

New study links contraceptive pills and depression

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In a global perspective, depression is the leading cause of ill health and disability. More than 264 million people are affected and at least 25

percent of all women and 15 percent of all men experience a depression that requires treatment at some point during their life.

The possibility that contraceptive pills might have negative effects on mental health and even lead to depression has long been discussed. Although many [women](#) choose to stop using contraceptive pills because of the influence on their mood, until now the picture emerging from research has not been straightforward. This study, now published in *Epidemiology and Psychiatric Sciences*, is one of the largest and widest-ranging to date, following more than a quarter of a million women from UK Biobank from birth to menopause.

The researchers collected data about women's use of contraceptive pills, the time at which they were first diagnosed with depression and when they first experienced symptoms of depression without receiving a diagnosis. The method of contraception studied was combined contraceptive pills, which contain progestogen, a compound resembling the hormone progesterone, and estrogen.

Progestogen prevents ovulation and thickens the cervical mucus to prevent sperms from entering the uterus, while estrogen thins the uterine lining to hinder the implantation of a fertilized egg.

"Although contraception has many advantages for women, both [medical practitioners](#) and patients should be informed about the [side-effects](#) identified in this and previous research," says Therese Johansson of the Department of Immunology, Genetics and Pathology at Uppsala University, one of the researchers leading the study.

According to the study, women who began to use contraceptive pills as teenagers had a 130 percent higher incidence of symptoms of depression, while the corresponding increase among adult users was 92 percent.

"The powerful influence of contraceptive pills on teenagers can be ascribed to the [hormonal changes](#) caused by puberty. As women in that age group have already experienced substantial hormonal changes, they can be more receptive not only to hormonal changes but also to other [life experiences](#)," Johansson says.

The researchers were also able to see that the increased incidence of depression declined when the women continued to use contraceptive pills after the first two years. However, teenage users of contraceptive pills still had an increased incidence of depression even after stopping using the [pill](#), which was not observed in adult users of contraceptive pills.

"It is important to emphasize that most women tolerate external hormones well, without experiencing negative effects on their mood, so combined contraceptive pills are an excellent option for many women. Contraceptive pills enable women to avoid [unplanned pregnancies](#) and they can also prevent illnesses that affect women, including ovarian cancer and uterine cancer. However, certain women may have an increased risk of depression after starting to use contraceptive pills."

The findings of the study point to a need for [healthcare professionals](#) to be more aware of possible links between different systems in the body, such as depression and the use of contraceptive pills. The researchers conclude that it is important for care providers to inform women who are considering using contraceptive pills of the potential risk of [depression](#) as a side-effect of the medicine.

"Since we only investigated combined contraceptive pills in this study, we cannot draw conclusions about other contraceptive options, such as mini pills, contraceptive patches, hormonal spirals, vaginal rings or contraceptive rods. In a future study, we plan to examine different formulations and methods of administration. Our ambition in comparing

different contraceptive methods is to give women even more information to help them take well-informed decisions about their contraceptive options," Johansson says.

More information: T. Johansson et al, Population-based cohort study of oral contraceptive use and risk of depression, *Epidemiology and Psychiatric Sciences* (2023). [DOI: 10.1017/S2045796023000525](https://doi.org/10.1017/S2045796023000525)

Provided by Uppsala University

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