

## FAMILY PLANNING SERVICES FOR OBESE WOMEN

Unplanned pregnancy and obesity constitute overlapping epidemics in the United States (U.S.). About half of all pregnancies are unplanned and nearly a third of all Americans are obese.<sup>1</sup> As obesity becomes more prevalent in the U.S., questions arise regarding the unique reproductive health needs of obese women.

### KEY POINTS

- **Pregnancy and childbirth among obese women are far more dangerous than are either contraception or sterilization.**
- **Overweight and obese oral contraception (OC) users appear to be at a similar or slightly higher risk of pregnancy as compared to normal body mass index (BMI) women. At most, obesity increases the failure rate by two to four pregnancies per 100 woman-years of OC use. Even with this effect, OCs remain in the “middle tier” of contraceptive efficacy.\***
- **Obesity is linked with a slightly higher failure rate among users of the transdermal contraceptive patch, especially those who weigh 90 kg (198 pounds) or more; however, this does not change “middle tier” efficacy ranking of this method.**
- **OCs have multiple benefits in obese women with polycystic ovary syndrome (PCOS), including contraception, cycle control (and prevention of anovulatory dysfunctional bleeding episodes), prevention of endometrial hyperplasia and endometrial cancer, and treatment of hirsutism.**

### QUESTIONS AND ANSWERS

#### How is obesity defined?

Obesity is defined as a body mass index (BMI) greater than 30 kg/m.<sup>2</sup> More adult women are obese (33 percent) than men (28 percent), and higher rates in African-American women (49 percent) compared with Hispanic women (38 percent) and non-Hispanic White women (31 percent).

#### What are the reproductive risks associated with obesity?

Obese women have an increased risk of spontaneous abortion, fetal neural tube defects and cardiovascular anomalies (and lower detection rates of fetal anomalies on ultrasound), gestational hypertension and preeclampsia, gestational diabetes and fetal macrosomia, and an increased risk of cesarean delivery when compared with a BMI of less than 30. Obese women also are at greater risk for complications from cesarean, including hemorrhage, wound infection, endometritis, and anesthesia problems.

#### What are the major concerns regarding OC use in obese women?

- Because there are few good quality studies that evaluate OC failure relative to body weight, there is not a consensus opinion regarding OC efficacy in obese women. In a large prospective European study of over 59,000 women published in 2009,<sup>2</sup> BMI and weight had little or no impact on the effectiveness of OCs. A literature review by Trussel<sup>3</sup> concluded that there is “no convincing evidence that very heavy or obese women have a higher risk of OC failure during perfect use than thinner women, even with the lowest dose formulations.” However, Grimes<sup>1</sup> states that, “OCs may be less effective in heavy women, with an extra two to four pregnancies per 100 woman-years of OC use, depending on the baseline rate of unplanned pregnancy among pill users. Despite this effect, the effectiveness of OCs in clinical use remains high.”
- Obesity is an independent risk factor for venous thromboembolism and OC users with a BMI  $\geq 35$  have an increased risk of venous thromboembolism compared with OC users of normal weight. Because of this concern, OC use by obese women is designated as a World Health Organization Medical Eligibility Criteria (WHO-MEC) “Category 2” rating.
- OCs do not cause significant weight gain beyond that expected in women who do not use hormonal methods of contraception

#### Is the higher failure rate of the contraceptive patch in obese women clinically significant?

In pooled clinical trials involving 3,319 women using the patch, there were 0.8 failures per 100 couples per year.<sup>4</sup> However, of the 15 failures, one-third occurred in women weighing 90 kg or more. Consequently, in Food and Drug Administration patient package labeling, weight  $\geq 90$  kg is listed as a *precaution*, but not as a contraindication. Because of this concern, both the patch and ring have a WHO-MEC “Category 2” rating for use in obese women. Obese women should be counseled regarding this observation but reminded that the patch is still quite effective when used correctly and consistently.

#### What is the relationship between Depo-Provera® (DMPA) use and obesity?

- A 2009 review by Curtis<sup>5</sup> concluded that overweight or obese adolescent DMPA users gain more weight than normal weight DMPA users, although this effect was not seen in adults. A study by Le, et.al.,<sup>6</sup> showed that DMPA users who experience a five percent or greater increase in body weight increase within six months of DMPA initiation are most likely to gain excessive weight. They conclude that such women should be counseled regarding weight control or offered another method.
- There is no relationship between body weight and DMPA failure. In addition, DMPA reduces uterine bleeding in obese women and protects the endometrium against hyperplasia.
- DMPA has a WHO-MEC “Category 1” rating for use in obese women.

*\*The top tier of contraceptive effectiveness includes sterilization, intrauterine contraceptives (IUCs), Depo-Provera® (DMPA), and implants, while the bottom tier is comprised of barrier methods, fertility awareness methods, and withdrawal. The “middle tier” includes OCs, Patch, and Ring.*

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### Will contraceptive implant (Implanon<sup>®</sup>) users gain weight?

- A comparative study found a mean increase in weight similar to that seen with non-hormonal IUCs. Clients should be advised that Implanon<sup>®</sup> use typically has a minimal impact on weight gain but that weight gain may occur for other reasons.
- There are no studies of Implanon<sup>®</sup> failure rates in relation to body weight, but two studies have shown that serum levels of etonogestrel remain above the ovulatory threshold across the range of body weights, including women weighing  $\geq 90$  kg.
- Implanon has a WHO-MEC "Category 1" rating for use in obese women.

### Are intrauterine contraceptives (IUCs) a better choice for obese women?

- IUCs are a good contraceptive choice for obese women given their high efficacy irrespective of weight and the ability of the levonorgestrel intrauterine system (Mirena<sup>®</sup>) to prevent endometrial hyperplasia in obese anovulatory women.
- IUC insertion can be a challenge in obese women, since determining the size and direction of the uterus can be difficult and visualization of the cervix may be a challenge without special equipment. Use of a large speculum or placing a condom with the tip removed over the speculum blades provides better exposure.
- Both IUCs have a WHO-MEC "Category 1" rating for use in obese women.

### What about contraceptive sterilization for obese women?

- The Centers for Disease Control and Prevention (CDC) Collaborative Review of Sterilization (CREST) study showed that among 9,475 women who had interval sterilization by laparoscopy, obesity significantly increased the risk of surgical complications (relative risk 1.7; 95 percent CI 1.2–2.6). Other large cohort studies conducted by Family Health International linked obesity with operative difficulties, technical failures in occluding the tubes, longer operating times, and prolonged hospital stays.
- Because general anesthesia and abdominal entry are not necessary, hysteroscopic sterilization may be associated with fewer complications in obese women than with laparoscopy.
- Vasectomy for the partner of an obese woman is often the best option when permanent contraception is desired.

### Why are OCs often given as medical therapy to obese women with PCOS?

- Owing to a "first-pass" effect in the liver, OCs increase sex hormone binding globulin (SHBG) and decrease free testosterone. As a result, the hirsutism and acne often present in women with PCOS is effectively treated.
- Menstrual cycle control observed with the use of hormonal contraceptive methods can prevent the recurrent anovulatory dysfunctional bleeding episodes that commonly occur in women with PCOS.
- Premenopausal women with anovulation are at increased risk of endometrial hyperplasia and cancer. The progestin in combined hormonal contraceptives (and progestin-only methods) provides "opposition" to chronic estrogen exposure.
- Even though most women with PCOS are oligo-ovulatory, the timing of ovulation is difficult to predict and consequent pregnancy is a risk. It is important to offer effective contraception to obese women with PCOS so that measures to promote weight loss can be implemented before attempting pregnancy, and blood glucose can be normalized in women with PCOS and type 2 diabetes.

### What advice about weight loss should be given to obese clients?

Since the provision of detailed weight control advice and management is beyond the scope of practice for many reproductive health providers, referral to a primary care provider for medical evaluation and weight loss services should be made available to Family PACT clients. However, the following counseling points are based upon recently published studies and guidelines.

- In a randomized comparison of various diets (Atkins<sup>™</sup>, Ornish, Zone<sup>®</sup>, etc.), weight loss was associated with adherence to the diet but not diet type. All diets work about equally well, but only if followed over the long term.
- Rapid weight loss or "yo-yo" dieting is ineffective for long term weight control.
- Successful weight loss maintenance is associated with high levels of physical activity, a diet low in fat and high in carbohydrate, and regular self-monitoring of weight.
- No matter which diet a person chooses, regular exercise is essential for successful weight loss (and cardiovascular health).
- Behavioral strategies (Weight Watchers<sup>®</sup>, etc.) for weight loss are more effective than placebo but work even better when pairing diet with exercise.
- National Institutes of Health (NIH) guidelines for the use of prescription weight loss drugs (such as orlistat) include:
  - BMI  $>30$  kg/m<sup>2</sup> or 27 kg/m<sup>2</sup> with a co-morbid medical condition
  - The client is motivated to begin structured exercise and low calorie diet
  - The medication is started at the completion of one month of successful diet and exercise
  - It is continued only if additional weight loss achieved in the first month of using medications
- Bariatric surgery is reasonably safe and should be considered by all patients with BMI over 40 kg/m<sup>2</sup> or BMI  $>35$  kg/m<sup>2</sup> with other medical co-morbid conditions.

## REFERENCES

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