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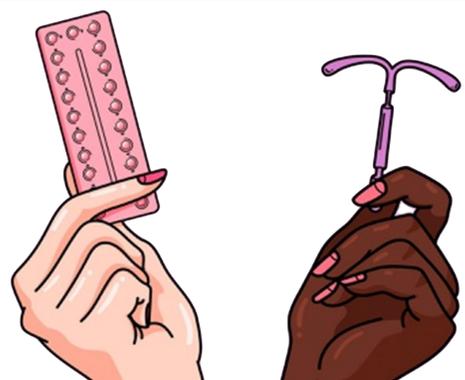
# Hormonal Contraceptives and the Risk of Breast Cancer

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## Question

In women of childbearing age, does the use of hormonal contraceptives compared to never using hormonal contraceptives, increase the risk of developing breast cancer?



<https://dribbble.com/tags/contraception>

## Background

- Breast cancer: cells in the breast begin to grow abnormally and accumulate to form a malignant lump (Mayo Clinic, 2021).
- More than 3.8 million American women have been diagnosed with breast cancer (American Society of Clinical Oncology, 2021).
- Breast cancer treatment includes chemotherapy, radiation, hormone therapy, and the surgical removal of the breast(s), known as a mastectomy (Hoffman & Sullivan, 2020).
- From 2015-2017, 12.6% of women using contraceptive methods were using the oral pill, and 10.3% were using long-acting reversible contraceptives (CDC, 2018).
- Contemporary hormonal contraceptives include oral contraceptives (combined hormonal or progestin-only), Nexplanon, intrauterine devices, injectable contraceptives, vaginal rings, and patches (Kaunitz, 2021).

Study	Description	Results
Oral Contraceptives and Breast Cancer Risk: A Case Control Study in Six Referral Hospitals in Indonesia, written by Wahidin et al., and published in July 2018.	A level IV, retrospective hospital-based case control study that analyzed female patients aged 15 years and above, from six cancer referral hospitals in Indonesia. The participants who utilized and did not utilize oral hormonal contraceptives in the past, were studied in an attempt to find an association between the use of oral hormonal contraceptives and an increased risk of breast cancer.	Compared to those who have never used oral HCs, women who used oral HCs for six years or greater had three times the risk of developing breast cancer, and those that used them for less than six years, had two times the risk. With a longer duration of oral HC use, there is an increased probability of breast cancer risk in women of 15 years and above in Indonesia.
Oral Contraceptive Use by Formulation and Breast Cancer Risk by Subtype in the Nurse's Health Study II: A Prospective Cohort Study composed in 2021 and written by Burchardt, et al.	A level IV, 28 year long prospective study that followed female nurses aged 25-42 years from the Nurses Health Study in the United States to determine if breast cancer risk increased with the use of hormonal contraceptives.	A higher risk of breast cancer was associated with current hormonal contraceptive use when compared to never use. A strong association was observed with a duration of use greater than five years. Former users with greater than five years since cessation, had a similar risk of breast cancer compared to never users. Hormonal contraceptive formulations that included progestins, were associated with a higher risk of breast cancer.
Contemporary Hormonal Contraception and the Risk of Breast Cancer by Morch et al., published in 2017.	A level IV, cohort study followed Danish women 15-79 years-old from years 1995 to 2012 to analyze the risk between HC use and breast cancer development. Data was collected from the Danish Sex Hormone Register Study, the National Register of Medicinal Product Statistics, and Danish Cancer Registry.	The risk of breast cancer development in current or recent users of any hormonal contraceptives compared to never using was increased. The risk also increased with duration of use. There was not a significant difference in risk between different combined oral pills. The risk was similar with use of the levonorgestrel (progestin) releasing intrauterine system and the oral pill containing levonorgestrel. There was less risk of breast cancer associated with use of the progestin-only implants and the depot medroxyprogesterone acetate injection. Using hormonal contraceptives before age 20 indicated higher risk.
Oral Contraceptive Use and Breast Cancer Risk: Retrospective and Prospective Analyses From a BRCA1 and BRCA2 Mutation Carrier Cohort Study by Schrijver et al., written in 2018.	A level IV, cohort study was comprised of women ages 18-80, with the BRCA1 or BRCA2 mutation. Data was collected from the International BRCA1/2 Carrier Cohort Study, the Kathleen Cuninghame Foundation Consortium for Research into Familial Breast Cancer Follow-Up Study, and the Breast Cancer Family Registry. Data was used to determine risk between use of hormonal contraceptives and breast cancer development.	Within the BRCA1 group, the prospective group did not show increased risk of breast cancer with use of oral pills. However, within both retrospective cohorts, there was an increased risk with use. Within the BRCA2 group, the prospective group and the full cohort retrospective analysis showed an increased risk. The left truncated retrospective cohort did not.

## Conclusion

A strong association was found between the use of hormonal contraceptives and the risk of breast cancer, specifically with a longer duration of use. Distinctively, a duration of longer than five years showed the greatest risk.



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## Application

- Nurses will consider the patient's intended duration and reasons of use, and apply the findings from research to educate them about an increased probability of breast cancer risk with use and a longer duration of use.
- Nurses will suggest a short-term duration of use to decrease the unessential long-term hormone exposure from birth control contraceptives.
- Nurses will suggest other possible interventions based on patient's reason of use.
- For painful menstruation, over the counter pain relievers, physical activity, dietary supplements, heat application, stress reduction, transcutaneous electrical nerve stimulation (TENS) and acupuncture can be used rather than hormonal contraceptives.
- Forms of contraception that do not include the use of hormones should be utilized to avoid pregnancy: the condom, fertility awareness based methods, cervical caps, sponges, suppositories, and withdrawal methods.