

## Counseling Guide for use of Hormonal Contraception and Risk of Breast Cancer

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A recent article created some confusion as it suggests that some hormonal contraceptives (HC) are associated with increased risk of breast cancer.<sup>1</sup> The UNC Family Planning Division developed this Counseling Guide to help our providers to understand the article and counsel patients who have questions about it.

### Background

- Studies evaluating the association between breast cancer risk and HC are inconsistent, ranging from no association to a 20-30% increase in risk.
- Many studies were done in older women with higher doses of estrogen than are currently available.
- Therefore, this article evaluated for associations between breast cancer and contemporary HC.

### Study Methods and Results

- Prospective cohort of 1.8 M Danish women aged 15-49, followed for average of 11 years between 1995-2012.
- Nationwide registries for birth control prescriptions and cancer diagnoses linked for data analysis.
- Adjusted RR for breast cancer among current & recent (stopped <6 months) HC users: 1.2 (95% CI 1.1, 1.3).
  - Adjusted for age, year, education, parity, PCOS, endometriosis, family hx of breast or ovarian cancer
    - Did NOT adjust for BMI, alcohol use, early menarche, age of 1<sup>st</sup> delivery, breastfeeding.
  - Overall absolute increase was small: 13 breast cancer events/100,000 woman-years (W-Y).
    - Risk for never-HC users was 55/100,000 W-Y vs. 68/100,000 W-Y for current & recent users.
  - This is **1 extra case of breast cancer for every 7,690 women using HC per year**.
    - Risk for **women <35 years even lower: 1 extra case for every 50,000 women using HC per year**.
  - No increased breast cancer risk seen with HC use for <5 years.
- In sub-analysis, adjusted RR for breast cancer among current and recent combined oral contraceptive (COC) and levonorgestrel IUD users was also 1.2 (95% CI 1.1, 1.3).
  - Among COC users: no difference by progestin, ethinyl estradiol dose (20-50 ug), or mono- vs tri-phasic type after adjustment for multiple testing.
- Patch, Vaginal Ring, DMPA injectable, and Implant were NOT associated with increased breast cancer risk.
- Longer duration of HC use associated with small increased risk for breast cancer.
  - However, in sub-analysis, only COC with gestodene (not available in the U.S) had this association.

### Discussion

- These results may be one component of a comprehensive discussion of contraceptive risks and benefits.
- If the increased breast cancer risk found in this observational study does truly exist, **the absolute increased risk is very small, particularly for women <35 years of age**.
- OC use associated with **reduced risk of colon, endometrial, ovarian, lymphatic and hematopoietic cancers**.<sup>2</sup>
- U.S. maternal mortality ratio is 17.3 per 100,000 live births (43.5 per 100,000 live births for black women).<sup>3</sup>
- 45% of pregnancies in the U.S. are unintended, with **45 unintended pregnancies per 1,000 women aged 15-44 per year -> nearly 5% of reproductive-age women have an unintended pregnancy each year**.<sup>4</sup>
- Therefore, women and their providers should **discuss all their current priorities and risks when deciding whether to start HC and which contraceptive method is the best fit for them**.

<sup>1</sup> Mørch LS, et al. Contemporary hormonal contraception and the risk of breast cancer. NEJM 2017;377:2228-39.

<sup>2</sup> Iverson L, et al. Lifetime cancer risk and combined oral contraceptives: the Royal College of General Practitioners' Oral Conception Study. AJOG 2017;216(6):580.e1-9.

<sup>3</sup> CDC. PRAMS. <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pmss.html>. Accessed 25 Jan 2018.

<sup>4</sup> Guttmacher Institute. <https://www.guttmacher.org/fact-sheet/unintended-pregnancy-united-states>. Accessed 25 Jan 2018.