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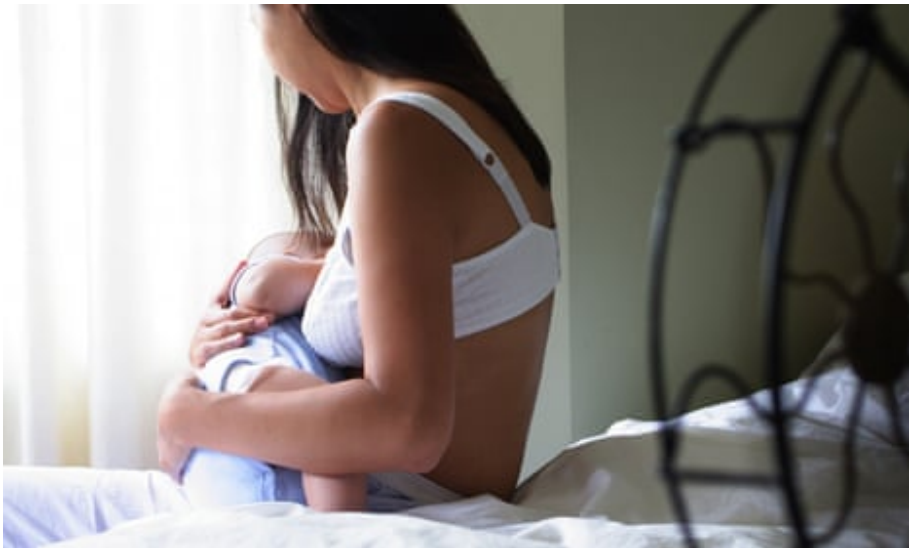
Microplastics found in human breast milk for the first time

Exclusive: Researchers concerned over potential health impacts of chemical contaminants on babies



The breast milk samples were taken from 34 healthy mothers, a week after giving birth. Photograph: michellegibson/Getty Images

Microplastics have been detected in human breast milk for the first time, with researchers greatly concerned over the potential health impacts on babies.

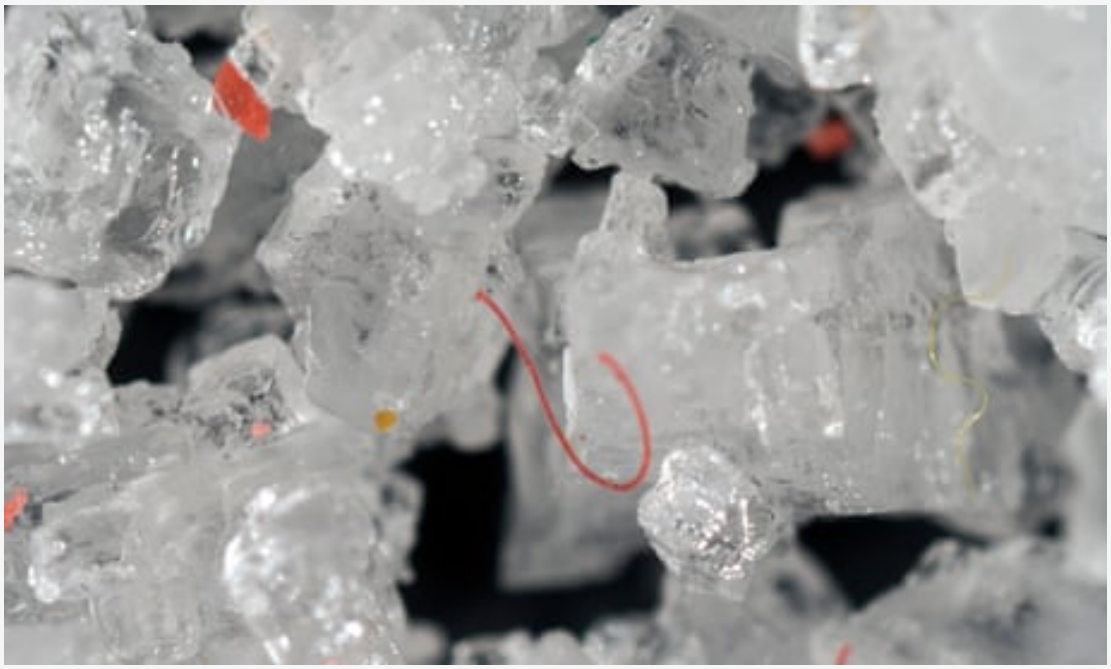
Infants are especially vulnerable to chemical contaminants and the scientists said further research was urgently needed. But they stressed that breastfeeding remained by far the best way to feed a baby.

The breast milk samples were taken from 34 healthy mothers, a week after giving birth in Rome, Italy. Microplastics were detected in 75% of them.

Previous research has shown toxic effects of microplastics in human cell lines, lab animals and marine wildlife but the impact on living humans remains unknown. Plastics often contain harmful chemicals, such as phthalates, which have been found in breast milk before.

The scientists recorded the mothers' consumption of food and drink in plastic packaging and of seafood, as well as the use of plastic-containing personal hygiene products. But they found no correlation with the presence of microplastics.

This suggests the ubiquitous presence of microplastics in the environment "makes human exposure inevitable", the researchers said, although larger studies in future may identify particular risk factors.



People eat at least 50,000 plastic particles a year, study finds

The Italian team identified microplastics in human placentas in 2020. "So, the proof of microplastics' presence in breast milk increases our great concern for the extremely vulnerable population of infants," said Dr Valentina Notarstefano, at the Università Politecnica delle Marche, in Ancona, Italy.

"It will be crucial to assess ways to reduce exposure to these contaminants during pregnancy and lactation," she said. "But it must be stressed that the advantages of breastfeeding are much greater than the disadvantages caused by the presence of polluting microplastics.

Studies like ours must not reduce breastfeeding of children, but instead raise public awareness to pressure politicians to promote laws that reduce pollution."

Other recent research revealed that bottle-fed babies are likely to be swallowing millions of microplastics a day and that cow's milk can contain microplastics.

Huge amounts of plastic waste are dumped in the environment and microplastics contaminate the entire planet, from the summit of Mount Everest to the deepest oceans. People consume the tiny particles via food and water as well as breathing them in, and they have been found in the faeces of babies and adults.

The breast milk research, published in the journal Polymers, found microplastics composed of polyethylene, PVC and polypropylene, which are all found in packaging. The researchers could not analyse particles smaller than 2 microns and smaller plastic particles are likely to be present. The breast milk samples were collected, stored and analysed without the use of plastics and control samples were also processed to rule out contamination.

While specific microplastic risk factors were not identified in this small study, Notarstefano said: "We would like to advise pregnant women to pay greater attention to avoiding food and drink packaged in plastic, cosmetics and toothpastes containing microplastics, and clothes made of synthetic fabrics."

Microplastics were revealed to be present in human blood in March by a team led by Prof Dick Vethaak, at Vrije Universiteit Amsterdam in the Netherlands. "The new study provides preliminary evidence that microplastics are present in human breast milk [but] more studies with a higher number of samples, and preferably using other methods, are urgently needed to confirm it," he said. "We are hard at work collecting this data.

"We see only the tip of the iceberg with microplastics. Smaller nano-sized plastics are likely more prevalent and toxic. However, it is currently impossible to analyse nanoplastics in complex matrices, such as breastmilk.

"As yet, there is no knowledge about the possible impact of microplastics and related contaminants on the suckling infant. Therefore, there is an urgent need for more studies because early life stages, newborns, and young children seem more susceptible to chemical and particle exposure. This should be a health research priority."

Courtesy :Guardian

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