Contraception for Teens

Ann Laros, MD
April 16, 2015
Family Practice Refresher
Disclosures

- No financial disclosures
- Trained trainer for Merck implants

- I may use brand names to facilitate communication, I have no preference for a brand or company
  - Ex: Mirena, in place of 52 mg levonorgestrel intrauterine system

- Carl Djerassi 1923-2015
Contraception for Teens

1. Problem

2. Solution
   - Educating teens, parents, pharmacists, providers
   - Finding moments (Px, UTI, STI, vaginitis, preg sib)
   - Removing barriers
   - Engaging young men and women

3. Contraception
   - New recommendations by the AAP around LARC (implant, IUD, Depo, pill)
HALF OF ALL PREGNANCIES ARE UNPLANNED

AMONG UNMARRIED YOUNG WOMEN (AGE 20–29), NEARLY 70% OF ALL PREGNANCIES ARE UNPLANNED—

THAT IS, A PREGNANCY THAT THE WOMAN HERSELF SAID SHE WAS NOT INTENDING
Daughters of teen mothers are 3x more likely to become teen mothers themselves compared to mothers who had a child at age 20-21.

Just 38% of teen girls who have a child before age 18 get a high school diploma.
US Teen Birth rates, 1991-2012

Birth Rates (Live Births) per 1,000 Females Aged 15-19 Years, by Race and Hispanic Ethnicity, Select Years

- All
- Non-Hispanic White
- Non-Hispanic Black
- American Indian/Alaska Native
- Asian/Pacific Islander
- Hispanic

- Implanon and Paragard >15
- ACA Contraception
- Depo
Iowa Teen pregnancy rate, #10

Iowa Data

- 17: Rank, teen birth rate
- 10: Rank, teen pregnancy rate
- N/A: Rank, unplanned Pregnancy rate

TEEN BIRTHS IN IOWA, GIRLS 15 – 19

2013: 2,289
2010: $85 million spent on teen childbirth

TEEN BIRTH RATE
2013: 22.1 births per 1,000 girls

-8% change in teen birth rate from 2012
-48% change in teen birth rate from peak year 1991
Avoid the stork

- Iowa Initiative to Reduce Unintended Pregnancies
- 2007-2012
- Free LARC contraception

- Plus more
LARC up; Abortion down

2005-2012 --<1% to 15%

2005-12 Abortions 5198 to 3887
8.7/1000 to 6.7
Improving access to contraception

- Educating providers, pharmacists
- Educating patients (male and female)
  - PX (Sexual health discussed 65%; Avg of 35 secs)
  - UTI, STI, vaginitis
  - Abdominal/genital pain
  - Acne, sports injury, headache
- Removing barriers
  - Sign in office about rights of teens to seek contraception or STI testing without parental notification
  - Signs for local resources, Planned Parenthood or Family Planning clinic
Better apps and links

- bedsider.org
- http://bedsider.org/methods
Contraceptive effectiveness

- **Most effective**
  - **Implant**
    - Effective for 5 years; contains hormones
  - **IUD**
    - Several types available; lasts for years
  - **Sterilization**
    - Permanent method

- **Less than 1 pregnancy per 100 women**
  - **Injection**
    - Must be given once every 3 months; contains hormones
  - **Pill**
    - Contains hormones; many types available
  - **Patch**
    - Contains hormones
  - **Vaginal ring**
    - Contains hormones

- **6-9 pregnancies per 300 women**
  - **Male condom**
    - Also protects against HIV
  - **Cervical cap**
    - Less effective in women who have given birth
  - **Sponge**
    - Less effective in women who have given birth
  - **Diaphragm**
    - Must be refitted after childbirth

- **12-24 pregnancies per 100 women**
  - **Spermicide**
    - May increase the risk of getting HIV in some people

- **28 pregnancies per 100 women**
  - **Female condom**
    - Also protects against HIV
Contraception for Teens

- How and when can we recommend long term contraception methods for teens?
- When placing an IUD in a teen, what are your tricks?
- Is misoprostol effective in decreasing pain and increasing ease of insertion for an IUD?
- How do you deal with spotting on contraception?
AAP: Implants, IUDs Best for Teen Birth Control

— Pediatricians declare IUDs and progestin implants as birth control methods of choice for teens.
LARC
Long Acting Reversible Contraception

- Implant
  - Nexplanon
- IUD
  - Copper
  - Paragard
- Levonorgestrel
  - Mirena 52 mcg
  - Skyla 13.5 mcg
Contraceptive implant

- 4 cm rod etonogestrel
- 3 years
- Easy to place and remove (generally)
- Patient satisfaction >85% >1 year

- Almost no contraindications
- Efficacy decreased
  - HIV meds
  - Seizure meds
  - Rifampin
  - St John’s wort
Implant counseling

- Counseling about insertion and side effects
  - Avg pain w/ insertion—None(except 5s with lidocaine)
  - Big painless bruise
  - Most common side effect is irregular or absent bleeding
    - May be every day for the first 1-2 months, lighter than a period and never heavy. This does not mean it isn’t working
    - This gets better with time
    - It is also OK if you don’t have any bleeding or spotting after placement or after awhile
Implant

- Side effects leading to removal
  - Irregular bleeding 11.0%
  - Mood changes 2.3%
  - Weight gain 2.3%
  - Headache 1.6%
  - Acne 1.0%
Bleeding patterns w implant
IUDs are safe for Nulliparas

- **Evidence**
  - Have to read the chapter in Medical School again
  - FDA approved Paragard for women 16 and up in 2006
  - Cochrane data base recommended against pre-insertion dose of antibiotics. Risk of infection 1/20,000
  - Lots more studies in higher risk populations
  - ACOG, AAFP, AAP say so
IUD comparison

- **Paragard** (copper) IUD
  - FDA 1988; 2006 approved for 16 and up
  - Approved for 10 years (studies support up to 12 years)
  - Associated with increased flow and cramps in 30%
  - Size 32 x 36 mm

- **Mirena** (levonorgestrel 52 mg) IUS
  - FDA 2000; 2009 approved for heavy bleeding
  - Approved for 5 years (studies suggest up to 7 years)
  - Releases 20 mcg down to 14 mcg/day after 5 years
  - Size 32 x 32 mm

- **Skyla** (levonorgestrel 13.5 mg) IUS
  - FDA 2013 for all women (556 nulligravids)
  - Approved for 3 years
  - Releases 14 mcg down to 5 mcg/day after 3 years
  - After 1 year, 5% amenorrhea (Mirena 20%)
  - Size 28 x 30 mm
Levonorgestrel IUS

13.5 mg (Skyla)
- 0.4% failure rate/1 year
- 4.56% expulsions
- 21.9% discontinued; 3 yrs
- 6% amenorrhea @ 1 yr*
- Approved for 3 years
- ObGyn 2013, 122(6) 1205

52 mg (Mirena)
- 0.2% failure rate/1 year
- 2.9-5.8% expulsions
- 20% discontinued; 5 yrs
- 20% amenorrhea @ 1yr*
- Approved for 5 years (7 yrs)
Counseling for IUD insertion

- Counseling about insertion and side effects
  - Average pain with insertion in studies 4-6/10
  - Cramping pain
  - Worst with sounding/measuring
  - Milder cramping last 1-2 days, up to 2 weeks
    - Often needs no treatment or responds to ibuprofen
  - Most common side effect is irregular spotting
    - May be every day for the first month, lighter than a period and never heavy
    - This gets better with time
Steps for IUD insertion

- Counseling about insertion, side effects
- Urine pregnancy test, Chlamydia testing
- Premedicate??
- Bimanual, confirm uterine position
- Sterile speculum, prepare vagina
- Tenaculum placement (anterior/posterior)
- Sounding (6-10 cm), position and depth
- Set IUD
- Insert IUD
- Recovery, 10-15 min. Watch for vagal symptoms, pressures
Pain with IUD insertion

- Providers *under* estimate patients pain
  - Provider $35.3/100$; patient $64.8/100$

- Patients *over* estimate pain
  - Nulliparous  Expected 7; reported 6
  - Parous  Expected 6; reported 3

- Open Access Contraception 2015:6 21-26
Premedication summary

- Not effective
  - Ibuprofen 400-800mg
  - Misoprostol 40 mcg buccally
  - Lidocaine gel
  - Lidocaine instilled

- Maybe effective
  - Lidocaine paracervical block

- Pending
  - Nitroprusside
# Ibuprofen for IUD insertion

<table>
<thead>
<tr>
<th>Pain /10</th>
<th>Ibuprofen (mg)</th>
<th>Placebo</th>
<th>Stats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hubacher 2006 (n=2019)</td>
<td>1.8 (400)</td>
<td>2.0</td>
<td>NS</td>
</tr>
<tr>
<td>Bednarek 2014 (n =202)</td>
<td>3.8 (800)</td>
<td>4.2</td>
<td>NS</td>
</tr>
<tr>
<td>Chor 2012(n=87)</td>
<td>3.7 (800)</td>
<td>3.3</td>
<td>NS</td>
</tr>
</tbody>
</table>

Only 151 nulliparous
# Misoprostol for IUD insertion

<table>
<thead>
<tr>
<th>Study</th>
<th>Misoprostol (n)</th>
<th>Placebo (n)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edelman 2011</td>
<td>6.5</td>
<td>5.5</td>
<td>P=.83</td>
</tr>
<tr>
<td>(n=35)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lathrop 2013</td>
<td>4.6</td>
<td>3.4</td>
<td>P=0.044 **</td>
</tr>
<tr>
<td>(n=73)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Espey 2014</td>
<td>5.8</td>
<td>5.9</td>
<td>P=0.94</td>
</tr>
<tr>
<td>(n=82)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nulliparous; 400mcg buccal misoprostol
Paracervical block for IUD insertion

<table>
<thead>
<tr>
<th>PCB block</th>
<th>Placebo</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mody 2012 (n=50)</td>
<td>2.4</td>
<td>6.2</td>
</tr>
</tbody>
</table>

10cc 1% lidocaine, 3 minute; 17 nulliparous
What do I do?

- Counsel extensively in advance about average pain score (2-3/10)
- Ibuprofen 600 mg at least 30 min in advance
- 20 cc 1% Lidocaine paracervical block
  - Cough for initial injection
  - Tenaculum, soundlessly
Nuisance bleeding

- One year continued use rates
  - Depo 70%
  - Implant 85%
  - IUD 90%
  - (Pill 30%)

- Most common reason for stopping-- BLEEDING
Nuisance bleeding

- Etiology unclear
  - Increase in matrix metalloproteinases (MMP)
  - Increase in vascular fragility
  - Increase in plasma cells
- Progestin thins and dries the lining of the uterus
- The bleeding is like chapped skin
What works?

- Not much
- Three different options in the literature
  - Doxycycline 100 mg bid for 5 days
  - Naproxen 500 mg bid for 5 days
  - Estrogen

- Tincture of time
What do I do?

- Work in progress
- Estrogen
  - 3 months of pill including placebos
  - well covered by insurance
  - well tolerated by patients
  - if they miss a pill, they don’t get pregnant
  - helps with acne
Resources

- **Books**
  - Contraceptive technology, 21st edition

- **Web sites**
  - managingcontraception.com
  - arhp.org
  - acog.org/Patients/Especially-for-Teens
  - bedsider.org
Implant hormone levels over time