

NEWS

Clinical research: Father's age affects child's risks

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Relative risk: Even among siblings, the autism risk increases as the father ages, suggesting a direct link to paternal age.

Children born to fathers older than 45 years have a heightened risk of developing a range of conditions, from autism to addiction, according to a large Swedish study published 1 April in *JAMA Psychiatry*¹.

The risks became most apparent when the researchers compared risk between siblings who share a father. This approach controls for factors that both siblings would have in common, such as environmental exposures, or **parents' educational level** or socioeconomic status.

The findings suggest that the risk associated with a father's age is directly related to genetic mutations, which **can accumulate over time** in rapidly dividing sperm cells. The study is the largest examination of the effects of paternal age to date.

The researchers looked at more than 2.6 million children born in Sweden between 1973 and 2001. The study did not include children **born either prematurely or late**, or those who had **immigrated from another country**. These factors are associated with an elevated risk of autism, and so could have become confounders.

The researchers controlled for a number of other factors that influence autism risk, such as **gender**

, **birth order**, parents' education, **household income** and the **mother's age**. Using this analysis, they found that children born to fathers older than 45 years are 1.76 times more likely to have autism than children born to fathers 20 to 24 years old.

When the researchers compared siblings who were born to fathers at different ages, the risk of developing autism in children born to older fathers rose to 3.45 times.

Based on this sibling analysis, children born to fathers over 45 years of age are 13 times more likely than children who have fathers younger than 45 to have attention deficit hyperactivity disorder, double the risk of psychosis, including schizophrenia, that requires hospitalization and nearly 27 times the risk of bipolar disorder.

Having an older father also approximately doubles the risk of suicide attempts, substance abuse and failing grades.

References:

1: D'Onofrio B.M. *et al. JAMA Psychiatry* **71**, 432-438 (2014) **PubMed**