

2017 government-funded study shows prenatal exposure to fluoride linked to lower IQ in children

WHY IS FLUORIDE STILL BEING ADDED TO WATER WHEN DANGER TO INFANTS IS CLEAR?

In September 2017 the results of a 12-year study of prenatal exposure to fluoride were announced by the National Institutes of Health (NIH). The results were published in the NIH publication *Environmental Health Perspectives*: [Prenatal Fluoride Exposure and Cognitive Outcomes in Children at 4 and 6–12 Years of Age in Mexico](#)

The study (Bashash et al., 2017) was funded by the US National Institutes of Health, National Institute of Environmental Health Sciences, and Environmental Protection Agency and carried out by leading American, Canadian, and Mexican researchers. It corroborates hundreds of [previously published studies](#) showing fluoride damages the brain. These shocking findings cannot be dismissed as “just one study” because they provide compelling evidence that pregnant women’s fluoride intake is linked to lower IQ in their offspring at levels commonly consumed in the US. In light of these findings, federal officials should have called for a nationwide suspension of the intentional addition of fluoride to public water systems and warned pregnant women about other sources of fluoride exposure, but they have not done so.

Prenatal
Exposure to
Fluoride
Linked to
Lower IQ



The results of this study make it clear that there is no longer any basis for accepting safety claims for water ‘fluoridation’.

Continuing to add fluoride to public water systems is the moral equivalent of the reprehensible 1932-1972 Tuskegee Syphilis Study

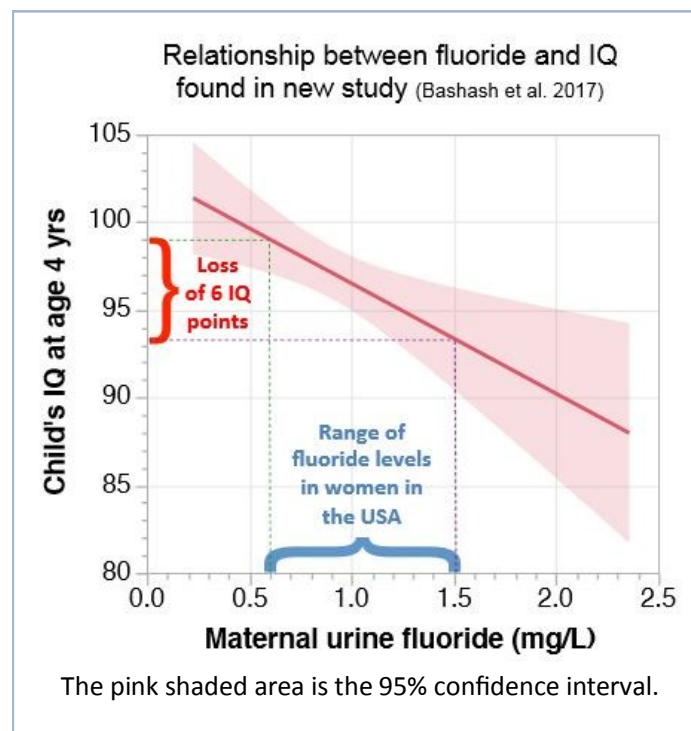
by the US Public Health Service.

COMPELLING EVIDENCE This exceptionally large study involved 287 mother-child pairs. IQ tests of the children were at age 4 and again at 6-12. After controlling for many potential confounding factors, the results show a loss of IQ points in the offspring strongly correlating with the measured amounts of fluoride in the mother’s urine during pregnancy.

When the mothers’ fluoride levels are compared on a graph to the children’s IQ scores, an increase in urine fluoride of 1 mg/liter is associated with a loss of 5 to 6 IQ points. The correlation is statistically significant at a 95 percent confidence level, which means that the results of this study are very reliable.

THESE FINDINGS ARE HIGHLY RELEVANT TO AMERICANS because 1 mg/liter corresponds to the difference in urine fluoride levels between adults living in communities that add fluoride to their drinking water compared to communities that don’t add fluoride.

In North Carolina and most of the US, decisions to add fluoride dental treatment to public water systems are made locally—entirely by city councils or water boards. There are no federal or state requirements to do it and no reason why local decision-makers cannot order the immediate



suspension of 'fluoridation' in light of this compelling evidence that it is harming unborn babies, today and every day, on their watch and at their behest.

PERSONAL RESPONSIBILITY Those decision-makers must ask themselves whether they can personally guarantee that adding fluoride to their water system will not harm any child. They cannot say somebody else ordered them to do it because they are the *only* ones responsible. Those decision-makers are administratively and morally obligated to exercise the Precautionary Principle and stop the addition of fluoride to their water.

Federal officials have single-mindedly promoted 'fluoridation' since 1945, repeatedly distorting and covering up evidence that 'fluoridation' is ineffective and unhealthy. Local decision-makers may be lobbied by 'fluoridation' advocates who try to dismiss hundreds of studies linking fluoride to negative brain effects with a [few limited or poorly done studies](#).

MANY INTERNATIONAL STUDIES ALSO SHOW NEUROLOGICAL INJURY While the Bashash study is the first one funded by the US government, it is actually the latest of dozens of human studies done in India, China, and elsewhere that show a link between unintentional fluoride exposure and injury to children's nervous systems.

A [meta-analysis](#) of the other existing fluoride-IQ studies was published in 2012 by a Harvard research team led by Anna Choi. And a [review](#) of substances harmful to the developing human nervous system by Harvard researcher, Philippe Grandjean, was published in *The Lancet* in 2014. It identified fluoride as one of several toxic substances that negatively affect development of the human brain and nervous system.

IQ testing is a convenient tool for measuring neurological injury, but there is a much wider range of neurological impairment that can result from exposure to fluoride when the brain and nervous system are developing, including learning disabilities, behavior disorders, and autism. There are additional studies indicating those associations which were not part of the Bashash study.

THE QUESTIONS that readers of the study and reports about it should be asking are:

- Why all the efforts to dismiss the significance of the Bashash study findings?
- Why the unprofessional advice to pregnant women and their doctors to disregard the possibility of harm to their infants?

AN EVEN BIGGER QUESTION is

- Why do federal agencies continue to promote and fund drinking water 'fluoridation' when the CDC declared in 1999 that swallowing fluoride does not confer any significant resistance to tooth decay? (See [Documentation That 'Fluoridation' Is Ineffective](#))

Federal agencies to date have disregarded the Precautionary Principle which should have halted their promotion of fluoridation many years ago, according to the stipulations of the Safe Drinking Water Act. Instead they have stonewalled with the false assertion that there is no definitive proof that fluoridation is harmful to anyone. (Partially documented [here](#). See also [Why 'Fluoridation' Is Unjustified](#))

There is clearly enough evidence that it is possibly harmful and that possibility makes suspension of 'fluoridation' a moral imperative. Since federal officials are failing to fulfill that obligation, Fluoride Action Network, the international alliance of scientists, health professionals, attorneys, and concerned citizens, is sponsoring an information program called [Moms2B Avoid Fluoride](#) to alert the public to the need for women to avoid fluoride exposure during pregnancy.

HOW COMPELLING ARE THE BASHASH RESULTS?

Some remarks by the authors of the study suggest that they were not expecting to find an association between fluoride exposure and IQ loss and were surprised by the results which they tried to minimize. One of the authors of the study, an outspoken supporter of public water 'fluoridation', told a questioner that the study was limited in three respects:

1. Did not use a 24 hour void of mothers.
2. Total intake of fluoride was not measured.
3. There is no national data on urine fluoride concentrations in the USA.

Why these are not meaningful limitations

1. The paper itself discussed the absence of 24 hour urine samples and said that other studies had validated spot urine fluoride measurements as being reasonably similar to 24 hour urine samples. But even more important, it is virtually impossible for the use of spot urine rather than 24 hour urine to cause confounding and bias in the association between fluoride concentration and IQ. The main thing that a less accurate estimate of 24 hour urine fluoride will produce is more random error. Such non-differential error will make it harder to detect an effect between fluoride concentration and IQ. Since a large and clear effect was found, it means the accuracy of spot versus 24-hour urine is a non-issue. In fact, the association between fluoride level and IQ would likely have been even clearer if more accurate 24-hour samples had been used.

2. It is very difficult to measure total fluoride intake. That is why urine fluoride is commonly used. Many studies have shown that urine fluoride is a fairly good indicator of total fluoride intake, as long as age is controlled for, which it was in the Bashash study. Furthermore, just as in argument 1, despite the potentially lower accuracy of estimating total fluoride exposure from the urine fluoride concentration, the study still found a large and clear effect. Therefore, if a more accurate method of estimating total fluoride intake had been available, it would have likely produced an even clearer association between fluoride intake and IQ, not a weaker or smaller association.

3. It is true that there is yet no national data on urine fluoride concentrations in the USA. However, England does have exactly such data from a nation-wide health survey in 2000-2001 similar to NHANES (National Health and Nutrition Examination Survey) surveys in the USA. That survey was in adults (although it excluded pregnant women) and found exactly the same range of urine fluoride as was found in the Bashash study in the women in Mexico. Some parts of England have 'fluoridated' water while most do not.

Another possible limitation

The Bashash paper raises a related limitation that is worth discussing: Pregnancy may change fluoride metabolism in a way that alters urine fluoride levels. Limited studies have been done to look at this question, but they all point to there being only a small difference in urine fluoride levels in pregnancy compared to non-pregnant women ingesting the same amount of total fluoride. The differences are not enough to alter the applicability of the exposure levels in the Bashash study to those in the USA and other fluoridating countries.

The two studies of urine fluoride in pregnant women cited in Bashash et al were from studies in Poland and Israel, in areas with water fluoride levels similar to those in 'fluoridated' parts of the USA. Not cited in Bashash is a more recent study in New Zealand, that found similar results. So, there are now three studies which all confirm that urine fluoride seems to rise slightly in pregnancy, but not enough to matter when relating the Bashash study to the USA.