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Determinants of Modern Contraceptive Use Among Young Women in Ghana: A Mixed-Methods Study Design

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Determinants of Modern Contraceptive Use Among Young Women in Ghana: A Mixed-Methods Design
The Issue Among Young Women (YW)

- Only 20% of sexually active women aged 15-24 in Ghana used contraception during their last sexual intercourse.\(^1,2\)

- Unintended pregnancy hinders attainment of optimal reproductive health.\(^3\)

- Highly exposed to STIs including HIV.

- Nearly one out of every 10 women in less developed countries hoping to avoid pregnancy got pregnant. Unintended pregnancies occurred in 4 out of 10 pregnancies in less developed countries and contributed to 25% of all births.\(^3\)

- 20% of all pregnancies and almost half of all unintended pregnancies were terminated.\(^3\)
Research Questions

Explanatory sequential mixed-methods \((QUAN \rightarrow qual)\) design

What are the determinants of modern contraceptive use among young women in Ghana?

Sub Questions:
- What contraceptive methods do young women in Ghana know? \((mixed)\)
- What are the types of contraceptives used by young women in Ghana? \((mixed)\)
- What are the reasons for contraception switching and discontinuation among young women in Ghana? \((qual)\)
Ghana Maternal Health Survey  2017

• Nationally representative cross-sectional survey.

• Evaluates the level of mortality related to maternal health and ways to improve maternal health in Ghana.

• Stratified design involving two stages.

• Interviews were conducted from 15th June to 12th October 2017.

• Same sampling frame as Ghana Population and Housing survey.

• The total sample size was 27,000 households for the main survey to identify eligible respondents for subsequent interviews.

• Selected households were approached by field staff to be interviewed in-person.
GMHS Study Design

Sample illustration of stratified design.
[From PHE 624 Lecture notes]
Quantitative Analysis

- Analysis restricted to women (4,267 respondents with no missing data)
  - Aged 15-24 years
  - Sexually active within the last 12 months
  - Currently not pregnant
- Dependent Variable was binary, "Contraceptive Use" (using vs. not using)
- Primary independent variable was "Age"
- Additional explanatory variables:
  - Socio-demographic characteristics, reproductive experience, health system interaction, and access to information
- Pearson’s Chi Square, Simple and Multiple Logistic Regression
Survey Questions from GMHS 2017

• Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Have you ever heard of (METHOD - e.g., sterilization, IUD, condoms, implants, pills, etc.)? [Yes/No]

• Are you or your partner currently doing something or using any method to delay or avoid getting pregnant? [Yes/No]

• Which method are you using? (METHOD - e.g., sterilization, IUD, condoms, implants, pills, etc.)
### Quantitative Findings

#### Socio-Demographic Characteristics of Respondents and Contraceptive Use.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total N=4,267 (%)</th>
<th>&quot;Using&quot;</th>
<th>&quot;Not Using&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD) - 20.6 (± 2.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>1,394 (32.7)</td>
<td>278 (20.0)</td>
<td>1,116 (80.0)</td>
</tr>
<tr>
<td>20-24</td>
<td>2,873 (67.3)</td>
<td>901 (31.4)</td>
<td>1,972 (68.6)</td>
</tr>
<tr>
<td><strong>Place of residence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>2,002 (46.9)</td>
<td>559 (27.9)</td>
<td>1,443 (72.1)</td>
</tr>
<tr>
<td>Rural</td>
<td>2,265 (53.1)</td>
<td>620 (27.3)</td>
<td>1,645 (72.7)</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>517 (12.1)</td>
<td>113 (21.9)</td>
<td>404 (78.1)</td>
</tr>
<tr>
<td>Primary</td>
<td>642 (15.1)</td>
<td>179 (27.9)</td>
<td>463 (72.1)</td>
</tr>
<tr>
<td>JHS</td>
<td>1,728 (40.5)</td>
<td>491 (28.4)</td>
<td>1,237 (71.6)</td>
</tr>
<tr>
<td>Secondary</td>
<td>1,162 (27.2)</td>
<td>324 (27.9)</td>
<td>838 (72.1)</td>
</tr>
<tr>
<td>Higher than SHS</td>
<td>218 (5.1)</td>
<td>72 (33.0)</td>
<td>146 (67.0)</td>
</tr>
<tr>
<td><strong>Ever given birth</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2,164 (50.7)</td>
<td>707 (32.7)</td>
<td>1,457 (67.3)</td>
</tr>
<tr>
<td>No</td>
<td>2,103 (49.3)</td>
<td>472 (22.4)</td>
<td>1,631 (77.6)</td>
</tr>
<tr>
<td><strong>Ever had abortion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>548 (12.8)</td>
<td>233 (42.5)</td>
<td>315 (57.5)</td>
</tr>
<tr>
<td>No</td>
<td>3,719 (87.2)</td>
<td>946 (25.4)</td>
<td>2,773 (74.6)</td>
</tr>
</tbody>
</table>
Respondents’ Knowledge of Contraceptive Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modern Methods</strong></td>
<td></td>
</tr>
<tr>
<td>Male condom</td>
<td>97.4</td>
</tr>
<tr>
<td>Injectables</td>
<td>93.7</td>
</tr>
<tr>
<td>Implants</td>
<td>90.3</td>
</tr>
<tr>
<td>Pills</td>
<td>89.6</td>
</tr>
<tr>
<td>Female condom</td>
<td>85.0</td>
</tr>
<tr>
<td>Female sterilization</td>
<td>74.2</td>
</tr>
<tr>
<td>Emergency contraceptives</td>
<td>67.7</td>
</tr>
<tr>
<td>IUD</td>
<td>49.3</td>
</tr>
<tr>
<td>Lactation amenorrhea method (LAM)</td>
<td>38.6</td>
</tr>
<tr>
<td>Male sterilization</td>
<td>34.7</td>
</tr>
<tr>
<td>Other modern methods</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Traditional Methods</strong></td>
<td></td>
</tr>
<tr>
<td>Withdrawal</td>
<td>81.0</td>
</tr>
<tr>
<td>Rhythm method</td>
<td>80.3</td>
</tr>
<tr>
<td>Other traditional methods</td>
<td>5.04</td>
</tr>
</tbody>
</table>
Major Contraceptives Used by Women Aged 15-24 in Ghana

- Injectable: 26%
- Implants: 19%
- Rhythm method: 14%
- Male condom: 13%
- Pills: 13%
- Emergency contraceptive: 9%
Determinants of Modern Contraceptive Use Among Women Aged 15-24 in Ghana

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Adjusted OR</th>
<th>(95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Categories</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>ref</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24</td>
<td>1.46</td>
<td>1.23 - 1.74</td>
<td>&lt;0.001 ***</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>ref</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>1.35</td>
<td>1.02 - 1.80</td>
<td>0.038 *</td>
</tr>
<tr>
<td>JHS</td>
<td>1.44</td>
<td>1.11 - 1.86</td>
<td>0.006 **</td>
</tr>
<tr>
<td>Secondary/SHS</td>
<td>1.50</td>
<td>1.19 - 2.07</td>
<td>0.001 **</td>
</tr>
<tr>
<td>Higher than SHS</td>
<td>2.14</td>
<td>1.45 - 3.15</td>
<td>&lt;0.001 ***</td>
</tr>
<tr>
<td><strong>Ever Given Birth</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>ref</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.60</td>
<td>1.33 - 1.93</td>
<td>&lt;0.001 ***</td>
</tr>
<tr>
<td><strong>Ever Had an Abortion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>ref</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.92</td>
<td>1.57 - 2.33</td>
<td>&lt;0.001 ***</td>
</tr>
</tbody>
</table>
Quantitative Key Findings

• Injectables were the widely used contraceptives.

• Male condoms were primarily used by women with higher than secondary education.

• Ages 20-24 were more likely to use modern contraceptives compared to ages 15-19.

• Women with an abortion history were twice as likely to use modern contraceptives compared to women with no abortion history.

• Place of residence (rural or urban) was not a statistically significant determinant of modern contraceptives.
Qualitative Design

- Convenient sampling
- Recruit from Greater Accra, Northern, Upper East, and Brong Ahafo regions of Ghana.
  - 8 respondents in each region
  - 32 respondents in total
- Semi-structured in-person interview with open-ended questions.
  - 1 hour interview
  - Interview guide in English, Twi/Bono, Ga/Dangbe, Dagbani, Frafra
- Inclusion criteria:
  - Non-pregnant sexually experienced young women aged 15-24 years.
Qualitative Design

- Recruitment sites and strategies:
  - Senior high schools, universities, healthcare facilities, and family planning services centers
  - Youth events
  - Social media
  - Snowballing

- Analysis:
  - Thematic analysis
  - Collect data and analyze data simultaneously
1. I want us to talk about contraceptives - the various ways or methods a couple can use to delay or avoid a pregnancy. Have you ever heard of ways or methods people can use to prevent pregnancy?
   a. Which methods do you know?
   b. Can you please describe them?
2. Do you know of a place where you can obtain contraceptives? Where is that?
3. Who do you rely on for contraception and reproductive health advice? [E.g., Parents, teachers, peers, family, doctor, advertisement, etc.]
4. Are you or your partner(s) currently doing something or using something to delay or avoid getting pregnant? What do you do or use?
5. Please explain the reason for your choice or partner(s)’s choice.
   a. Please explain why you did not choose the other methods.
6. Which contraceptive method do you or your partner frequently use and rely on most of the time?
   a. Ask for the ONE method frequently used.
7. **Why do you frequently use this** [mention method here] contraceptive method?
   a. Probe for specifics reasons, e.g., easy access to healthcare; strong desire to avoid another abortion; spacing out birth.
8. **Have you or your partner(s) switched or discontinued a particular contraception method?**
   a. Probe: How long ago? Why?
9. **Do you feel your identity, experience, or background influence your decision to use contraceptives?**
   a. Probe for responses relating to respondent’s age, income level, partner status, level of education, place of residence, and religion.
   b. Do these factors affect your decision to use or not use a particular method(s)? How so?
10. **Do your past reproductive experiences influence your use and choice of contraceptive?**
    a. Probe: Do your history of the following influence your use of contraceptive - childbirth, miscarriage.
Ghana Map with New and Old Regions
Why Mixed Method?

• Restricted dataset for the quantitative method.

• Qualitative method will provide further explanation and insights about the findings from the quantitative method.

• **Triangulation** to ensure increased credibility and validity of research findings.

• Ask study respondents more direct questions to help answer the research questions:
  • *What are the determinants of modern contraceptive use among young women in Ghana?*
  • *What contraceptive methods do young women in Ghana know?*
  • *What are the types of contraceptives used by young women in Ghana?*
  • *What are the reasons for contraception switching and discontinuation among young women in Ghana?*
Implications and Recommendation

• This study provides information about contraceptive use among young women in Ghana, which is important for designing intervention programs targeted at improving reproductive health including birth outcomes.

• Some young women in Ghana primarily rely on less safe and less effective contraception despite expanded family planning programs and services.

• This issue calls for more research and intensified education on contraceptive use and expansion of sexual and reproductive health programs for young people.

• Intensifying effective education and counselling on sexual and reproductive health including contraception in school curriculum and during healthcare appointment especially for women.
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References


Images

- Photo by Reproductive Health Supplies Coalition on Unsplash. (2019, December 11). https://unsplash.com/photos/IYR44OXwMA4