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Activists Hit the (Plastic) Bottle Again

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By Steven Milloy

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Anti-chemical activists opened a new front in their jihad against the plastics chemical bisphenol-A (BPA) this week.

A first-of-its-kind study, published in the prominent Journal of the American Medical Association (Sept. 17) claimed that exposure to BPA, used in food and beverage containers, was associated with increased rates of heart disease and diabetes in humans.

Using data collected by the Centers for Disease Control and Prevention in 2003-2004, the researchers compared urinary concentrations of BPA with a variety of health outcomes in 1,455 adults.

They claimed to have found statistically significant correlations between higher BPA urinary concentrations and increases in heart disease and diabetes. No correlations were reported for arthritis, cancer, liver disease, respiratory disease, stroke or thyroid disease.

The researchers concluded that “[t]hese findings add to the evidence suggesting adverse effects of low-dose BPA in animals” — and the media unquestioningly reported in numerous headlines that the study “linked” or “tied” BPA with heart disease and diabetes.

This column [has already debunked the BPA animal studies](#) the researchers referred to so we’ll focus on the new study’s claims.

For both the heart-disease and diabetes correlations, the researchers reported that disease rates more than doubled between those in the highest quartile versus the lowest quartile of BPA urinary concentration.

The correlations, however, are of doubtful reliability since their margins of error are so large — 355 percent for heart disease and 211 percent for diabetes.

This unreliability is precisely what one might expect from the slipshod manner in which the data were collected by the CDC and analyzed by the researchers.

None of the health data collected was verified. Survey respondents were simply asked “Has a doctor or other health provider ever told you that you have [fill in the disease]?”

Such self-reported data are notoriously unreliable. A 1995 study, for example, reported that 40 percent of self-reported heart attacks were false positives — people confusing angina (pain) with a real heart attack.

Next, the researchers didn’t compare the timing, duration or level of exposure with the onset of disease — in effect, they simply assumed that the occurrence of disease was BPA-related.

BPA, however, is metabolized and excreted from the body pretty quickly, usually within 24 hours. Without more information on exposure to BPA and disease origins, there is absolutely no basis for linking the two.

The researchers failed to rule out many competing or confounding risk factors for heart disease and diabetes, including family history of the diseases, high cholesterol, high blood pressure, physical activity levels, stress and alcohol intake, to name a few.

Moreover, diabetes is a risk factor for heart disease and heart disease is a risk factor for diabetes — neither of which the researchers considered.

Nor were lipid and glucose blood chemistry irregularities correlated with BPA urinary concentrations, further detracting from the case that BPA was truly associated with increased heart disease and diabetes risk, respectively.

Finally, the numbers of heart disease cases (79) and diabetes cases (136) are inadequate for drawing reliable conclusions.

By dividing these relatively few cases over four exposure categories, the researchers relied on even fewer cases of disease in the highest exposure categories.

Although the researchers tried to imagine how BPA might act to cause heart disease and diabetes, they offer no evidence or ideas that would qualify their speculation as more than simply “idle.”

It’s also important to keep in mind that plastics industry workers have been occupationally exposed to BPA for more than 40 years, likely with much higher exposures than those of the study’s subjects.

Yet there are no reports of higher rates of heart disease and diabetes among these workers.

It’s hardly surprising, then, that the FDA told the Washington Post this week that it has no reason to think that BPA in food packaging and liquid containers is unsafe.

So who’s making all the fuss and why? This column has previously spotlighted some of the more outspoken activists behind the BPA scare — we’ll get to them (again) in a minute.

The new study features less well-known personalities. Co-author Michael Depledge, described as responsible for the “supervision” of the study, sits on the board of the U.K. anti-chemical group Natural England.

Another co-author, Tamara Galloway, has written of her conviction that “pollution is a major threat to human and environment health.”

The smoking gun indicating that this study is little more than rank anti-chemical fear-mongering is that the study was accompanied in JAMA by an editorial penned by Frederick vom Saal and John Peterson Myers.

Readers of this column will recall that vom Saal is behind much of the dubious animal study work on BPA and Myers is a co-author of the debunked 1996 chemical-scare book “Our Stolen Future.”

Vom Saal and Myers advocate in their editorial that U.S. regulators abandon science and risk assessment as a standard for regulating chemicals, and instead move to the European model of regulation that requires that substances be proven not to cause harm under any conditions — knowing full well that “proving a negative” is impossible to do.

This so-called “precautionary principle” would essentially provide regulators with arbitrary power to ban virtually any chemical, regardless of its risks, benefits or realities.

It’s appalling that the editors of JAMA — the official voice of the American Medical Association whose physician-members rely on the benefits of chemicals to treat patients — would lend their credibility to activists advocating the abandonment of science and risk analysis in favor of Luddite anti-chemical hysteria and politics.

Steven Milloy publishes JunkScience.com and DemandDebate.com. He is a junk science expert, and advocate of free enterprise and an adjunct scholar at the Competitive Enterprise Institute.

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