

## Risk of autism is up to 50% higher in children exposed to traffic fumes and air pollution

- Women who live in polluted areas have double the risk of an autistic child
- The strongest link is between diesel and mercury pollution and autism
- There is a stronger link between pollution and autism in boys, than girls

By Nicola Rowe



Exposure to traffic fumes and industrial air pollution can dramatically increase a mother's chances of having a child with autism

Exposure to traffic fumes and industrial air pollution can dramatically increase a mother's chances of having a child with autism.

Researchers from the Harvard School of Public Health found the risk was doubled for women living in the most polluted locations.

'Our findings raise concerns since, depending on the pollutant, 20 per cent to 60 per cent of the women in our study lived in areas where risk of autism was elevated,' said lead scientist Dr Andrea Roberts.

Autism, a developmental disorder that interferes with social and communication skills, affects around 500,000 people in the UK.

It covers a 'spectrum' of conditions that may be mild or very severe, requiring round-the-clock care.

For the new study, researchers identified 325 women who had a child with autism and 22,000 who had children without the disorder.

Data collected by the U.S. Environmental Protection Agency and published in the journal *Environmental Health Perspectives* was used to assess pollution exposure in the areas where the women lived.

The scientists found a clear link between being pregnant somewhere with high levels of pollution and having an autistic child.

Diesel and mercury pollution showed the strongest link.

Women living in the top fifth of locations with the highest levels of these pollutants were twice as likely to give birth to a child with autism as those in areas with the lowest levels.

Other types of air pollution, including lead, manganese, methylene chloride and combined metals, had weaker associations with autism risk.

Women with the highest levels of exposure to these substances were about 50 per cent more likely to have a child who develops autism.

Most pollutants were more strongly associated with autism in boys than in girls.

Boys are in any case much more likely to have the disorder. The findings form part of the Nurse's Health Study II, a major U.S. investigation of environmental factors behind disease in a large group of more than 116,000 female nurses.



Women living in the top fifth of locations with the highest levels of pollutants were twice as likely to give birth to a child with autism as those in areas with the lowest levels

Senior author Dr Mark Weisskopf, also from Harvard, said: 'Our results suggest that new studies should begin the process of measuring metals and other pollutants in the blood of pregnant women or newborn children to provide stronger evidence that specific pollutants increase risk of autism.

'A better understanding of this can help to develop interventions to reduce pregnant women's exposure to these pollutants.'

Air pollutants contain many toxins that are known to affect neurological function and foetal development.

The researchers wrote: 'To our knowledge, our study is the first to examine the association between air pollution and ASD (autism spectrum disorder) across the United States..

'We observed significant positive linear trends between pollutant concentration and ASD, for diesel particulate matter, lead, manganese, methylene chloride, mercury and nickel.'

<http://www.dailymail.co.uk/health/article-2343744/Risk-autism-50-higher-children-exposed-traffic-fumes-air-pollution.html#ixzz2Wa4GhZqn>