Beyond EC: Pericoital Oral Contraception

Elizabeth Raymond, MD, MPH
Family Health International
Ghana 2008

- Some women were using ECPs (and other pills) repeatedly as their main contraceptive method

- They really liked this method!
Advantages over Daily OCs

- Convenient
- Easy to remember
- Fewer doses
- Non-continuous exposure to hormones
- Makes sense for infrequent/irregular sex
EC as Regular/Main Method

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Count</th>
<th>EC Purchasers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>2000</td>
<td>100</td>
<td></td>
<td>97%</td>
</tr>
<tr>
<td>Ghana</td>
<td>2005</td>
<td>225</td>
<td>225 students</td>
<td>9%</td>
</tr>
<tr>
<td>Kenya</td>
<td>2007</td>
<td>182</td>
<td>182 EC purchasers</td>
<td>58%</td>
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<td>Ghana</td>
<td>2008</td>
<td>232</td>
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“For women with infrequent sex, use [of EC] as a primary method ... may actually be a reasonable strategy.”

James Shelton 2002
Postinor

- 0.75 mg levonorgestrel (LNG) tablets marketed for regular postcoital use
- Used in Eastern Europe and Asia
- Evolved into the Plan B / Next Choice regimen
Cochrane Reviews

- Examine the effectiveness of health care interventions
- Standard, systematic procedures for
  - conducting the review
  - combining results of different studies
  - reporting results
- Comprehensive • • •
Our Review

To examine the **efficacy** and **safety** of pericoital use of oral hormones for regular contraception
Selection Criteria for Studies

• Evaluated oral hormone tablets used repeatedly right before or after sex for contraception
• Reported key data:
  – number of pregnancies
  – duration of use
  – regimen and dose of drug
• Any study design
Literature Searches

- MEDLINE
- Cochrane Central Register of Controlled Trials
- POPLINE
- LILACS
- EMBASE
- ClinicalTrials.gov
- ICTRP
- Reference lists of identified studies
Search Results

- 21 studies
  - 1 randomized trial
  - 8 cohort studies
  - 12 prospective case series
- We analyzed each treatment group as a separate case series
  - Total of 45 treatment groups
Quality of Studies

- Most conducted in 1970s and 1980s
- Many were unpublished
- Reporting often incomplete or unclear
- Study procedures fairly loose
- Analysis not always correct
- Several sponsored by drug company
But!

- At least 2/3 of the data in our review came from studies without these problems
# Regimens Studied

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<td>Other hormones</td>
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Studies of LNG 0.75 mg

- 10 studies
- Conducted in Europe, Asia, Cuba
- 2,628 women total
- 13,240 months of use

Average 5 months/woman
Study Inclusion Criteria

- Most studies had no age restriction
- Variable fertility requirements
- Most excluded women with frequent sex
  - During trials, women actually had ~4 acts/month
  
Typical for US!
Instructions for Use

• 7 studies: generally 1 tablet per coital act
  – details often vague
• 2 studies: use only on periovulatory days, and take at least 2 tablets/cycle
• 1 study: 0.5 mg before and 0.25 mg after each sex act
Pearl Index

Units: pregnancies/100 woman years

= number of pregnancies among 100 women observed for 1 year

≈ 1-year life-table pregnancy probability (at low probabilities)
Effectiveness

Pearl Index

Range 10 trials

0-18.6
Effectiveness

Pearl Index

Range 10 trials 0-18.6
Combined 5.1
Effectiveness

Pearl Index

Range 10 trials 0-18.6
Combined 5.1
Combined 3 “better” trials 8.9
LNG Doses Other Than 0.75 mg

- 6 studies, 10 dose groups
- LNG/tablet 0.15 mg – 1 mg
- 5,787 women total
- 52,347 months of use

Pearl indices 0–9 pregnancies per 100 w-y
Correlates of Effectiveness

• No consistent association between effectiveness and:
  – dose per tablet
  – number of doses/cycle
Adverse Effects

• Similar to other hormonal methods
  – primarily menstrual irregularity
• No serious adverse events
• No relationship between side effects and
  – dose/pill
  – frequency of use
Acceptability 😊

- Method well liked by subjects
- Very few women discontinued the method because of side effects
Researchers’ Opinions 😞

- High incidence of bleeding abnormalities
- Lower efficacy than other methods
- High total dose of hormone per cycle
- Lack of protection from STIs
## Comparison to Other Methods

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<td>33.8</td>
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*Interpret with caution!!!*
Comparison to No Method

Risk of pregnancy in 6 months

No method 38%
Periconal LNG 0.75 mg 2.4%

*Interpret with caution!!!*
LNG in Oral Contraceptives

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<th>Oral Contraceptive</th>
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<tr>
<td>Seasonale</td>
<td>5.6</td>
</tr>
<tr>
<td>Lo-Ovral</td>
<td>4.2</td>
</tr>
<tr>
<td>Ovrette</td>
<td>1.4</td>
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Also contain estrogen!
Summary

• LNG for pericoital contraception seemed to be effective, safe, and acceptable
• Results allay any concern about safety of repeated use of EC
• Modern data are needed before widespread promotion
"No offense, Mom, but your ideas about birth control are kind of dated."