

# NSAIDs do not increase risk of miscarriages, study reports

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Women who take nonsteroidal anti-inflammatory drugs (NSAIDs) during pregnancy are not at increased risk of miscarriages, confirms a new study published in *CMAJ* (*Canadian Medical Association Journal*).

NSAIDs, which include ibuprofen, naproxen, [diclofenac](#) and others, are increasingly used by pregnant women in the first trimester to combat pain, fever and inflammation. However, it is unclear whether they increase the risk of [pregnancy loss](#) because previous studies have shown inconsistent results.

To determine whether there is an association between the use of NSAIDs in pregnancy and [miscarriage](#) (spontaneous abortion), researchers looked at data on 65 457 women aged 15 to 45 years who were admitted to Soroka Medical Center in Beer-Sheva, Israel, between January 2003 and December 2009 to give birth (90% of women) or for a miscarriage (10%). Of the total group, 4495 (6.9%) of women took NSAIDs during the first trimester of pregnancy. Women who took NSAIDs were older, were more likely to smoke and had more inflammatory diseases. As well, more [pregnant women](#) in the exposed group had undergone in-vitro fertilization (IVF) than in those who did not take NSAIDs.

About 8.2% of women in the group exposed to NSAIDs—general anti-inflammatories—had miscarriages compared with 10% of women in the group that did not take NSAIDs. In the group of women who took COX-2 selective inhibitors, which target specific inflammation, 17%

had a miscarriage, although this group was small and the question needs further research.

"We found no important associations between exposure to NSAIDs, either by group or for most specific NSAID drugs, and risk of spontaneous abortion," write Dr. Sharon Daniel and Prof. Amalia Levy, Department of Public Health, Ben-Gurion University of the Negev and Soroka Medical Center, with coauthors. "However, we found an [increased risk](#) of spontaneous abortion following exposure to indomethacin."

The authors believe that this may be due to "reverse causation bias" because indomethacin was dispensed at the end of pregnancy, likely to treat preterm labour, an indication different than that for other NSAIDs.

"The fact that the study was based on large proportion of the district population, was adjusted to nearly all known risk factors for miscarriages (tobacco use, obesity, IVF, uterine malformations, hypercoagulable conditions, intrauterine contraceptive device etc.) and used advanced statistical methods strengthens the validity of the results," states the principal investigator, epidemiologist Prof. Levy.

**More information:** Paper:  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.130605](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.130605)

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