

Double dose of Plan B is not effective in preventing pregnancy for higher BMIs

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A higher body mass index could be a risk factor in how effective the morning-after pill is in preventing pregnancy, and new research from Oregon Health & Science University found that doubling the standard

dose did not improve outcomes.

In the study, recently published in the journal *Obstetrics & Gynecology*, a double-dose of over-the-counter emergency contraceptives—commonly known as Plan B or the morning-after pill—was not more effective in participants with a [body mass index](#) (BMI) higher than 30.

"Emergency [contraception](#) is a critical therapy for our patients. We need to ensure that it works effectively for everyone no matter their BMI or weight," said lead author Alison Edelman, M.D., M.P.H., professor of obstetrics and gynecology in the OHSU School of Medicine. "The morning-after pill was initially developed when the population looked a lot different, and our study shows this outdated, one-size-fits-all approach is not effective."

Emergency contraception provides an important line of defense in preventing pregnancy when taken as soon as possible after intercourse. All available methods of [emergency contraception](#) are safe and effective, but pills like Plan B that contain the medicine levonorgestrel (LNG) are more readily accessible, since they're available over-the-counter, without a prescription.

Earlier research has found that BMI—a measurement of height-to-weight ratio—could impact the effectiveness of birth control pills as well as emergency contraception that relies on LNG: Individuals with a BMI of 30 experienced a failure of the morning-after pill four times as often as those with a BMI of less than 25.

Emergency contraception prevents pregnancy by delaying or inhibiting ovulation, or release of an egg: LNG rapidly reaches its peak level at a [critical point](#) before the body gives the signal to cause ovulation. Edelman's prior research shows that LNG blood levels were 50% lower in individuals with a BMI of 30 after taking a standard dose of the

morning-after [pill](#)—so it never reaches its peak level, and fails to prevent ovulation.

Researchers hypothesized that the simple strategy of doubling the dose of LNG emergency contraception may result in reaching that critical peak drug level at the right time, despite greater BMI.

The study included a randomized control trial which enrolled 70 healthy, reproductive-age individuals with regular menstrual cycles, BMIs higher than 30, and weights of at least 176 pounds. Researchers measured the number of participants who experienced delay or inhibition of ovulation when taking the regular dose versus double the dose of emergency contraception.

Their results showed no difference in effectiveness between the group that took the single dose or double dose of LNG. Edelman emphasized that although the simplest adjustment did not work, their study will help guide research to find the most [effective strategy](#).

"Although this solution did not work as we hoped it would, it helps us identify new avenues to pursue for future research," Edelman said. "The more we understand about why it doesn't work as well and how to fix it, the better care we can provide for patients."

More information: Alison B. Edelman et al, Double Dosing Levonorgestrel-Based Emergency Contraception for Individuals With Obesity, *Obstetrics & Gynecology* (2022). [DOI: 10.1097/AOG.0000000000004717](#)

Provided by Oregon Health & Science University

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