EDITORIAL

Pill use before or during pregnancy does not raise risk of birth defects

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ORAL CONTRACEPTION IS A POPULAR METHOD FOR MANY WOMEN BUT LITTLE IS KNOWN about the safety of its use during or just before pregnancy. In particular, there is very little data about how long the effects of exogenous sex hormones might persist in the body after stopping the pill and whether they could affect the developing fetus.

The researchers conducted a prospective cohort study to investigate the effect of recent oral contraceptive use on the risk of birth defects. They used data from the Danish Medical Birth Register which included all singleton live births delivered from January 1997 to March 2011 in Denmark.[1] Births with missing or implausible gestational ages were excluded, as were those with other birth defects with a known cause such as fetal alcohol syndrome and chromosomal abnormalities. The final cohort included 880,694 liveborn infants, linked to individuals on the Danish Civil Registration System.

'The findings are reassuring for women who find out they are pregnant while using the pill'

The Danish National Prescription Register was used to estimate oral contraceptive exposure. Exposure was categorised into:

- > 3 months before onset of pregnancy (the reference group)
- 0-3 months before pregnancy (recent use)
- Exposure after onset of pregnancy

The two main exposures of interest were use after onset of pregnancy and recent use before onset.

Birth defects were identified using the National Patient Register allowing up to a year of follow-up after birth for any diagnoses. Of the 880,694 live births, 22,013 (2.5%) were diagnosed with a major birth defect in the first year of life.

More than two-thirds (69%) of the mothers in the cohort had used oral contraceptives but stopped > 3 months before pregnancy while 21% had never used any oral contraceptives. Eight per cent of the cohort stopped using contraceptives 0-3 months before pregnancy onset and 1% had used them after the onset of pregnancy; both these categories were considered as exposed.

Both groups of exposed women were more likely to be younger, less likely to be married or living with a partner, less educated, on lower incomes, were less likely to be parous, and smoked more often during pregnancy compared with women who had stopped using oral contraceptives > 3 months before onset of pregnancy.

There appeared to be a similar prevalence of birth defects across all groups:

- 25.1 per 1,000 births in those who had never used oral contraception
- 25.0 per 1,000 births in women who used oral contraception > 3 months before onset of pregnancy
- 24.9 per 1,000 births for those who used it 0-3 months before onset of pregnancy
- 24.8 per 1,000 births for women who used it after onset of pregnancy

There was no increased risk of major birth defects with exposure to oral contraceptives in women who had recently stopped: prevalence odds ratio (OR) 0.98 (95% CI: 0.93-1.03) and those who used oral contraceptives after the onset of pregnancy OR 0.95 (95% CI: 0.84-1.08).

The risk of birth defects was not affected by age, smoking during pregnancy or educational levels.

This study confirms that oral contraceptive use does not significantly increase the risk of birth defects, whether just before or after the onset of pregnancy. The exposure to exogenous oestrogens is therefore unlikely to cause major birth defects in the developing fetus.

In practice, we can advise a woman to stop the pill whenever she wishes to conceive, and there is no need to wait 'for hormones to get out of the system'.

The findings are also reassuring for women who find out they are pregnant while using the pill.

REFERENCE
1 Charlton BM, Mølgaard-Nielsen D, Svanström H et al. Maternal use of oral contraceptives and risk of birth defects in Denmark: prospective, nationwide cohort study. *BMJ* 2016;352:h6712

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