

Maternal Report of Fever from Cold or Flu during Early Pregnancy and the Risk for Noncardiac Birth Defects, National Birth Defects Prevention Study, 1997-2011

Previous research has shown an association between maternal fever during early pregnancy and some types of birth defects. This case-control study used data from the National Birth Defects Prevention study, a multistate case-control study of major birth defects, to assess the association between maternal fever during early pregnancy and 30 non-cardiac birth defects, including 20 that have not yet been studied for this association

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Link to abstract:

<https://www.ncbi.nlm.nih.gov/pubmed/29094488>

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A total of 17,162 mothers of cases and 10,127 mothers of controls who completed a telephone interview were included in this study. Multivariable logistic regression was used to assess the association between maternal self-report of cold or flu with fever and cold or flu without fever during early pregnancy and 30 categories of non-cardiac birth defects.

Main findings from this research

- ◇ Maternal report of cold or flu with fever was significantly associated with 8 birth defects: anencephaly (aOR; 95% CI—1.52; 1.11-2.07), spina bifida (1.39; 1.11-1.76), encephalocele (1.66; 1.01-2.74), cleft lip with or without cleft palate (1.23; 1.05-1.45), colonic atresia/stenosis (3.68; 1.72-7.85), bilateral renal agenesis/hypoplasia (2.10; 1.28-3.46), limb reduction defects (1.29; 1.01-1.63), and gastroschisis (1.42; 1.11-1.81).
- ◇ Adjusted odds ratios that were associated with maternal reports of cold or flu with a fever of ≥ 101 degrees Fahrenheit (F) were not substantially different from the adjusted odds ratios associated with maternal report of cold or flu with a fever <101 degrees F.
- ◇ Maternal report of a cold or flu without fever, and maternal fever reported in later pregnancy, were not associated with any birth defects studied.

Conclusion and discussion

This study found further evidence that maternal fever during early pregnancy is associated with an increased risk for certain birth defects. This increase was limited to mothers who reported having a fever, suggesting that the fever contributes to the increase in risk of birth defects and not the illnesses that can accompany the fever. Nonetheless, having a fever can also be an indicator of having other severe illnesses or infections.