Reproduction and Obesity: Best practices for family planning

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Disclosures
- Faculty trainer
  - Merck (Nexplanon)
- Research funding
  - Medicines 360 (Lng IUD)
- Springer
  - Contraceptive text

US Unintended pregnancies: 3 million/yr

- 29% Unintended Despite method use
- 51% Intended
- 20% Unintended No method used

OBJECTIVES
Identify:
- Adverse reproductive effects related to obesity
- Effectiveness and safety of contraception
- Strategies for counseling
RISK OF PREGNANCY

- Weight extremes affect fertility
- Majority of obese women still ovulate
- No difference in sexual behavior
- Obese women less likely to use contraception
- “Thinner” adolescent girls have more opportunities to date
- Obese teens more likely to have body image dissatisfaction, lower self esteem

Comparing typical effectiveness of contraceptive methods

<table>
<thead>
<tr>
<th>More effective</th>
<th>Less than 1 pregnancy per 100 woman years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implant</td>
<td>Injectable</td>
</tr>
<tr>
<td>Nexplanon</td>
<td>Sterilization</td>
</tr>
<tr>
<td>Depo-Provera</td>
<td>Copper IUD</td>
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<tr>
<td>LARCON IUD</td>
<td>Diaphragm</td>
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<tr>
<td>LNG E2 Patch</td>
<td>Sponge</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>Copper-tyring catheter</td>
</tr>
<tr>
<td>LNG-3.75 E2 vaginal ring</td>
<td>Cervical cap</td>
</tr>
</tbody>
</table>

- Certainty: Get repeat injections every 3 months
- Last for 6 months: Breastfeed, 관한, implant, implant, implant, implant, implant, implant, implant
- Take 1 pill each day
- Fem-Cap worn in place, change on time

Condoms, epididymal, vaginal:
- Use another method if you have sex
- Newest methods:

Locally-acting methods

Contraceptive effectiveness

ETONOGESTREL IMPLANT

Source: WHO 2007, adapted with permission
Randomized: 150 mg IM vs. 104 mg SC
26/63 patients = obese or overweight
No failures

Segall–Gutierrez et al 2010:
- 10 morbidly obese women
- 104 mg SC DMPA
- No ovulations after the first week

Audet et al 2001
- Randomized patch vs pills
- 811 Patch users
- 2 failures in women ≥ 80 kg

Zieman et al 2001
- Pooled existing Patch failures
- 5 failures occurred in women ≥ 90kg
- 10 failures occurred in women < 90kg


Transdermal patch

Dieben et al 2002
- Prospective cohort study
- BMI > 29 kg/m² = 20/2322
- Total 21 pregnancies occurred overall
- Secondary analysis of phase 3 studies
  - Only 74 women with weight > 169 lbs
- Dragoman 2012 abstract
  - No ovulation for 42 days in normal or obese women

Source: Office on Women’s Health. Dr. Vivier, 2011

OCP failure by BMI

Adjusted HR 1.5 (95% CI 1.3, 1.8) for contraceptive failure in women with a BMI of 35 or greater compared to a BMI of less than 35


Transvaginal ring

Source: Office on Women’s Health. Dr. Vivier, 2011

Depot Medroxyprogesterone acetate

Jain et al 2004:
- Randomized: 150 mg IM vs. 104 mg SC
- 26/63 patients = obese or overweight
- No failures


Teenage pregnancy

811 Patch users
TAKE HOME MESSAGE

- The use of contraception prevents more pregnancies than the use of no contraception

U.S. MEC Recommendations

U.S. MEC CATEGORIES FOR CONTRACEPTIVE USE

1 = No restriction for use
2 = Advantages usually outweigh theoretical or proven risks of use
3 = Theoretical or proven risks usually outweigh advantages of use
4 = Unacceptable health risk if used

Contraceptive safety
Obesity

- Sixty-six percent of US adults are overweight or obese
- Obesity doubles the risk of venous thromboembolism
- Increases risk of hypertension, diabetes, hypercholesterolemia
- Obese women are at risk for pregnancy-related complications, birth defects

US Medical Eligibility Criteria (MEC) 2010

Conditions associated with increased risk as a result of unintended pregnancy include:

- Bariatric surgery within the past 2 years

Contraception after bariatric surgery: Why?

- With decreasing weight and accompanying metabolic changes, menstrual cycles may normalize and fertility improve
- Guidelines are to delay pregnancy for 2 years after surgery
- Postoperative complications, metabolic changes
- *Many surgical patients are women of reproductive age*

MEC FOR OBESITY (BMI ≥ 30)

<table>
<thead>
<tr>
<th>Type</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined pill, patch, ring</td>
<td>2</td>
</tr>
<tr>
<td>Progestin only pills</td>
<td>1</td>
</tr>
<tr>
<td>DMPA</td>
<td>1</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>1</td>
</tr>
<tr>
<td>LNG IUD</td>
<td>1</td>
</tr>
<tr>
<td>Progestin Implant</td>
<td>1</td>
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</tbody>
</table>

Restrictive vs. Malabsorptive
The use of contraception is generally safer than unintended pregnancy.
Improving on BMI

- Waist-to-Hip Ratio
  - >0.81
- Waist Circumference
  - >35 inches
References

- Centers for Disease Control and Prevention, U.S. Medical Eligibility Criteria for Contraceptive Use, MMWR, 2010.