

What hormonal contraception is most effective for obese women?

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Evidence-based answer

Depot medroxyprogesterone acetate (DMPA; Depo-Provera) and the combination contraceptive vaginal ring (NuvaRing) are most effective for obese women because they don't appear to be affected by body weight (strength of recommendation [SOR]: **B**, consistent cohort studies).

On the other hand, women using the

combination contraceptive patch (Ortho Evra) who weigh ≥ 90 kg may experience decreased contraceptive efficacy (SOR: **A**, meta-analysis). Obese women using oral contraceptives may also have an increased risk of pregnancy (SOR: **B**, inconsistent cohort studies). Data are not available on the levonorgestrel intrauterine system's (Mirena) efficacy in obese women.

Clinical commentary

Obese women may have higher rates of pregnancy with OCs

This answer shows that we need to provide more guidance to obese patients during contraceptive counseling. In our practice, we may have to develop contraceptive information sheets for overweight women.

I don't think this will prevent me from

prescribing oral contraceptives for obese women, but it will cause me to pause a bit. This question makes me wonder whether official recommendations in other drug classes for obese patients are coming in the near future.

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Depo-Provera and NuvaRing are the most effective hormonal contraception for obese women

Evidence summary

There is a theoretical risk of decreased hormonal contraceptive efficacy for obese women (defined as those having a body-mass index [BMI] ≥ 30 kg/m²) due to increased metabolism of the hormones resulting in lower serum levels. With the growing epidemic of obesity, concern over the efficacy of hormonal contraception has grown. At this time, however, only a few published studies evaluating contraception

have specifically examined the effect of body weight on efficacy.

Pregnancy risk doubled among heavier patients on OCs

Some studies have shown a possible association between obesity and higher rates of pregnancy among women using oral contraceptives for birth control.

One retrospective cohort analysis found that women weighing >70.5 kg had an increased risk of pregnancy compared

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Obese women using OCs and the contraceptive patch have an increased risk of pregnancy

with women of lower weight (relative risk [RR]=1.6; 95% confidence interval [CI], 1.1–2.4), after controlling for parity.¹ Pill compliance was not accounted for in this study. A follow-up case-control study demonstrated that the risk of pregnancy for consistent pill users doubled for women with a BMI >27.3 (odds ratio [OR]=2.17; 95% CI, 1.38–3.41); results were similar for those with a BMI >32.2 (OR=2.2; 95% CI, 1.18–4.20).²

Another large cohort study did not find any association between failure of the oral contraceptive pill or progestin-only pill and obesity; however, the total number of pregnancies among obese women was too small to achieve statistical significance.³ In a randomized trial studying the efficacy of an extended-cycle oral contraceptive (Seasonale), no woman weighing >90 kg became pregnant.⁴

When it comes to the combination contraceptive patch, the data show a significant association between baseline body weight and pregnancy. In an analysis of pooled data, 5 of 15 pregnancies occurred in a subgroup of women with a baseline body weight ≥ 90 kg. Less than 3% of the study population weighed more than 90 kg. Specific data for this subgroup were not presented in the study results, so measures of effect cannot be calculated. The mechanism of the decreased efficacy of the combined contraceptive patch for obese women is unclear.⁵

DMPA and vaginal ring may be a better option for obese women

Data suggest that increased body weight does not decrease the efficacy of DMPA. In 2 large open-label studies, no pregnancies were observed, regardless of BMI.⁶ Similarly, the efficacy of the contraceptive vaginal ring does not appear to be affected by body weight, but the mean BMI in intent-to-treat population studies was only 22.9 ± 2.9 .⁷

A secondary analysis of the contraceptive vaginal ring efficacy trials

did not show an increased pregnancy rate among heavier women.⁸ Of note: A higher body weight appeared to be associated with increased likelihood of ovulation using the contraceptive vaginal ring, though it did not lead to any pregnancies in a multicenter study.⁹

The data on the levonorgestrel intrauterine system do not examine weight and efficacy.¹⁰

Recommendations from others

The World Health Organization generally recommends hormonal contraceptives as safe for obese women. The group acknowledges that data are limited regarding effectiveness of oral contraceptives, and efficacy may be lower for the combination contraceptive patch when used by obese women.¹¹

The American College of Obstetrics and Gynecology (ACOG) suggests that despite the possibility of higher failure rates with oral and transdermal contraception, motivated obese women should still be encouraged to use these methods preferentially over known less effective methods.¹² In addition, ACOG also notes that no higher rates of pregnancy are observed among overweight women using DMPA. ■

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