Updates on Contraception in Adolescents: Findings From the CHOICE Project

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  - Society of Family Planning
  - NIH
    - T32, ULI, LRP

Objectives

- Review of Contraceptive Methods
- Describe The Contraceptive CHOICE Project
- Updates on Adolescent CHOICE
- Where do we go from here?
Unintended Pregnancy in U.S.

- Overall 3 million unintended pregnancies
  - 59% mistimed; 39% unwanted
- 614,410 pregnancies in teens 15-19 years
  - 367,678 births & 157,450 abortions
  - 82% unintended
- Contraception
  - 52% non-use
  - 43% incorrect use

Finer Am J Public Health 2014; Hamilton NCHS 2012; East Guttmacher Institute 2014

Long-acting Reversible Contraception (LARC)

- LNG-IUS
  - 99% effective
  - 20 mcg levonorgestrel/day
  - Up to 5 years
- Copper T IUD
  - 99% effective
  - Copper ions
  - Up to 10 years
- Subdermal Implant
  - 99% effective
  - 60 mcg etonogestrel/day
  - Up to 3 years

IUD Use in the US: 1965–2008
Recent LARC Use By Age

The Contraceptive CHOICE Project

The CHOICE Project: Objectives

- Increase uptake of LARC
- Measure choice, satisfaction, side-effects and continuation across all reversible contraceptive methods
- Provide enough no-cost contraception to make a population impact on unintended pregnancies
  - Teen pregnancy
  - Repeat abortion
The CHOICE Project: Inclusion Criteria

- Study participants 14-45 years
- Residents of Saint Louis City or County
- Sexually active with male partner or plans to become sexually active in the next 6 months
- No desire for pregnancy during next 12 months
  - Desire for reversible contraception
- Willing to start a new contraceptive method
- Parental consent for ages 14-17 years unless waived

Contraceptive CHOICE Project: Study Details

Contraceptive Counseling

- Standardized script read to all participants regardless of age
  - Included commonly used reversible methods
    - All women heard about all methods
  - Tiered counseling = start with most effective methods first
  - Evidence-based using CDC medical eligibility criteria
  - Provided by trained non-clinicians
  - Additional teaching aids used
Baseline Characteristics

**Age**
- 14-17
- 18-20
- 21-25
- 26-35
- 35-45

**Race**
- Black
- White
- Other

**Education**
- High School or Less
- Some College
- College Degree

**Insurance Status**
- Public
- Private
- None

**Low SES**
- Receive public assistance
- Trouble paying for basic expenses

**Parity**

<table>
<thead>
<tr>
<th>Parity</th>
<th>14-17 Years of Age (N=484)</th>
<th>18-19 Years of Age (N=920)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>397 (82)</td>
<td>662 (72)</td>
</tr>
<tr>
<td>1</td>
<td>79 (16.3)</td>
<td>210 (22.8)</td>
</tr>
<tr>
<td>≥2</td>
<td>8 (1.7)</td>
<td>48 (5.2)</td>
</tr>
<tr>
<td>Prior unintended pregnancy</td>
<td>Yes (45.2)</td>
<td>452 (49.2)</td>
</tr>
<tr>
<td>History of abortion</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>70 (14.5)</td>
<td>189 (20.5)</td>
</tr>
</tbody>
</table>
### Baseline Method Chosen

<table>
<thead>
<tr>
<th>Method</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>46.0</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>11.9</td>
</tr>
<tr>
<td>Implant</td>
<td>16.9</td>
</tr>
<tr>
<td>DMPA</td>
<td>6.9</td>
</tr>
<tr>
<td>Pills</td>
<td>9.4</td>
</tr>
<tr>
<td>Ring</td>
<td>7.0</td>
</tr>
<tr>
<td>Patch</td>
<td>1.8</td>
</tr>
<tr>
<td>Other</td>
<td>&lt;1.0</td>
</tr>
</tbody>
</table>

75%

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### Baseline Method Chosen: Adolescents

<table>
<thead>
<tr>
<th>Method</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>32.0</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>5.0</td>
</tr>
<tr>
<td>Implant</td>
<td>34.0</td>
</tr>
<tr>
<td>DMPA</td>
<td>9.0</td>
</tr>
<tr>
<td>Pills</td>
<td>13.0</td>
</tr>
<tr>
<td>Ring</td>
<td>2.0</td>
</tr>
<tr>
<td>Other</td>
<td>5.0</td>
</tr>
</tbody>
</table>

71%

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### Adolescent Choice of LARC Methods

Updated data from Merital Contraception 2011, unpublished data
12 & 24 Month Continuation: Overall Cohort

<table>
<thead>
<tr>
<th>Method</th>
<th>12-Month (%)</th>
<th>24-Month (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>87.5</td>
<td>78.9</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>84.1</td>
<td>77.3</td>
</tr>
<tr>
<td>Implant</td>
<td>83.3</td>
<td>68.5</td>
</tr>
<tr>
<td>Any LARC</td>
<td>86.2</td>
<td>76.6</td>
</tr>
<tr>
<td>DMPA</td>
<td>56.2</td>
<td>38.0</td>
</tr>
<tr>
<td>OCPs</td>
<td>55.0</td>
<td>43.5</td>
</tr>
<tr>
<td>Ring</td>
<td>54.2</td>
<td>41.1</td>
</tr>
<tr>
<td>Patch</td>
<td>49.5</td>
<td>39.9</td>
</tr>
<tr>
<td>Non-LARC</td>
<td>54.7</td>
<td>40.9</td>
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</table>

12 & 24 Month Continuation Rates

<table>
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<tr>
<th>Method</th>
<th>12-Month (%)</th>
<th>24-Month (%)</th>
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</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>83.1</td>
<td>77%</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>80.2</td>
<td>72%</td>
</tr>
<tr>
<td>Implant</td>
<td>77.0</td>
<td>74%</td>
</tr>
<tr>
<td>Any LARC</td>
<td>81.2</td>
<td>75%</td>
</tr>
<tr>
<td>DMPA</td>
<td>50.1</td>
<td>43%</td>
</tr>
<tr>
<td>Pills</td>
<td>49.3</td>
<td>46%</td>
</tr>
<tr>
<td>Ring</td>
<td>49.7</td>
<td>31%</td>
</tr>
<tr>
<td>Patch</td>
<td>37.2</td>
<td>35%</td>
</tr>
<tr>
<td>Non-LARC</td>
<td>48.8</td>
<td>42%</td>
</tr>
</tbody>
</table>

Satisfaction at 12 Months*

<table>
<thead>
<tr>
<th>Method</th>
<th>Overall (%)</th>
<th>14-19 (%)</th>
<th>20-45 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>83.1</td>
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<td>77.0</td>
<td>74%</td>
<td>78%</td>
</tr>
<tr>
<td>Any LARC</td>
<td>81.2</td>
<td>75%</td>
<td>82%</td>
</tr>
<tr>
<td>DMPA</td>
<td>50.1</td>
<td>43%</td>
<td>52%</td>
</tr>
<tr>
<td>Pills</td>
<td>49.3</td>
<td>46%</td>
<td>50%</td>
</tr>
<tr>
<td>Ring</td>
<td>49.7</td>
<td>31%</td>
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<td>Non-LARC</td>
<td>48.8</td>
<td>42%</td>
<td>50%</td>
</tr>
</tbody>
</table>

*Very or somewhat satisfied
**Unintended Pregnancy by Contraceptive Method**

![Graph showing unintended pregnancy by contraceptive method with LARC, DMPA, and PPR categories.]

HR_adj = 22.3
95% CI 14.0, 35.4

**Method Failure by Age**

![Graph showing method failure by age with LARC, DMPA, and PPR categories.]

**Birth Rate in Adolescents: CHOICE Compared to U.S.**

<table>
<thead>
<tr>
<th></th>
<th>CHOICE Annual Rate</th>
<th>US Annual Rate*</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Rate</td>
<td>6.3</td>
<td>34.1</td>
<td>81%</td>
</tr>
</tbody>
</table>

All rates per 1,000 women 14-19 years

* 2010 data
Repeat Abortion in St. Louis Region

- Data obtained from MO DHHS
  - Representative of women who reside in Missouri at time of abortion
- Repeat abortion measured as ever having a previous abortion
- Data compared to Kansas City and non-metropolitan MO
  - KC: One abortion clinic, Similar demographic characteristics to St. Louis

Repeat Abortion 2006 - 2010

Test of Trend: 2006-2010: STL, p=.002; KC, p=.003; Non-metro MO, p=.18

Teen Outcomes: Choice Compared to U.S.

<table>
<thead>
<tr>
<th>CHOICE Annual Rate 2008-2013*</th>
<th>2008 U.S. Rate*</th>
<th>Reduction (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy among sexually active teens</td>
<td>34.0</td>
<td>158.5</td>
</tr>
<tr>
<td>Abortion</td>
<td>9.7</td>
<td>41.5</td>
</tr>
<tr>
<td>Birth</td>
<td>19.4</td>
<td>94.0</td>
</tr>
</tbody>
</table>

*All rates per 1,000 teens age 15-19 years
Obesity

• Method failure (Pills, patch, ring)
  – N 1523 → 334 unintended pregnancies → 128 failures
  – No increased risk of failure by BMI

• Method Failure (Implant)
  – N 1377 → 1 unintended pregnancy → Failure <1/100 women years
    • 28% overweight, 35% obese
  – No increased risk of failure by BMI

What We Know

• LARC methods are highly effective at preventing pregnancy regardless of age
• Women & adolescents overwhelmingly choose LARC
• Women & adolescents are satisfied with their LARC
• Overweight and obese women are NOT at increased risk of failure by method
• So Now What?

Validity of perceived weight gain

• Avg. weight gain: 10.3lbs (12 months)
  • Sensitivity: 74.6%
  • Specificity: 84.4%

• Weight gain with progestins
  – DMPA: 2.2kg (4.9lb)
  – ENG-implant: 2.1kg (4.6lb)
The Secret: 3 Key Ingredients

- Education regarding all methods, especially LARC
  - Reframe the conversation to start with the most effective methods
- Access to providers who will offer & provide LARC
  - Dispel myths and increase the practice of evidence-based medicine
- Affordable contraception
  - Institute of Medicine recommendation, Affordable Care Act, Medicaid Expansion, local funders

Dissemination Strategies

- Provide technical assistance to end users
  - >100 national & international requests
- Develop short videos
  - Open the Dialogue
  - Pathway to CHOICE
  - What Method is Right for You?
- Create online Resource Center to disseminate CHOICE materials: LARC First

Contraceptive “Menu of Options”
References