

Multivitamins in pregnancy may be linked to lower autism risk in children

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Taking multivitamins during early pregnancy may be associated with a reduced risk of autism spectrum disorder (ASD) in children compared with mothers who do not take multivitamins, finds a study published in

The *BMJ* today.

The researchers stress that their findings cannot establish cause and effect, but say they raise questions about a possible association that warrant further investigation.

Autism spectrum disorder (ASD) includes a range of conditions, including Asperger syndrome, that affect a person's social interaction, communication, interests and behaviour. It's estimated that about 1 in every 100 people in the UK has ASD. More boys are diagnosed with the condition than girls.

Research indicates that ASD most likely develops in the womb and that a mother's diet during pregnancy could have an influence. But results from previous studies have been inconsistent, suggesting that other unmeasured factors (confounding), such as a mother's overall health and lifestyle, could also play a role.

So an international research team set out to assess whether nutrient supplementation during pregnancy is associated with reduced risk of ASD, with and without intellectual disability.

They applied three [analytical methods](#) to a sample of 273,107 mother-child pairs living in Stockholm, Sweden. The sample was restricted to children who were 4 to 15 years of age by December 31 2011 and were born between 1996 and 2007.

Women reported their use of [folic acid](#), iron, and [multivitamin](#) supplements at their first antenatal visit and cases of child ASD were identified from national registers.

After adjusting for several potentially influencing factors in both mothers and children, the researchers found that multivitamin use, with

or without additional iron and/or folic acid, was associated with a lower likelihood of child ASD with intellectual disability relative to mothers who did not use folic acid, iron, and multivitamins.

There was no consistent evidence that either iron or folic acid use were associated with a [reduced risk](#) of ASD.

The results of the various analyses seemed to be consistent with each other, say the authors, suggesting that the association between multivitamins and ASD might not be fully explained by confounding.

They point to several study limitations, such as the potential for confounding and difficulty assessing type, timing and dose of supplements. However strengths included the relatively large population-based sample size and the advanced analytical methods used to gauge the robustness of findings.

"Together, the three analyses appear to point toward a potential inverse association between multivitamin use with ASD with [intellectual disability](#)," say the authors.

Given the current understanding and strength of evidence supporting the importance of nutritional supplementation during pregnancy, "it is impossible to imagine that these results, on their own, should change current practice," they write. However, they say these findings "raise questions that warrant investigation" and call for verification in randomised studies "before recommending a change to current practice."

More information: Antenatal nutritional supplementation and autism spectrum disorders in the Stockholm youth cohort: population based cohort study, www.bmj.com/content/359/bmj.j4273

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