

[Click here to print](#)

MailOnline

health

Drinking or even showering in tap water can double the risk of having deformed children, says study

By Fiona Macrae

Last updated at 4:11 PM on 03rd June 2008



Harmful: Tap water may not be a good choice for pregnant women

Drinking tap water while pregnant may double the risk of serious heart or brain defects in the unborn child, research suggests.

A study of almost 400,000 babies found a clear link between chemicals formed during chlorination and the occurrence of a trio of birth defects.

Drinking water, showers, swimming pools and even the steam from a boiling kettle can all contain the problem chemicals called trihalomethanes, or THMs, the researchers said.

While the study was carried out in Taiwan, it is thought up to one in six British homes is exposed to levels even higher than those found to cause concern, with concentrations tending to be particularly high in the spring and autumn.

The researchers stressed it would be impractical for pregnant women to avoid tap water and said the onus was instead on the use of disinfection methods which limit levels of the chemicals.

The Birmingham University study compared details of birth defects with the level of THMs in tap water.

The analysis of almost 400,000 babies showed those born into regions where levels were around 80 per cent more likely to have a hole-in-the-heart defect and more than 50 per cent more likely to have a cleft palate.

Their odds of suffering anencephalus - a condition that causes much of the brain, skull and scalp to be missing - were almost doubled, the journal Environmental Health reports.

While birth defects are rare - occurring in about 2 per cent of births - the three flagged up in the study are among the most common.

It is thought the chemicals may harm the unborn baby directly. Alternatively they may damage the woman's eggs. Although the study did not prove that the chemicals caused the birth defects, it is not the first to make the link.

Researcher Professor Jouni Jaakkola said: 'Our findings don't just add to the evidence that water chlorination may cause birth defects, but suggest that exposure to chlorination byproducts may be responsible for some specific and common defects.'

THMs are the products of a chemical reaction between chlorine and organic compounds common in lakes, rivers and reservoirs.

The amount of THMs made during chlorination vary according to where the water comes from and the disinfection process, meaning highly chlorinated water does not necessarily have the highest levels.

Home water filters may not be entirely effective at removing the chemicals and bottled water may also be tainted.

Professor Jaakkola said the solution was for water companies to use disinfection procedures that keep the production of THMs to a minimum.

He said: 'Water disinfection has an important purpose in reducing microbial load and reducing acute gastro-intestinal infections.'

'Some have claimed it is the best public health measure ever introduced.'

'We are talking about rare health effects and a modest risk increase.'

'I don't suggest stopping using tap water but we have to be conscious that at population level some risks'

may be related to increased levels.'

The Drinking Water Inspectorate, which is tasked by the Government to monitor the safety of tap water, said its own, larger-scale research had failed to find a link between THMs and birth defects.

Principal inspector Sue Pennison said: 'Obviously we will review this research, engage our health expert colleagues, and look to see if it means we need to do anything more. But there's no reason for people to be worried.

'Chlorination is reliable and has been used for centuries. The only reason diseases like cholera and typhoid are not in our water supply is because of chlorination.'

The water industry trade body, Water UK, said it would consider the findings but chlorination in the UK meets World Health Organisation guidelines.

Find this story at www.dailymail.co.uk/health/article-1023723/Drinking-showering-tap-water-double-risk-having-deformed-children-says-study.html

[Daily Mail](#) | [Mail on Sunday](#) | [Travel Mail](#) | [This is Network](#) | [This is London](#) | [This is Money](#)

[Metro](#) | [Loot](#) | [Jobsite](#) | [Loopy Love](#) | [Find a property](#) | [Motors](#) | [Prime location](#) | [Lasting Tribute](#)

Associated Northcliffe Digital

Part of the Daily Mail, The Mail on Sunday, Evening Standard & Metro Media Group
© 2008 Associated Newspapers Ltd

[Contact us](#) [Terms](#) [Privacy policy](#) [Advertise with us](#)