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A plunge in U.S. preschool obesity? Not so fast, experts say

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By [Sharon Begley](#)

NEW YORK (Reuters) - If the news last month that the prevalence of obesity among American preschoolers had plunged 43 percent in a decade sounded too good to be true, that's because it probably was, researchers say.

When the study was published in late February in the Journal of the American Medical Association, no one had a ready explanation for that astounding finding by researchers at the U.S. Centers for Disease Control and Prevention. Indeed, it seemed to catch the experts by surprise.

Anti-obesity campaigners credited everything from changes to the federal nutrition program for low-income women and children to the elimination of trans-fats from fast food, more physical activity in child-care programs and declining consumption of sugary drinks.

First Lady Michelle Obama and others seized on the finding as a sign that efforts to combat the national obesity epidemic were paying off.

But as obesity specialists take a closer look at the data, some are questioning the 43 percent claim, suggesting that it may be a statistical fluke and pointing out that similar studies find no such decrease in obesity among preschoolers.

In fact, based on the researchers' own data, the obesity rate may have even risen rather than declined.

"You need to have a healthy degree of skepticism about the validity of this finding," said Dr. Lee Kaplan, director of the weight center at Massachusetts General Hospital in Boston.

No evidence of the kinds of major shifts in the behavior among preschoolers aged 2 to 5 exists which would explain a 43 percent drop in their obesity rates, he said.

SMALL SAMPLE SIZE

The latest study is based a well-respected data set taken from the National Health and Nutrition Examination Survey, or NHANES, which has been conducted annually since the 1960s and involves in-person interviews and physical exams.

The CDC defines obesity in adults as having a body mass index - a ratio of weight to height - above 30, but in children it is defined by where the individual falls on age- and sex-specific growth charts.

The 2011-2012 version of the survey included 9,120 people; 871 of them were 2 to 5 years old.

In some research 871 would be considered a large number. But when the obesity rate is fairly low, having a sample of a few hundred makes it easier for errors to creep in through random chance.

"In small samples like this, you are going to have chance fluctuations," said epidemiologist Geoffrey Kabat of the Albert Einstein College of Medicine in New York City.

To be sure, the CDC scientists were aware of the statistical limitations of their data, and their paper clearly stated that the findings were imprecise.

The 43 percent headline figure refers to the drop from the 13.9 percent rate in 2003-04 to the 8.4 percent rate in 2011-2012. The change of 5.5 points represents a decline of 40 percent from the original 13.9 percent. (The 43 percent trumpeted by a CDC press release comes from rounding those numbers to 14 and 8, respectively.)

The 13.9 percent obesity rate among preschoolers reported for 2003-2004 had a large enough margin of error that the actual rate could range between 10.8 percent and 17.6 percent, the CDC authors acknowledged. The 8.4 percent rate in 2011-2012 reported could range from 5.9 percent and 11.6 percent.

Since the range for 2003-2004 overlaps with that of 2011-2012, Kabat said, "that's another way of saying there might have been no change" in preschoolers' obesity rate. Even an increase is a statistical possibility.

Indeed, the CDC scientists' conclusion is that "there have been no significant changes in obesity prevalence in youth or adults between 2003-2004 and 2011-2012."

Even so, a CDC press release trumpeted in its first sentence "a significant decline in obesity among children aged 2 to 5 years," with obesity prevalence for this group showing "a decline of 43 percent."

A CDC spokeswoman said the lead author of the JAMA study, Cynthia Ogden, "is not doing any media interviews," but acknowledged that "the sample size is somewhat small so the (ranges of values) are a little wide."

In addition, claiming a 43 percent plunge in preschooler obesity "isn't really properly descriptive of the trend," because the rates have bounced around over the last decade, the spokeswoman, Corey Slavitt, said.

DEARTH OF SUPPORTING EVIDENCE

A study of preschoolers in the federal WIC (Women, Infants and Children) program, which provides food vouchers, nutrition classes and counseling to low-income families, found virtually no change in obesity rates.

Rather than reducing the prevalence of obesity among 3-and-4-year olds in the WIC program in California's Los Angeles County, researchers found that the problem worsened from 2003 to 2011. Obesity rose to 20.4 percent from about 17 percent, the researchers reported in the CDC's Morbidity and Mortality Weekly Report in 2013.

In New York, the WIC study found that obesity rates fell to 15.5 percent in 2011 from about 19.5 percent in 2003, a much less dramatic drop than the 40 percent decline.

"We agree there is a slight downward trend in obesity among 2-to-5-year olds," said Shannon Whaley, a co-author of the WIC study. "But a 43 percent drop is absolutely not what we're seeing."

The WIC study included more than 200,000 children, while the CDC researchers "looked at just a small population of 2-to-5-year olds," said Whaley, who serves as director of research and evaluation at the Public Health Enterprises Foundation, a nonprofit group that provides WIC services in Los Angeles. "Larger data sets are probably more helpful."

Other studies also raise questions about the 40 percent claim. An earlier CDC study, reported in JAMA in December 2012, found that the prevalence of obesity among 2-to-4-year olds in low-income families fell to 14.9 percent in 2010 from 15.2 percent in 2003. That represents an improvement of less than 2 percentage points, based on data for 27.5 million children collected at public health clinics.

The CDC researchers had earlier reported that the prevalence of obesity among low-income preschoolers fell from 2008 to 2011 in 19 states. But the largest decrease was from 13.6 percent to 11 percent. In most states, declines were much less pronounced.

SCANT SIGNS OF BEHAVIORAL CHANGE

For obesity rates to drop, researchers reckon, young children have to eat differently and become more active. But research shows little sign of such changes among 2-to-5-year olds, casting more doubt on the 43 percent claim.

Such a decline would require changes in exercise, food consumption and sleep patterns, said Mass General's Kaplan "There is no evidence of that," he said.

In 2010 Whaley and her colleagues examined the effectiveness of WIC classes and counseling to encourage healthy eating and activities for women and children in the program.

Their findings were discouraging: Television watching and consumption of sweet or salty snacks actually rose, while fruit and vegetable consumption fell - changes that could lead to weight gain. One positive was a rise in physical activity.

Apart from the WIC program, few anti-obesity efforts target preschoolers, Kaplan pointed out. That makes a precipitous decline in obesity in that group highly unlikely.

"The programs that have been implemented, from changing what's in vending machines to the Let's Move program, target school-age children more than preschoolers," he said, referring to an exercise initiative championed by Michelle Obama.

While experts have raised doubts that obesity among preschoolers has fallen as much as CDC reported, no one can say for certain that the claim is wrong. To resolve the controversy, scientists say they need more data on both preschoolers and older children.

Until then, said Einstein's Kabat, "there are many reasons to think the 43 percent claim is shaky."

(Reporting by Sharon Begley; Editing by [Michele Gershberg](#))

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