

# Children of older fathers more likely to have bipolar disorder

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Older age among fathers may be associated with an increased risk for bipolar disorder in their offspring, according to a report in the September issue of *Archives of General Psychiatry*.

Bipolar disorder is a common, severe mood disorder involving episodes of mania and depression, according to background information in the article. Other than a family history of psychotic disorders, few risk factors for the condition have been identified. Older paternal age has previously been associated with a higher risk of complex neurodevelopmental disorders, including schizophrenia and autism.

Emma M. Frans, M.Med.Sc., of the Karolinska Institutet, Stockholm, Sweden, and colleagues identified 13,428 patients in Swedish registers with a diagnosis of bipolar disorder. For each one, they randomly selected from the registers five controls who were the same sex and born the same year but did not have bipolar disorder.

When comparing the two groups, the older an individual's father, the more likely he or she was to have bipolar disorder. After adjusting for the age of the mother, participants with fathers older than 29 years had an increased risk. "After controlling for parity [number of children], maternal age, socioeconomic status and family history of psychotic disorders, the offspring of men 55 years and older were 1.37 times more likely to be diagnosed as having bipolar disorder than the offspring of men aged 20 to 24 years," the authors write.

The offspring of older mothers also had an increased risk, but it was less pronounced than the paternal effect, the authors note. For early-onset bipolar disorder (diagnosed before age 20), the effect of the father's age was much stronger and there was no association with the mother's age.

"Personality of older fathers has been suggested to explain the association between mental disorders and advancing paternal age," the authors write. "However, the mental disorders associated with increasing paternal age are under considerable genetic influence." Therefore, there may be a genetic link between advancing age of the father and bipolar and other disorders in offspring.

"As men age, successive germ cell replications occur, and de novo [new, not passed from parent to offspring] mutations accumulate monotonously as a result of DNA copy errors," the authors continue. "Women are born with their full supply of eggs that have gone through only 23 replications, a number that does not change as they age. Therefore, DNA copy errors should not increase in number with maternal age. Consistent with this notion, we found smaller effects of increased maternal age on the risk of bipolar disorder in the offspring."

Source: JAMA and Archives Journals

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