95% of Baby Food Tainted with Toxic Metals? Don't Panic

By Cameron English — October 22, 2019

According to the Centers for Disease Control (CDC) [2], the “American food supply is among the safest in the world.” But if you read the media's recent reports about toxic metals in baby food, you may feel otherwise.


This is a scary statistic for a parent to read, and we can all agree that exposing children to heavy metals is unwise. However, the study doesn't tell the whole story about the safety of baby food, which the press didn't bother to explain to consumers. We'll use CNN's story to report the relevant facts all these media outlets left out.

For one thing, the study was conducted by the non-profit Healthy Babies Bright Futures (HBBF), which counts Environmental Working Group and Center for Environmental Health among its partners [7]. These groups have turned scaring parents into a cottage industry. You'll notice the pattern if you consider their recent campaign alleging that breakfast cereals contain dangerous levels of the weed killer glyphosate—thoroughly debunked here [8]. None of this refutes HBBF's new report, but it gives us reason to approach their claims skeptically.

A closer look at the study

HBBF purchased 168 containers of baby food from 15 retail chains in 14 U.S. cities and had the
samples tested for arsenic, lead, cadmium and mercury by an independent lab. The results showed that [9]:

“Ninety-five percent of baby foods tested were contaminated with one or more of four toxic heavy metals—arsenic, lead, cadmium and mercury. All but nine of 168 baby foods contained at least one metal; most contained more than one. One in four foods had detectable levels of all four metals, in the same baby food container.”

Following its alarming headline, CNN reported the study found “[o]ne in five baby foods tested had over 10 times the 1-ppb [part per billion] limit of lead endorsed by public health advocates, though experts say no level of lead is safe.”

That sentence contains 31 words and an unacceptable number of errors. The “public health advocates” referenced in the study are campaigners at Environmental Defense Fund [10], another activist group with a penchant for exaggeration. As ACSH's resident chemist Josh Bloom pointed out in 2017 following a previous EDF declaration about lead in baby food [11]:

EDF is pushing the FDA to lower the permissible amount of lead in food and drinks for babies to 1 part per billion (ppb). (FDA limits currently range from 5-50 part per billion) …. Forty years ago, we were running around with lead blood levels of 150 ppb in our blood. Now we are supposed to be afraid of fruit juice with levels of one-thirtieth of that?

To give those numbers more context, the FDA sets a maximum daily intake for lead, a standard known as the Interim Reference Level [12] (IRL), which is 3 micrograms (a microgram is one millionth of a gram) per day for children. As a precaution, the IRL is set nearly 10 times lower than the amount of lead intake from food the CDC says could be harmful. Moreover, “no safe level” of lead is a nebulous standard, since it’s a natural element found in some quantities almost everywhere [11]. We get studies like the HBBF report because analytical chemistry allows us to detect traces of almost any substance essentially wherever we want to find it.

A similar story could be told about arsenic, another compound analyzed in the new study. It's naturally found [13] in rice and so also in rice-based baby foods, but not in quantities [14] that can harm our kids. This is why former FDA commissioner Margaret Hamburg said in 2013, after the agency released a study on arsenic in rice [15], “[a]ll of the data suggest levels that are not high enough to give us cause for concern for immediate or near-term effects." Much the same applies to mercury and cadmium, the FDA says [16]

False imbalance

The media is regularly criticized [17] for providing falsely balanced coverage of science topics, presenting two sides of an issue as if they’re equally valid. Here, CNN didn't even present opposing views, citing just two sources: the HBBF report, which was not published in a peer-
reviewed journal, and a study conducted by the FDA, though without linking to it [18]. Since this is a major public health issue involving hundreds of foods containing varying amounts of heavy metals, CNN's rather sparse bibliography leaves readers with the false impression that all the data show baby food consumption puts children at risk.

A little more research on PubMed paints a clearer (and less dramatic) picture. The authors of a 2016 study [19] of both baby formula and solid food, for example, pointed out that lead and cadmium can indeed pose a risk to children and recommended that more long-term data be collected. But they also acknowledged that only

“3% [of] food exceeded FDA lead consumption limit in 300?cal …. Only one sample [out of 564 food items] exceeded 100??g/kg lead, which is the FDA regulatory limit for candy and certain dried fruits …. Only one item …. exceeded the FDA limit in a single serving, though six items did so in two servings, and eight in three servings …. Fifteen baby food items exceeded the FDA lead limits in 300?cal, and 31 in 500?cal …. Overall, the concentrations of lead and cadmium in the baby food samples are considered very low ....”

The American Academy of Pediatrics concurs that heavy metals in food can be dangerous [20], but also offered a more balanced analysis of the potential risks in 2016 [21]:

Over the past 4 decades, blood lead concentrations among US children have declined dramatically since the elimination of lead from gasoline, paints, and other consumer products .... There have also been significant reductions in tap water lead concentrations since the US Environmental Protection Agency (EPA) promulgated the Lead and Copper Rule .... Finally, use of lead solder in canned foods and other consumer products was banned. It is difficult to accurately apportion the decline in blood lead concentrations to specific sources, but the combined effect of these regulations clearly led to the dramatic reductions in children’s blood lead concentrations.

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