

Exposure to antiepileptic drug in womb linked to autism risk

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Children whose mothers take the antiepileptic drug sodium valproate while pregnant are at significantly increased risk of autism and other neurodevelopmental disorders, suggests a small study published online in the *Journal of Neurology Neurosurgery and Psychiatry*.

The authors base their findings on children born to 528 pregnant women between 2000 and 2004 in the North West of England.

Just fewer than half the mums (243) had epilepsy, all but 34 of whom took [antiepileptic drugs](#) during their pregnancy. Fifty nine mums took [carbamazepine](#); 59 took valproate; 36 took [lamotrigine](#); 41 took a combination; and 15 took other drugs.

The children's physical and [intellectual development](#) was assessed at the ages of 12 months, three and six years. Information was also obtained from their mothers about whether they had had to consult specialists about their child's behaviour, development, educational progress or health.

Full data on all three assessments were available for 415 children. In all, 19 children had been diagnosed with a neurodevelopmental disorder by the time they were six years old, three of whom also had a physical abnormality.

Of these, 12 had a form of autism, one of whom was also diagnosed with [attention deficit hyperactivity disorder](#) (ADHD). Three had ADHD

alone, while a further four had dyspraxia, a condition that results in poor physical coordination and excessive clumsiness.

Neurodevelopmental problems were significantly more common among those children whose mums had epilepsy - 7.46% compared with 1.87% of those whose mums did not have the condition.

And those children whose mums had taken valproate singly or in combination with other drugs while pregnant were significantly more likely to have been diagnosed with a neurodevelopmental condition than were those whose mums taking other drugs to treat their condition.

When all the figures were analysed and factors likely to influence the results accounted for, the findings showed that children exposed to valproate alone in the womb were six times more likely to be diagnosed with a neurodevelopmental disorder. Those exposed to valproate plus other drugs were 10 times more likely to do so than were children whose mums did not have the condition.

More than one in 10 (12%; 6 out of 50) children whose mums had taken valproate alone during their pregnancy had a neurodevelopmental problem, as did one in seven (15%; 3 out of 20) of those whose mums had taken valproate with other drugs.

No child born to a mum with epilepsy, but who didn't take drugs for the condition during her pregnancy, was diagnosed with a neurodevelopmental disorder, although the numbers of women in this group were small, caution the authors.

Boys were three times more likely than girls to be diagnosed with a [neurodevelopmental disorder](#), but no significant associations were found for the mother's age or IQ, length of pregnancy, or epileptic seizure type.

The authors point out that other research has pointed to the potentially harmful effects of valproate on the developing fetus, and that the findings of the current study back other preliminary research. But further research would be needed before definitive conclusions could be reached, they caution.

"If sodium valproate is the treatment of choice, women should be provided with as much information as possible to enable them to make an informed decision," and children whose [mums](#) took the drug during pregnancy should be monitored closely, write the authors.

"But on no account should pregnant women just stop taking the drug for fear of harming their developing child," urge the authors.*

More information: The prevalence of neurodevelopmental disorders in children prenatally exposed to antiepileptic drugs, Online First, [doi:10.1136/jnnp-2012-304270](https://doi.org/10.1136/jnnp-2012-304270)

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