

Women need to know about the link between the pill and depression

May 15 2018, by Jayashri Kulkarni And Caroline Gurvich



Credit: AI-generated image ([disclaimer](#))

The introduction of the contraceptive pill in the 1960s was a major milestone for female empowerment. It allowed women to separate sex from procreation, and to increase their participation in work outside the home.

Now, [more than 100 million women worldwide](#) use the oral [contraceptive pill](#) to prevent pregnancy or control their menstruation.

But the [pill](#) and other hormone contraceptives are not without side effects. We usually focus on the physical health effects of the pill, yet the [most common reason](#) women stop or change the pill is [mental health](#) side effects.

Depression is one of the most prevalent and debilitating mental disorders in Australia, and [affects twice as many women](#) as men. It is estimated that one in four women will experience depression in her lifetime.

[One in four Australian women](#) between the ages of 18 and 49 use the pill, at any one time. But few are aware of the link between the pill and depression.

Types of contraceptive pill

There are many oral contraceptives available in Australia, with different types and doses of the hormones oestrogen and progesterone.

The most commonly prescribed is a [combination pill](#), which contains an oestrogen to prevent ovulation, and a progesterone to reduce the chance of a fertilised egg implanting into the wall of the uterus.

Most combined oral contraceptives have a similar dose and type of oestrogen, but the progesterone types and doses vary widely.

There are also several [progesterone-only contraceptives](#) that do not contain oestrogen. These are known as the "mini-pill", or injected contraceptive ("depot provera"), or the skin implanted "straw" (Implanon or Norplant).

Hormones and mental health

A [recent review](#) has shown that sex hormones have significant impact on brain areas related to emotional and cognitive functioning. Progesterones [have been shown to induce depression](#), particularly in [vulnerable women](#).

Synthetic progesterone (more than natural progesterone) has [significant effects](#) on the brain chemicals serotonin and monoamine oxidase, resulting in depression, irritability and anxiety.

There is a great deal of variation in the effects of hormone shifts on mood and behaviour. Some women are very sensitive to small shifts in oestrogen and progesterone; others aren't.

What does the research say?

[Our research](#) has involved measuring the clinical impact of various types of oral contraceptive pill on mood and anxiety. Overall, [we found](#) woman taking the oral contraceptive pill were more likely to be depressed than non-pill users.

Women taking the pills with low amounts of oestrogen had more depression than those taking higher oestrogen dose pills.

Certain types of progesterone were more "depressive" than other progesterones, but the progesterone-only contraceptives were the most depressive of all the contraceptives.

A [2016 Danish study](#) of more than one million women supports our clinical findings. The researchers found that, compared to non-users, women aged 15-34 who took the combined [oral contraceptive pill](#) were 1.23 times more likely to be diagnosed with depression and prescribed

antidepressant medication.

Adolescents aged 15-19 who used combined [oral contraceptives](#) had an even higher rate of depression than older women. They were 1.8 times more likely to be diagnosed with depression than the non-pill using peers, and this increased to 2.2 times among adolescents using [progesterone](#)-only contraceptives.

The study concluded that [depression](#) is a significant potential side effect of hormonal contraceptive use, especially in adolescents.

It's not all bad news

Emerging research [by our group](#) and others suggests the combined [contraceptive](#) pill may improve "verbal memory" or memory for words and language. This is thought to be driven by [oestrogen](#), which has been shown to positively influence memory-related brain regions.

Research also suggests that pills containing progesterones that are structurally more like testosterone improve visual-spatial skills (traditionally, a male-dominant skill) and pill types containing other progesterones may worsen visual-spatial skills.

Finding the right contraception

There are many types of hormone contraceptives and their use needs to be tailored carefully for the individual, especially among adolescents. Women and their doctors need to be aware that hormone contraceptives can contribute to mental health problems, and [women](#) should return to their GP if they experience mental health side effects.

The development of new [hormone](#) contraceptives that don't impact

adversely on brain chemistry is well overdue. Women must have the right to control their fertility without compromising their enjoyment of life.

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