

Published on *EurActiv* (<http://www.euractiv.com>)

Source URL: <http://www.euractiv.com/health/eu-biomonitoring-shows-mothers-c-news-515678>

EU-funded research shows mothers, children exposed to chemicals

Published: 26 October 2012

The first pan-European biomonitoring survey, funded by the European Union, suggests that all mothers and children have chemicals in their bodies that should not be there.

Background

Humans are constantly exposed to chemical substances in daily life. Thanks to human biomonitoring (HBM), scientists can assess whether and to what extent these substances enter our bodies.

By measuring the concentrations of chemicals in human body fluids and tissue, biomonitoring can provide valuable information on environmental health effects and, in some cases, help address potential health risks.

Biomonitoring involves collecting samples from human volunteers – blood, hair, saliva or urine – and measuring the levels of indicators of chemicals uptake (known as biomarkers).

HBM aims to collect information on the exposure of a sample of the population, which can then form the basis for further action at collective and individual levels.

The survey by COPHES/DEMOCOPHES, two EU-funded research projects, tested mothers and children for a range of endocrine-disrupting chemicals including mercury, cadmium, cotinine, five phthalates, bisphenol A, parabens and triclosan.

Overall, scientists analysed 4,000 urine and hair samples from mothers and children in 17 European countries.

Their findings, published on Thursday (25 October) at a conference in Nicosia convened by the Cyprus presidency of the EU, reveal that their bodies were contaminated with small levels of mercury, cadmium, cotinine (a measure of exposure to environmental tobacco smoke) and five phthalates.

"Based on the current health guidance values used in the projects, the levels found are generally not a matter of high concern," the Cyprus presidency said in a statement.

Phthalates, which are chemical substances, are used to make plastic softer and more flexible. They can be found in everyday products such as rubber boots, oilcloths and vinyl flooring. Some of them have already been banned in Europe for use in children's toys.

Some phthalates with low molecular weight have been linked to reduced sperm count, causing male sterility. They have also been blamed for triggering early puberty in young girls, and causing liver cancer in rats.

The chemical industry has long argued that trace amounts of chemicals found in people's blood do not necessarily constitute a health risk, as they are usually found in extremely low concentrations.

Toxicologists are divided over how to interpret the data collected by the biomonitoring studies, and the COPHES/DEMOCOPHES project also concluded that the levels of chemicals found were not of high concern.

James Pieper, a spokesman for the European Chemical Industry Council (CEFIC), an industry association, told EurActiv that the study's conclusion "speaks for itself."

However, the levels of chemicals do represent an important threat to public health, according to the Health and Environment Alliance (HEAL), an NGO.

"The truth is that none of these chemicals belong in our bodies," HEAL Senior Policy Advisor, Lisette van Vliet said.

"More worrying is that endocrine disrupting chemicals are all linked to serious health problems ranging from premature puberty in girls and birth defects in boys' genitals to increased risk of hormone related cancers, such as breast and prostate," van Vliet added.

Timing is everything

The chemical levels found are only a part of the picture, the health NGO stated.

"The timing of exposure, such as in the womb or during infancy, may be just as crucial and exposure to mixtures of chemicals is important because combined exposures may be more harmful than each of these chemicals alone," van Vliet said.

HEAL is particularly concerned about exposure to all endocrine disruptors during critical windows of human development, such as infancy and pre-birth.

"To protect public health, EU laws should be eliminating people's exposures," said van Vliet.

"We believe that policy change is now urgently needed to prevent exposure and therefore reduce health risks from contaminants in everyday life that disrupt our hormone systems," she added.

The EU is currently undertaking a review of its policy on endocrine-disrupting chemicals. HEAL is calling on the European Commission and MEPs to take these new findings into account.

Next Steps

- **Spring 2013:** European Commission to review endocrine disruptors.