

## Twin birth defect risk may be higher among moms not on fertility treatment

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The risk of birth defects among twins may be higher among mums who haven't used fertility treatment—which is known to increase the chances of a twin birth—than among those who have used it, finds US research published online in the *Journal of Epidemiology & Community Health*.

The rate of twin births in the US rose by 75% between 1980 and 2011, and it is thought that [fertility treatment](#) may help explain this increase. But it is not clear whether fertility treatment might itself be linked to the higher rate of [birth defects](#) seen among twins, as previous studies have not always included information on its use.

In an effort to clarify the associations between twins and their higher rate of birth defects, the researchers mined data from the National Birth Defects Prevention Study (NBDPS)—a major population based, case control study of major birth abnormalities in the USA.

They included [mums](#) of singletons and twins with no major birth defects (comparison group), born between October 1997 and December 2007, as well as cases of major birth abnormalities drawn from stillbirths, pregnancy terminations, and live births during the same timeframe.

Just under 3% (227) of the mums in the comparison group had twins compared with just under 6% (1250) of the mums in the birth defect group.

In both groups, mothers of twins were more likely to be older than 29, of

white ethnicity, to be more highly educated, and to have taken folic acid before and around pregnancy than the mothers of singletons.

Use of fertility treatment was also more common among twin pregnancies than it was among singleton pregnancies both for mums in the comparison group (32.5% vs just over 3%, respectively) and for mums in the birth defect group (29% vs 4%, respectively).

Among the mums who didn't use fertility treatment, twinning was associated with 29 out of 45 different types of birth defect, with the strongest associations seen for multiple ventricular septal abnormalities (defects in the wall dividing the left and right chambers of the heart) and cloacal exstrophy, where the abdominal organs are exposed.

Among the mothers who did use fertility treatment, twinning was associated with five out of 25 different types of birth defect, with the strongest associations found for hypoplastic left heart syndrome, an abnormality that affects normal blood flow through the heart, and omphalocele (a hernia that pushes the abdominal organs into the umbilical cord).

The risk of birth defects was higher among identical (monozygotic), than among non-identical (dizygotic), twins.

This is an observational study so no firm conclusions can be drawn about cause and effect, and the researchers caution that the number of mothers in the group not using fertility treatment was small, added to which, around 30% of eligible mothers didn't take part in the NBDPS study.

"Explanations for the observed associations between twinning and birth defects are not clear, although our results suggest that there may be differences depending on use of fertility treatment, zygosity of twins, and the birth defect being considered," they write.

They speculate that the reasons for the associations found might lie in a common cause, particularly among identical [twins](#), or in the consequences of twinning itself, which might include crowding, insufficient nutrient supply, and problems with blood flow between the two fetuses.

Less than optimal fertility, associated with obesity or older age, may also have a role, they suggest.

**More information:** Twinning and major birth defects, National Birth Defects Prevention Study, 1997-2007, *Journal of Epidemiology & Community Health*, [DOI: 10.1136/jech-2015-206302](https://doi.org/10.1136/jech-2015-206302)

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