

Non-stick pan chemicals 'may raise child cholesterol'

Scientists are concerned that exposure to chemicals used in non-stick frying pans could raise cholesterol levels in children after finding a link.

They have no proof, but the West Virginia team says further research is needed to rule it out.

They studied over 12,000 children involved in a lawsuit regarding a water supply contaminated with the same chemicals used on non-stick pans.

Experts stressed that the children's exposure was much higher than typical.

Unavoidable

Most people are exposed to the man-made perfluoroalkyl acid chemicals because they are used commonly in manufacturing.

Perfluoroalkyl acids like PFOA and PFOS give non-stick pans heat resistance, and also come from the breakdown of compounds used in commercial food packaging and factory treatments for fabrics, carpets and stain-resistant clothing.

Experts know these chemicals can get into the body and travel to the liver - the organ responsible for making cholesterol and handling any fat that comes from the diet.

And other studies have already suggested that PFOA and PFOS may change how well the body deals with these fats.

Stephanie Frisbee and colleagues at West Virginia University School of Medicine set out to investigate this further, looking at a group of children who had been exposed to particularly high levels of PFOA through an industrial accident.

Blood tests from the children showed that they did have much higher levels of PFOA than would be expected - their levels were 69.2 nanograms per millilitre on average compared to the 3.9ng/ml national average.

And their higher PFOA levels were associated with increased total cholesterol and LDL or "bad" cholesterol.

The one-fifth of children and teenagers with the highest PFOA levels had total cholesterol levels 4.6 milligrams per decilitre higher and LDL cholesterol levels 3.8mg/dl higher than the fifth of children with the lowest PFOA levels.

The children's PFOS levels were only slightly raised, yet were also linked with higher cholesterol levels.

High cholesterol, particularly LDL cholesterol, is linked to heart disease.

Frying pan contents

But the experts told the journal Archives of Pediatrics and Adolescent Medicine that it was too early to say if their findings meant that the children in the study would be at increased risk of heart disease as a result.

Cathy Ross, senior cardiac nurse at the British Heart Foundation, urged caution in interpreting the findings.

"This study was carried out in a specific area in the USA where the levels of these substances were excessively high due to contaminated water.

"It does not show a link to these substances when they are used in coatings for frying pans where they appear in considerably lower levels.

"While the study found that where there were high blood levels of PFOAs and PFOSs there was also a modest increase in cholesterol levels, this is not the same as saying that they caused the rise in cholesterol.

"More research is needed to identify whether the small quantities of these chemicals that UK children are exposed to actually affect their cholesterol levels."

She said children's heart health was at greater risk from what goes into the frying pan and from an increasingly inactive lifestyle than from what the lining of the frying pan is made of.

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