn, you should have acceptable foods and beverages to support that."

A spokeswoman for Evanston-Skokie School District 65 says it requires a physician's note to consider offering a different drink.

Lactose-intolerant students got some federal help last year, when the USDA began requiring schools to provide free drinking water in all lunch service locations. CPS says the district is in partial compliance with the provision but would not specify when it plans to comply fully.

At Beckwith's school, all water fountains are outside the cafeteria, and students who want cups "have to go to the nurse's office to get them," he said.

The USDA says milk is a required part of the lunch program because it provides "children with the calcium and vitamin D, as well as protein, needed to develop strong bones, teeth and muscles." In most districts, students don't have to take milk with lunch, but it must be offered.

In addition, the USDA will not reimburse schools for a lunch unless it contains a certain number of food items. So if a student reaches the end of the cafeteria line with, say, a meat patty and broccoli, the lunch worker is likely to suggest adding a milk to complete the meal.

Citing "confidentiality" issues, CPS did not allow the Tribune to visit lunchrooms to interview students about what they drink at lunch. But Jessica Hawkins, a senior who like Beckwith contributes to The Mash, a Chicago Tribune Media Group publication for high schoolers, said she and her friends often feel pressured to take milk with their meals.

Lunch workers say, "You need a milk with that," Hawkins said.

Mikhaela Padilla, a Whitney Young High School junior, said: Students "take it because they feel bad and that's what they've been taught to do."

What happens then? A waste audit conducted at one Chicago elementary school concluded that the equivalent of about 200 cartons of milk (many of them unopened) were thrown away at lunch during a single typical day. Earlier this year, CPS supplied the Tribune with a waste audit from five schools participating in the district's "breakfast in the classroom" program. The results suggest that up to half of the milk given out was thrown in the garbage.

The CPS milk contract with C&M JV1 Co., boosted by last year's launch of the mandatory breakfast program, now exceeds \$20 million a year. Some of that is covered by the federal government, but district officials said they couldn't be specific because the costs are factored into the full meal reimbursement.

The district pays the company an average of 23 cents per carton, or about \$92,000 a day for 400,000 half-pints, much of it funded by taxpayers whose money goes down the drain with any discarded milk.

It's unclear what role lactose intolerance plays when students choose not to drink milk with lunch. Milk consumption by American children and adolescents has dropped sharply, according to an analysis by the Dairy Research Institute of data from the Centers for Disease Control and Prevention.

The most recent figures, from 2007-10, indicate that only about 57 percent of U.S. teenagers drink milk, down from 75 percent three decades ago. For children 6 to 12 years old, the percentage fell to 73 percent from 90 percent.

Erin Quann, director of regulatory affairs for the National Dairy Council, said there could be many reasons kids throw away their school milk.

"Is it served cold? Do they have enough time? And do they have access to other fluids within the school day that they see as an alternative?" she said.

The dairy council is hoping to reverse the decline in milk consumption. "Kids need more milk, not less," Quann said. "They are already not getting the calcium they need to avoid compromising bone health in the future."

Other nutritionists say the benefits of milk to children are being overstated.

In 2005, the journal *Pediatrics* published an analysis by Lanou, of UNC-Asheville, finding that "scant evidence supports ... increasing milk intake ... for child and adolescent bone" health. Lanou notes that national bone health has not deteriorated measurably despite decreases in milk consumption.

This year, researchers at Boston Children's Hospital reported in the *Archives of Pediatric and Adolescent Medicine* that they had found no relationship between dairy or calcium consumption and the incidence of stress fractures among 6,712 preadolescent and adolescent girls.

The study did, however, find a benefit from vitamin D consumption. Linda Van Horn, who served on the federal Dietary Guidelines Advisory Committee, said that link is one of the reasons the panel recommended three daily servings of dairy.

"Milk fortification with vitamin D represents the single greatest source of dietary vitamin D that exists in our food supply," said Van Horn, a professor of medicine at Northwestern University. The Dairy Council also notes that milk provides magnesium, potassium and protein.

The Physicians Committee for Responsible Medicine, a group that promotes a plant-based diet, cited the Boston study in filing a petition in July asking that the USDA eliminate dairy requirements from the school lunch program. The group has also asked CPS and other districts to make milk substitutes available to all students.

Susan Levin, the group's nutrition director, said she questions the USDA's ability to dispense impartial nutrition advice when it also has a mission to market American agricultural goods, including milk.

"It would be wonderful if the USDA made all the regulations in the National School Lunch Program line up with science," Levin said. "But unfortunately they have another mandate to support agricultural sales, and those two things don't always lead to the healthiest possible lunches."

The USDA declined to comment but said the petition was under review.

Dr. Frank Greer, a physician and former nutrition chairman for the American Academy of Pediatrics, notes that African-Americans "show the biggest, strongest bones of all groups" despite their low rate of milk consumption. Conversely, Caucasians have some of the highest dairy calcium consumption and poorest bone health.

While diet plays a role, "the most important determinant of bone health is genetics," said Greer, a University of Wisconsin at Madison medical professor.

Greer and Van Horn agree that although milk offers a nutrient package that is hard to replace with other foods, alternatives should be offered to lactose-intolerant students. Greg Miller, executive vice president of research and regulatory and scientific affairs for the National Dairy Council, concurs.

"For lactose maldigesters, there are alternatives like lactose-free milk and yogurt, which is also very well tolerated," said Miller, adding that some can tolerate small amounts of milk with food. "There are many, many options."

All acknowledge that alternatives would cost more than regular milk. But, said Levin, "this is an investment in kids' health at school, and you have to be patient and understand that it will pay off in ways that are not just financial."

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