Expectant mothers with epilepsy face tough choices over their medication

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A new study published today in *The Cochrane Library*, highlights the difficult decisions women with epilepsy have to face when they become pregnant. Taking certain drugs used to control epilepsy during pregnancy may be linked to developmental problems in children. The authors of the study say evidence on the safety of anti-epileptic drugs is limited and that more research is needed to ensure women and their doctors make the most informed choices.

Studies on children born to women with epilepsy increasingly suggest that some anti-epileptic medications affect development in the womb. However, most women with epilepsy rely on these medications to control seizures during pregnancy.

To assess the safety of taking anti-epileptics during pregnancy, the researchers drew together evidence from 28 studies. They measured children's global cognitive ability using either intelligence quotient (IQ), for school aged children, or developmental quotient (DQ), for younger children, to provide a summary of development across a range of cognitive skills. The researchers looked at DQ and IQ scores in the children of three groups of women: those with epilepsy who took anti-epilepsy medication, those with epilepsy who did not take epilepsy medication and those without epilepsy.

The children of women who took one drug, sodium valproate, had lower DQs and IQs than the children of women in the other groups. Higher doses of this drug were linked to larger effects on IQ or DQ. However

another drug, carbamazepine, did not appear to have any significant effects on DQ or IQ. Younger children born to women who took carbamazepine did have lower DQs but the researchers concluded that this effect was due to random variation between the results of studies.

"This review highlights the need for preconception counselling in women with epilepsy," said Rebecca Bromley, lead researcher of the study based at the Institute of Human Development at the University of Manchester in Manchester, UK. "Counselling should take account of the fact that many pregnancies are unplanned and cover the risks of anti-epileptic drugs, whilst considering how well they control epileptic seizures."

"The review also highlights the need to counsel patients about risks and benefits of treatment alternatives at the time of epilepsy diagnosis and treatment initiation, so that informed decisions can be made. This is particularly important for women with idiopathic generalised epilepsy for whom valproate is the most effective treatment. Some women may choose to initiate valproate as they have no plans to conceive, while others may choose to avoid valproate and try a less effective drug accepting the associated risk of further seizures." Tony Marson, Coordinating Editor Cochrane Epilepsy Group, University of Liverpool.

Some studies made comparisons between different drugs. The children of women who took valproate had lower IQs than children exposed to carbamazepine or lamotrigine in the womb. They also had lower DQs and IQs than children born to women who took phenytoin. There were no differences between the IQs of children exposed to either carbamazepine, phenytoin or lamotrigine.

Only a few studies analysed the effects of newer anti-epileptic drugs like lamotrigine, levetiracetam and topiramate. "Data was not available for all anti-epileptic drugs that are in use today and data on newer anti-epileptic drugs was especially scarce," said Bromley. "This makes it difficult for

women and their doctors to know which medications are safe to use during childbearing years. Future research needs to be carried out in a timelier manner to ensure that when prescribing decisions are being made the risks are already established. Women should however not stop or make alterations to their medication without first seeking medical advice."

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More information: Bromley R, Weston J, Adab N, Greenhalgh J, Sanniti A, McKay AJ, Tudur Smith C, Marson AG. Treatment for epilepsy in pregnancy: neurodevelopmental outcomes in the child. *Cochrane Database of Systematic Reviews* 2014, Issue 10. Art. No.: CD010236. DOI: 10.1002/14651858.CD010236.pub2

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