

RESEARCH NEWS



Microcephaly risk with Zika infection is 1-13% in first trimester, study shows

Michael McCarthy

Seattle

Maternal infection with the Zika virus in the first trimester of pregnancy was associated with an estimated 1% to 13% risk of microcephaly, researchers from the US Centers for Disease Control and Prevention have reported.¹ Their study found “negligible” association between infection and the risk of microcephaly in the second and third trimesters.

The researchers analysed data from Bahia in northeastern Brazil, a region that has been hit hard by the Zika outbreak. They estimated that the risk of microcephaly because of infection in the first trimester ranged from 0.88% (95% credible interval 0.80% to 0.97%), assuming an overall Zika virus infection rate among pregnant women of 80% and 100% over-reporting of microcephaly cases, to 13.2% (95% credible interval 12.0% to 14.4%) if the overall infection rate was only 10% and there was no over-reporting. The estimate also took account of uncertainty about the baseline rate of microcephaly (between two and 12 cases for each 10 000 births).

The researchers, led by Michael Johansson of the CDC’s Division of Vector-Borne Diseases, said, “We found a strong association between the risk of microcephaly and infection risk in the first trimester and a negligible association in the second and third trimesters.” However, they found a wide range for estimated risk in the third trimester because the available data

were limited in Bahia and other affected areas, where infection rates were unknown and microcephaly cases were still being reported and evaluated.

They cautioned that little was known about the effects of mild or asymptomatic Zika infections, which were probably more common and so may contribute substantially to the overall burden of disease. Microcephaly is also only one possible adverse outcome among a spectrum of conditions that may be part of congenital Zika syndrome, they added.

The researchers concluded, “If the risk of infection and adverse outcomes is similar in the other geographic areas where ZIKV [Zika virus] has since spread, many more cases of microcephaly and other adverse outcomes are likely to occur. In light of the growing evidence, it is prudent to take precautions to avoid ZIKV infection during pregnancy and for health care systems to prepare for an increased burden of adverse pregnancy outcomes in the coming years.”

1 Johansson MA, Mier-Y-Teran-Romero L, Reefhuis J, Gilboa SM, Hills SL. Zika and the risk of microcephaly. *N Engl J Med* 2016. doi:10.1056/NEJMp1605367. pmid:27222919.

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