A Quantitative Survey on the Knowledge, Attitudes and Practices on Emergency Contraceptive Pills among Adult Female Students of a Tertiary Institution in Kaduna, Nigeria

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Abstract

Emergency contraception is of public health importance for preventing unintended pregnancies.

Objectives: To assess knowledge, attitude and practice of female students towards emergency contraceptive pills.

Methods: Quantitative cross-sectional survey of 220 fulltime female students of the Kaduna polytechnic, over the age of 18 years, by administering adapted questionnaires randomly.

Results: 14.6% of students had ever heard of ECP, most commonly postin or brand (54.8%) and 4.4% were aware of the correct timing of use. Majority (97.7%) had poor knowledge, poor attitude (60%) and low use (15.2%) of ECP. Bivariate analysis showed religion, “ever had sex” and use of regular contraception were associated with awareness of ECP (p<0.05) but not knowledge scores (p>0.05). Age, class level, religion, marital status, ever had sex, ever had an unintended pregnancy and ever had an abortion were associated with attitude to ECP (p<0.05). While marital status, ever had sex, current number of children, desired number of children, regular use of contraception, and ever had an abortion were associated with practice/use of ECP (p<0.05). Logistic regression showed religion to be predictor of knowledge of ECP (p<0.05); “ever had sex” in the past as a predictor of attitude of ECP (p<0.05).

Conclusion: Students had poor knowledge of ECP, poor attitude towards ECP and use of ECP was low. Increased uptake of ECP may be achieved using appropriate reproductive health messages emphasizing its benefits through healthcare professionals, teachers and peer educators.

Keywords: Contraceptive; Annual pregnancies; Progesterone

Introduction

Annually, 210 million women get pregnant, 80 million are unplanned and 46 million get aborted [1,2]. In developing countries, 76 million out of 182 million annual pregnancies are unintended [3], 66% of these among non-users of contraception. Nigeria has a youthful population [4] vulnerable to unintended pregnancies because of an early age of puberty and first intercourse, sexual activity and experimentation, multiple partners, alcohol, socio-economic problems, coercion, easier access to media that glamorizes sex, peer influence with less parental control, and they are less likely to use any form of contraception [5-7].

Unintended pregnancies pose significant public health problems, associated with higher rates of abortion and abortion related complications [1]. Especially in Nigeria where induced abortions are illegal unless medically indicated to save a mother’s life, so are usually covert [1,2,8].

In Nigeria, 50% of women aged 15-49 reported unplanned pregnancies resulting in unsafe abortion in 10% [9]. An estimated 760,000 induced abortions occur annually [10] accounting for 20%-40% of maternal deaths [1,10]. Unintended pregnancies are also associated with smoking, drinking, physical abuse [6], depression [11], school dropout or disruption [12], poor antenatal attendance and obstetric outcomes, low birth weight and developmental deficits [6]. Resentment of the baby may lead to neglect [11,13-17]. Economic costs from disrupted schooling can worsen poverty due to unemployment from low level of skills, and government spends on welfare and skill acquisition programs [12]. Poverty may become a vicious cycle as offspring themselves may have unintended pregnancies, and become victims of physical abuse [13,18].

Levels of unintended pregnancies may reflect a country’s state of women’s reproductive rights [19,20] and worsens global population concerns on strained resources, threatening more environmental degradation and social tensions [6].

According to the WHO [21], emergency contraceptive methods offers women safe means of preventing unwanted pregnancies in event of unprotected sexual intercourse or contraceptive failure, and is a more accurate term than other synonyms. Hormonal methods of EC are mainly pills; estrogen only, combined estrogen-progesterone, progesterone only, Selective Progesterone Receptor Modulators (SPRM) such as Mifepristone (RU486) and Ulipristal Acetate (UPA). Non hormonal methods of EC include intrauterine contraceptive devices [22]. Other research drugs like anodrin, tamoxifen, danazol and misoprostol may offer no real advantage [23].

Materials and Methods

A quantitative cross-sectional survey was done of the knowledge,
Attitude and Practice (KAP) of Emergency Contraceptive Pills (ECP) among selected female students of the Kaduna polytechnic, Nigeria. The Kaduna polytechnic, the largest polytechnic in Africa, South of the Sahara caters for an estimated staff and student population of 50,000. It is situated in North West zone of the country which has the lowest contraceptive rates; 3% as against the national rate of 15% and 32% in the southwest zone [24], and high mortality: estimated as 345 maternal deaths per 100,000 live births [25]. Using a national contraceptive prevalence rate of 15% from the 2008 Nigeria Demographic and Health Survey (NDHS) [24], and 10% attrition rate, the minimum required sample size was determined to be 216 using relevant statistical formulae [26].

Two- hundred and twenty full-time female students, over 18 years of age willingly participated after informed written consent. Male students, female students under 18 years, part time students or those that did not consent were excluded. The sampling frame was the most recent list of students obtained from the statistics department of the polytechnic showing colleges (5), departments (40) and total number of students (13,953) segregated by level of study and sex. Levels of study for regular full-time students available at the polytechnic are national diploma one (ND1), national diploma two (ND2), higher national diploma one (HND1), higher national diploma two (HND2). There were 8,748 male students and 5,205 female students, and 220 adult female students were sampled in a multi-staged process; stratified by college, then departments’ then level (class/year) of study. Simple random sampling was done in each stratum by balloting. The instrument of data collection was a piloted questionnaire adapted from previously validated studies [27-29], eliciting demographic information, and on the need for Emergency Contraception (EC), and KAP of EC.

The study anticipated minimal risks to participants; questionnaires were filled anonymously with no personal identifiers disclosed. Formal ethical approval for the study was obtained from the University of Liverpool and the Kaduna polytechnic. Data was analyzed using SPSS (version 17) computer software. Relevant descriptive and bivariate analysis was done. Levels of p<0.05 was considered statistically significant.

Results

Two- hundred and twenty questionnaires were administered and 200 retrieved, giving a response rate of 90.9%.

General and demographic characteristics of respondents (Table 1)

The mean age of respondents was 23.2 years (SD ± 3.4), with a minimum age of 18 years and maximum, 33 years. Most respondents were within the ages of 21 to 25 years and majority of students were single (151, 77.8%).

Reproductive health characteristics of respondents and need for ECP (Table 2)

Most (84.9%) of the students do not use regular contraception and 12.4% previously had an unintended pregnancy. Commonest reasons for unintended pregnancies were nonuse of contraception (34.9%) and contraceptive failure (34.9%). Similarly, 12.3% previously induced an abortion, with 35.7% of these experiencing various complications, most commonly pain and bleeding.
progesterone brands (13.6%). They were unaware of modern drugs like mifepristone and ulipristal. Most students were unaware if ECP can be gotten without prescription (78.1%). Only 6 students were aware of the correct timing of use of ECP as "within 72 hours" (4.4%). Few students had wrong beliefs about ECP causing abortion (27.9%) or future infertility (37%).

Seventy respondents (54.7%) felt that their partners would disapprove of ECP use and 45.3% felt their partners would approve. Potential barriers by 160 respondents ECP use were intolerable side effects (30%), moral/religious reasons (28.8%), ignorance (19.4%), inadequate fund (6.2%) and others (15.6%). Forty respondents (20%) had good attitude to ECP and 160 (80%) had poor attitude.

Only 27 (15.2%) respondents previously used ECP and 2 (8.2%) used it within "within 72 hours". Others felt it was effective immediately only (37.5%), within 24 hours (50%) and others (4.2%). All 21 respondents that used ECP found it to be effective but 14 (60.9%) experienced side effects such as menstrual abnormalities (50.3%), nausea and vomiting (37.5%), within 24 hours (50%) and others (4.2%). All 21 respondents used ECP within "within 72 hours". Others felt it was effective immediately only (37.5%), within 24 hours (50%) and others (4.2%).

Cross-tabulation

Bivariate analysis showed that religion, students that have "ever had sex", and use of regular contraception were significantly associated with increased awareness of ECP which can be used as a marker for knowledge (P value<0.05), while other factors were not. Muslim students (81.5%) were generally more aware than Christian students (18.5%); students that had sex before (85.2%) were more aware than students who had not (14.8%); and students that did not routinely use contraception (70.4%) were more aware than those using regular contraception (Table 3).

Several factors significantly affected attitude to ECP; age, class level, religion, marital status, ever had sex, ever had an unintended pregnancy and ever had an abortion (P value<0.05). While other factors such as current and desired number of children, and regular use of contraception did not significantly affect attitude to ECP (P value>0.05) (Table 4).

Several factors were significantly associated with the practice use of ECP; marital status, ever had sex, current number of children, desired number of children, regular use of contraception and ever had an abortion (P value<0.05). Other factors such as age, class level, religion, and ever had an unintended pregnancy were not significantly associated with the practice/use of ECP (P value>0.05) (Table 5).

Logistic regression

Logistic regression was used to analyze factors found to be significant on bivariate analysis (cross-tabulation) as predictors of KAP of ECP and these are attached in the appendices. Religion was found to be a predictor of knowledge of ECP using awareness as a marker for knowledge (p=0.010, CI=1.406-11.860). If respondents had ever
had sex in the past was found to be a predictor of attitude to ECP (p value=0.004, CI=0.081-0.611). There were no predictors of use/practice of ECP (P value=>0.05).

**Discussion**

Not surprisingly, respondents were mainly single, sexually active and had sex without regular contraception. Premarital sex is not uncommon in Nigeria, 17.7 years is the median age at sexual debut [24]. Yet only a small number in this study (12.4%) reported unintended pregnancies. Quite unlike in Ilorin, among 600 mainly single sexually active students, 67.8% had unwanted pregnancies [31,40], unaware of modern brands which have longer windows for use and fewer side effects; perhaps because service providers are themselves unaware [44].

As with other studies [29,31,39-43], knowledge was commonly from friends and peers. Information on source of contraceptive supplies assists logistic planning, and the 2008 NDHS reported private chemists as the chief provider of contraceptive methods in Nigeria [24]. Unfortunately no student heard about ECP from official school sources, indicating inadequate reproductive health education. Similarly, Postino/progesterone only ECP was the commonest brand students knew [31,40], unaware of modern brands which have longer windows for use and fewer side effects; perhaps because service providers are themselves unaware [44].

Few knew the correct timing for effective use of ECP, similar to other studies [30,31]. Some studies present slightly higher levels of knowledge regarding correct timing of use [29,39,41-43]. Not knowing that ECP can be effective for up to 72 hours or longer represents missed opportunities for higher impact in terms of efficacy. Advance prescription of ECP may perhaps be useful in situations like this. Postino/progesterone only ECP was the commonest brand students knew [31,40], unaware of modern brands which have longer windows for use and fewer side effects; perhaps because service providers are themselves unaware [44].

The poor use of ECP is similar to findings of Oladapo et al. [45];...
Practice of ECP among unmarried sexually active people is higher than Ibeke and Obuna [25] and Obiechina and Mbamara [31]; and lower than others [29,39-41]. Perhaps due to low levels of awareness, as one study in Nigeria revealed that respondents that terminated pregnancies would have used EC if they had known about it [42]. Also students may use less proven methods for EC not explored in this study, but demonstrated in other studies [29,31,42,46], which are obtained easily, less stigmatized but ineffective.

Logistic regression showed Muslims to be more aware of ECP than Christians. Yet, Muslims and Catholics are known to have conservative views on contraception, though this study did not fully explore religious views regarding contraception. Arowojolu and Adebunke [42] however found that Pentecostal Nigerian Christians were more likely to favor the use of ECP. In another study, religion was a significant factor determining where respondents source their contraceptive products; Catholics, and Muslims, showed a greater preference for chemist/patent medicine shops for their sources of contraceptives [47]. One Ethiopian study found emergency contraceptive use to be higher among the Protestant Christians than when compared to Orthodox Christians and Muslims [48].

As with other studies, previous sexual activity and contraception affected knowledge of ECP [39,49]. Those involved in sexual acts more prone to unintended pregnancies, so make more effort to find out how to prevent them. Marital status did not significantly affect knowledge of ECP, unlike findings from the 2008 NDHS [24], showing higher knowledge of EC among unmarried sexually active people than among the married. Could this be because that was a household survey while this study specifically targeted students, and that most students are single? Ebuehi et al. [39] found marital status to affect practice of ECP.

**Limitations**

There is still a potential for responder bias and respondents may have filled in responses they perceive to be desirable rather than their actual perceptions. The study is limited by geography. Other parts of the country have different socio-cultural and religious characteristics which may affect findings. Findings may also not apply to student’s females outside the school setting. Further studies can triangulate quantitative and qualitative methods.

**Conclusion**

Respondents have poor knowledge, attitude and practice of emergency contraceptive pills, and are at risk for unintended pregnancies, unsafe abortion which may worsen already bad maternal mortality statistics. Religion and previous use of contraception among those that have initiated sex are significant factors. Emergency Contraception (EC) has a potential to curb the menace of unintended pregnancies and offers female students a chance to complete their studies smoothly. So the school setting can be better utilized for positive health education messages regarding contraception and its benefits, while the country debates restrictions to abortion laws.

### Table 5: Association between practice and demographic and reproductive health characteristics of respondents and need for ECP.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Practice/use of ECP</th>
<th>Test Statistic</th>
<th>Statistic</th>
<th>p-value</th>
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<tr>
<td>Age (N= 175)</td>
<td></td>
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<tr>
<td>&lt;20</td>
<td>4 (14.8)</td>
<td>Pearson chi square</td>
<td>0.770</td>
<td>0.857</td>
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<tr>
<td>21-25</td>
<td>18 (66.7)</td>
<td></td>
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<tr>
<td>26-30</td>
<td>5 (18.5)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>&gt;30</td>
<td>0 (0)</td>
<td></td>
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<tr>
<td>Class level (N= 178)</td>
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<tr>
<td>ND1</td>
<td>8 (29.6)</td>
<td>Pearson chi square</td>
<td>2.819</td>
<td>0.454</td>
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<td>ND2</td>
<td>10 (37.0)</td>
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<td>HND1</td>
<td>2 (7.4)</td>
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<tr>
<td>HND2</td>
<td>7 (25.9)</td>
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<tr>
<td>Religion (N=172)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Islam</td>
<td>12 (44.4)</td>
<td>Fishers exact</td>
<td>0.136</td>
<td></td>
</tr>
<tr>
<td>Christianity</td>
<td>15 (55.6)</td>
<td></td>
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<tr>
<td>Marital status (N=172)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>14 (51.9)</td>
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<tr>
<td>Married</td>
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<td>Ever had sex? (N= 175)</td>
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<td></td>
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<td>Yes</td>
<td>27 (100)</td>
<td>Fishers exact</td>
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</tr>
<tr>
<td>No</td>
<td>0 (0)</td>
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<tr>
<td>Current number of children (N=175)</td>
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<td>0</td>
<td>16 (59.3)</td>
<td>Pearson chi square</td>
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<td>1-4</td>
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<td>&gt;4</td>
<td>0 (0)</td>
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<tr>
<td>Desired number of children (N=178)</td>
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<td>0</td>
<td>6 (22.2)</td>
<td>Pearson chi square</td>
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<td>8 (29.6)</td>
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<td>Using regular contraception? (N=162)</td>
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<td>9 (33.3)</td>
<td>Fishers exact</td>
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<td></td>
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<tr>
<td>No</td>
<td>18 (66.7)</td>
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<tr>
<td>Ever had an unintended pregnancy (N=164)</td>
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<tr>
<td>Yes</td>
<td>7 (25.9)</td>
<td>Fishers exact</td>
<td>0.068</td>
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<tr>
<td>No</td>
<td>20 (74.1)</td>
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<tr>
<td>Had an abortion? (N=166)</td>
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<td></td>
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<tr>
<td>Yes</td>
<td>7 (29.2)</td>
<td>Fishers exact</td>
<td>0.048</td>
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</tr>
<tr>
<td>No</td>
<td>17 (70.8)</td>
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</tbody>
</table>
Lessons Learnt

- Emergency contraception has a role to play in reducing unintended pregnancies in this school setting if there is proper sensitization and awareness.
- Health providers, teachers, peers and religious leaders would serve as a good medium to disseminate correct information on emergency contraception and dispel myths.
- Sadly, newer, safer and more effective EC methods are unavailable in this setting.

Acknowledgment

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References


