

## ABSTRACT

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Association Between Maternal Hormonal Contraception Use and Central Nervous System Tumors in Children.

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### Comment in

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**IMPORTANCE:** The incidence of central nervous system (CNS) tumors in children appears to be increasing, yet few risk factors are established. There is limited information regarding whether maternal hormonal contraception use increases this risk.

**OBJECTIVE:** To examine the association between maternal hormonal contraception use and CNS tumors in children (<20 years).

**DESIGN, SETTING, AND PARTICIPANTS:** In this nationwide cohort study based on population-based registry data, 1 185 063 children born in Denmark between January 1, 1996, and December 31, 2014, were followed up for a diagnosis of a CNS tumor (final follow-up on December 31, 2018).

**EXPOSURES:** Maternal hormonal contraception use was analyzed according to any use, regimen (combined/progestin only), and route of administration (oral/nonoral), categorized as recent use ( $\leq 3$  months before start and during pregnancy), previous use ( $> 3$  months before start of pregnancy), and no use. For injections, implants, and intrauterine devices that are used for a different time period, the categorization was appropriately altered.

**MAIN OUTCOMES AND MEASURES:** Hazard ratio (HR) and incidence rate difference (IRD) of CNS tumors diagnosed at younger than 20 years.

**RESULTS:** After 15 335 990 person-years of follow-up (mean follow-up, 12.9 years), 725 children were diagnosed with a CNS tumor. The mean age at diagnosis was 7 years, and 342 (47.2%) of the diagnosed children were female. The adjusted incidence rate of CNS tumors per 100 000 person-years was 5.0 for children born to mothers with recent hormonal contraception use ( $n = 136\,022$ ), 4.5 for children born to mothers with previous use ( $n = 778\,843$ ), and 5.3 for children born to mothers with no use ( $n = 270\,198$ ). The corresponding HRs were 0.95 [95% CI, 0.74-1.23]; 84 children with CNS tumors; IRD, -0.3 [95% CI, -1.6 to 1.0] for recent use and 0.86 [95% CI, 0.72-1.02]; 421 children with CNS tumors; IRD, -0.8 [95% CI, -1.7 to 0.0] for previous use, compared with no use. No statistically significant associations were found for recent or previous use of oral combined, nonoral combined, oral progestin only, or nonoral products compared with no use of hormonal contraception.

**CONCLUSIONS AND RELEVANCE:** Among Danish children, there was no statistically significant association between any maternal hormonal contraception use and CNS tumor risk.

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