

# Non-prescription painkillers linked to increased perinatal health risks

July 1 2021

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One of the largest studies of its kind has found women who use over-the-counter painkillers in pregnancy are around one and half times more likely to have a baby with health issues. The risk of a preterm delivery, stillbirth or neonatal death, physical defects and other problems are all higher compared with the offspring of mothers who did not take these

drugs.

The increased odds of adverse neonatal outcomes associated with common analgesics such as aspirin and ibuprofen "indicates that healthcare guidance for [pregnant women](#)" regarding their use "should be reassessed" says first investigator Aikaterini Zafeiri from the University of Aberdeen, Scotland. Zafeiri will present the findings which span 30 years at the 37th virtual Annual Meeting of ESHRE.

A high percentage (between 30% and 80%) of women globally use non-[prescription painkillers](#) in pregnancy to relieve pain. This includes for common pregnancy symptoms, flu, fever, inflammatory or rheumatological conditions. However, current evidence regarding safety of use during gestation varies widely, with some drugs considered safe and others not.

For this analysis, data was used from the Aberdeen Maternity and Neonatal Databank spanning 1985 to 2015. A total of 151,141 singleton pregnancies were analyzed using medical notes for consumption of five painkillers—paracetamol, aspirin, and non-steroidal anti-inflammatory drugs (NSAIDs), diclofenac, naproxen and ibuprofen—either as single compounds or in combinations.

Overall, results showed that nearly three in ten (29%) women were found to have taken over-the-counter analgesics during pregnancy, a figure which more than doubled to 60% during the last seven years of the 30-year study period. This suggests use is growing rapidly. When asked specifically at their first antenatal clinic visit, as opposed to later in pregnancy or after labor, more than four in five (84%) of women using painkillers reported use during the first 12 weeks after conception.

The findings show an association between increased health risks for pregnancies, where mothers were exposed to at least one of the five

analgesics. These follow, ranked in order of significance according to adjusted odds ratio (AOR): neural tube defects (1.64% AOR); admission to a neonatal unit (1.57% AOR); [neonatal death](#) (1.56% AOR); premature delivery before 37 weeks (1.50% AOR); baby's condition at birth based on APGAR score of less than 7 at 5 minutes (1.48% AOR); stillbirth (1.33% AOR); birthweight under 2.5kg (1.28% AOR); hypospadias, a [birth defect](#) affecting the penis (1.27% AOR); baby's condition at birth based on APGAR score of less than 7 at 1 minute (1.18% AOR); and birth weight over 4kg (1.09% AOR).

Associations of paracetamol use alone with high birth weight, [neural tube defects](#) and hypospadias were not significant. Diclofenac consumption was associated with significantly decreased odds of stillbirth, a protective effect which the authors say may be attributed to its stronger anti-inflammatory effects than the other NSAIDs.

In light of the study findings, Zafeiri says the ease of access to non-prescription painkillers, in combination with availability of correct or mis-information through the internet, raises safety concerns. She adds: "This is especially when mis-informed or partially-informed self-medication decisions are taken during [pregnancy](#)."

**More information:** Aikaterini Zafeiri et al, Over-the-counter Analgesics in Pregnancy and Offspring Neonatal Outcomes: A Retrospective Cohort Study, ESHRE (2021). [DOI: 10.1101/2020.09.24.20200188](https://doi.org/10.1101/2020.09.24.20200188)

Provided by European Society of Human Reproduction and Embryology

Citation: Non-prescription painkillers linked to increased perinatal health risks (2021, July 1) retrieved 9 May 2024 from

<https://medicalxpress.com/news/2021-07-non-prescription-painkillers-linked-perinatal-health.html>

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