

# Russian women have more pollutants in breast milk than Norwegian women

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Russian women living in Northwest Russia are more exposed to environmental toxins than Norwegian women. In spite of this, Anuschka Polder in her doctoral research urges Russian women to breastfeed their babies.

Anuschka Polder's doctoral research has charted the levels of [environmental toxins](#), or pollutants, in the [breast milk](#) of Norwegian and Russian women respectively. Her study also charts pollutants in foodstuffs from Russia.

In some places in Northwest Russia, she discovered that the pollutants HCB, DDT and HCH occurred in breast milk to a much greater degree than in Norway. Due to their diet and their place of residence near areas

of heavy industry, the population in Northwest Russia is more exposed to pollutants than the population of Norway.

## **POPs are passed from mother to child**

Due to their fat-soluble properties, persistent organic pollutants (POPs) and other chemicals can accumulate as they progress up the nutrition chain to humans. These substances are absorbed into our fatty tissues and can be transmitted to the foetus and to infants via breast milk. Many POPs are thought to have a detrimental effect on the human immune defence system, reproduction and the development of the nervous system.

Food is the most important source of exposure to POPs. In addition, the working environment, proximity to industries and combating such diseases as malaria can expose humans to POPs. Factors such as ethnicity, age, number of children and smoking can influence the level of POPs in humans.

In Russia, a connection was found between the level of POPs and industrial [pollution](#). In both countries, clear links were also found between the level of POPs and age/the number of children.

## **Increased intake via food**

The cold climate in Arctic regions leads to a general high intake of fat and thereby an increased intake of POPs via food. This connection was confirmed by Polder's doctoral research. The supply of foodstuffs or animal fodder from southern regions of Russia to Northern Russia is probably the cause of an increased level of DDT in the population.

DDT is a substance that according to the World Health Organisation

(WHO) is still permitted in malaria-infested areas, but which has been prohibited for use as a pesticide in the West since the 1980s. Polder has studied the level of pollutants in Russian foodstuffs and discovered that the consumption of fish, dairy products, eggs and meat products was the greatest cause of a high level of POPs in Russian women.

## **Breastfeeding recommended**

Even though some of the pollutants in breast milk revealed higher values than those recommended by JEFCA (Joint FAO/WHO Expert Committee on Food Additives), a strong reduction in the level of pollutants was shown in breast milk both in Norway and Russia during the period from 1993 to 2002.

This is regarded as a positive consequence of international measures implemented to reduce the production and use of chemicals which can be potential pollutants. Polder concludes that she supports WHO's recommendation that [women](#) should only feed their [babies](#) on breast milk for the first six months.

Provided by Norwegian School of Veterinary Science

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