



Unmet Need of Emergency Contraceptives: The Curious Scenario of Female Undergraduates in the Niger Delta

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Authors' contributions

This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: The high morbidity and mortality among young women from unsafe abortions resulting from unwanted pregnancy and teenage pregnancy are mostly as a result of low contraceptive usage especially emergency contraceptives (EC). This is often due to restricted availability, limited knowledge, worries about side effects and future fertility, underestimation of pregnancy risk, high cost, religious and cultural barriers.

Objectives: This study aimed to assess the knowledge, use and unmet need of emergency contraceptives among female undergraduates of the Niger Delta University.

Methods: This is a cross sectional study conducted in July 2013 among 450 female students who were randomly selected using the multi-stage sampling technique. Data were collected with the aid of a pre-tested, structured self-administered questionnaire. Epi-Info 3.5.3 was used for data entry

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and analysis.

Results: More than half (60.2%) of the students were aware of emergency contraception, friends/relatives being the commonest source of information for 42.5% of the students. Levonorgestrel only EC was the most commonly known EC (57.1%). About a third (30.3%) believed that EC can be used for termination of pregnancy and chemists/pharmacies were reported by 63.9% as the most common place of procurement of ECs. Nearly half of the students (45.6%) were sexually active; only 4.8% of the sexually experienced students had ever used EC; and 17.2% had had unsafe abortion. Reported barriers to the use of EC include high cost, unmarried status, non-availability and being young.

Conclusion: There is low level of use of EC among the female undergraduates of the Niger Delta University, mostly as a result of misconception, poverty, negative attitude of care providers and restricted availability. We recommend the introduction of the study of family planning methods into the school curriculum and there should be unrestricted access to EC on the campus.

Keywords: Emergency contraceptives; unmet need; Niger Delta University; undergraduate.

1. INTRODUCTION

The global reproductive health problems of teenage pregnancy, unintended pregnancy, unsafe abortion and sexually transmitted infections including HIV infection are more rampant in Africa, where about 30% of all births occur as a result of unintended pregnancies leading to high maternal mortality [1]. According to Nigerian National Demographic Health Survey (NDHS) of 2008, contraceptive prevalence rate was estimated to be 14.6% for any contraceptive method and 9.7% for modern contraceptives [2]. Only 37.7% of sexually active unmarried women had knowledge of emergency contraception; unmet need for family planning was 20% and there was a high total fertility rate (TFR) of approximately six children per woman of reproductive age [2]. These are factors that contribute to the high unintended pregnancy and maternal mortality rates in Nigeria.

Emergency contraception (EC) is contraception administered after unprotected intercourse. Other indications for EC include contraceptive failure, incest, missing of birth control pills and rape. EC is intended for occasional or emergency use only and not as a regular means of effective contraception [3]. Hormonal emergency contraceptives can be offered at any time during the menstrual cycle and even twice in a given cycle, offering a second chance to prevent unwanted pregnancy [4]. Levonorgestrel-only pills and combined oral contraceptives are the most common emergency contraceptive methods available in Nigeria. Apart from family planning clinics, they can be obtained over the counter at pharmacy/chemist [5]. Many different folk methods of emergency contraception are commonly used among our young women, with up to 75% of sexually active teenage girls using

substances like white quinine, menstrogen tablets, laxatives, and local potash [5,6].

EC can reduce women's risk of becoming pregnant from a single act of intercourse by between 75 and 99% depending on the method [7]. Furthermore, there is no evidence of any increase in the rate of unprotected intercourse with increasing access and knowledge of hormonal EC [6,8].

Studies conducted in the USA have reported that high rates of unintended pregnancy occur among college-age women, with 60% and 79% of pregnancies reported among 20-24 and 18-19-year-old respectively [9,10]. Unwanted pregnancies among college women is a major public health problem in both developed and developing countries. Many of the pregnancies end up in unsafe abortion, in addition the women's educational progress and future careers may be jeopardized [1,11]. About 210 million women around the world become pregnant annually, of which about 75 million pregnancies (36%) are unplanned and/or unwanted [1,11]. The reasons for these include the high unmet need for contraception, method failure and low rate of contraceptive use [10-14]. Other reasons include cultural barriers, concerns about side effects, underestimation of pregnancy risk, high cost, and restricted availability [12-13].

Given the well-recognized public health benefits of EC, potential users must know where EC can be obtained, the time limits within which EC may be effective and its side effects. The lack of information and knowledge among undergraduates on how to protect against and avoid unplanned pregnancy can lead to severe consequences [1,11,14].

The Niger Delta is in the south- south geopolitical zone of Nigeria, and the aim of our study was to investigate the awareness level, utilization and barriers to the effective use of EC among the female students of the Niger Delta University in Bayelsa state, in the Niger Delta region of Nigeria. We hope this study will provide baseline data that will inform change in policy and inclusion of the study of family planning in the university and other higher institutions and hopefully lead to reduction in the levels of unintended pregnancy and unsafe abortion among undergraduates.

2. METHODOLOGY

2.1 Study Setting/Population

The study was conducted among female students of the Niger Delta University (NDU). The university is located in Amassoma, a town in Southern Ijaw local government area of Bayelsa state, which is about 40km from Yenagoa (the state capital). The university has three campuses, the main campus and the College of Health Sciences campus, both of which are both located in Amassoma, and the faculty of Law campus which is located in Yenagoa, the capital city.

2.2 Study Design

The study is a cross sectional survey to determine the awareness level, utilization and barriers to the effective use of EC among female students of the Niger Delta University.

2.3 Sample Size Estimation

According to the 2008 NDHS, proportion of sexually active unmarried women with knowledge of emergency contraception was 37.7%. Using the formula for estimating sample size for cross sectional study, [2].

$$\frac{Z^2 p (1-p)}{d^2} = \frac{1.962^2 \times .377 \times .623}{.052^2} = 360.9$$

Assuming 20% of the sample for non-response and for unusable questionnaires $360.9/.8 = 451.125$

2.4 Sampling Methodology

Multi-stage random sampling was adopted. A list of all the faculties in the university constituted the

sampling frame for stage one and four faculties (Agriculture, Management, Engineering and Sciences) were selected by simple random sampling using the balloting procedure. In stage two, the departments in the four selected faculties made up the sampling frame and one department was selected by balloting to represent each faculty. Finally, a list of all students in the various years of study was obtained for the participating departments. Using the table of random numbers, subjects were selected from each level in proportion to the size of the level. Subjects who were absent during the study period or those that declined participation were replaced with others selected using the table of random numbers.

2.5 Study Instrument and Technique of Data Collection

A pre-tested structured self-administered questionnaire was designed to assess awareness, utilization and barriers to the use of EC based upon a review of literature and similar studies conducted elsewhere. The questionnaire, besides eliciting a limited socio-demographic profile, asked questions with "yes", "no" and "don't know" options. Questionnaire administration was done by final year medical students who understood the study setting and were trained on data collection.

2.6 Data Analysis

After manual coding and validation, data were entered and analysed using the Epi Info version 3.5.3 software. Checks and validation tools of the software were employed to validate and edit the various data entries that were made. Univariate analysis was done and is presented in tables and graphs. Bivariate analysis was carried out using Pearson's Chi-square /Fisher's exact test where appropriate. The level of significance was set at p -value <0.05 .

2.7 Ethical Consideration

Ethical approval to conduct the study was obtained from the Ethics and Research Committee of the College of Health Sciences and individual verbal informed consent was obtained from each participant. It was also made clear that they could refuse to answer any questions and terminate the interview when they desired. No names or other identifying information was included on the self-administered questionnaire to assure anonymity.

3. RESULTS

Four hundred and fifty -two (452) questionnaires were administered out of which 387 were returned adequately filled and used for analysis. Table 1 shows the socio-demographic characteristics of the respondents. Age of study participants ranged from 15-37 years with a mean of 21.6±3.2 years. Most (47.8%) of the respondents were year 1 student, 98.2% were Christians, 97.7% were single and 79.7% were Ijaw. While majority (97.2%) of the students were aware of methods of contraception, only 60.2% were aware of emergency contraception.

Friends and relatives were the commonest source of information for 42.5% of the students

and 63.9% mentioned the pharmacy/chemist as the main source of getting EC. More than half (57.1%) and 4.7% correctly identified levonorgestrel only pills and combined oral pills respectively as emergency contraceptive methods. Only 24.6% of respondents correctly identified the timing of administration of the EC. Out of the 45.6% (167) of respondents who reported being sexually active only 4.8% (8) had used emergency contraceptive in the past and 17.2% said they had unsafe abortion. Barriers to use EC include high cost, unmarried status, non-availability and being young. Marital status, previous unsafe abortion, knowledge of EC and religion were not associated with use of EC among the respondents (p= >0.05) Tables 2, 3, 4 and Fig. 1.

Table 1. Socio-demographic characteristics

Characteristic	Frequency	Percentage (%)
Age		
≤20	119	32.7
21-25	176	48.4
26-29	63	17.3
≥30	6	1.6
Total	364	100.0
Mean age = 21.6 ± 3.2 years		
Range = 15 – 37 years		
Level of study		
100	185	47.8
200	105	27.1
300	46	11.9
400	51	13.2
Total	387	100.0
Faculty of study		
Agriculture	107	27.6
Engineering	11	2.8
Management	191	49.4
Sciences	78	20.2
Total	387	100
Marital status		
Single	374	97.7
Married	9	2.3
Total	383	100.0
Ethnic group		
Ijaw	307	79.7
Igbo	32	8.3
Rivers	17	4.4
Urhobo/Isoko	12	3.1
Yoruba	7	1.8
Others	10	2.6
Total	385	100.0
Religion		
Christianity	380	98.2
Islam	7	1.8
Total	387	100.0

Table 2. Attitude and practice about emergency contraception among the respondents

Source of information	Frequency (n= 387)	Percentage (%)
Awareness of contraception	376	97.2%
Awareness of emergency contraception	233	60.2
potential source of EC (n=243)		
Pharmacy/chemist	149	63.9
Public hospitals	19	8.2
Family planning clinic	39	16.7
Private hospital	18	7.7
Don't know any place	18	7.7
Student's response to drugs that can be used for EC (n=233)		
Postinor (levonorgestrel)	133	57.1
Menstrogen tablets	40	17.2
Gynaecosid tablets	31	13.3
Quinine tablets	27	11.6
Combined oral contraceptives	11	4.7
Chloroquine tablets	10	4.3
Attitude to EC		
Positive	203	52.5
Negative	184	47.5
Are you aware that you can get emergency contraceptives at the University clinic (n=212)		
Yes	49	23.1
No	163	76.9%),

Table 3. Knowledge of students about EC

Question	Yes	No	Don't know	Total responses
ECs are 100% effective	24 (11.2)	91 (42.3)	100 (46.5)	215 (100.0)
ECs terminate pregnancy, if woman was already pregnant	63 (30.3)	47 (22.6)	98 (47.1)	208 (100.0)
ECs are more effective the sooner taken they are taken	114 (54.5)	22 (10.5)	73 (34.9)	209 (100.0)
ECs are effective if taken before intercourse	41 (20.1)	43 (21.1)	120 (58.8)	204 (100.0)
Effective when taken 72 hours after unprotected sexual intercourse	50 (24.6)	46 (22.7)	107 (52.7)	203 (100.0)
Protect against sexually transmitted infections	39 (18.7)	92 (44.0)	78 (37.3)	209 (100.0)
More effective than traditional methods of family planning	61 (29.8)	33 (16.1)	111 (54.1)	205 (100.0)
IUCDs are effective once inserted within 5 days after unprotected sexual intercourse	12 (6.2)	23 (11.8)	160 (82.1)	195 (100.0)
ECs are available on prescription only	47 (23.0)	54 (26.5)	103 (50.5)	204 (100.0)
Increased doses of birth control pills is a form of EC	31 (15.3)	36 (17.7)	136 (67.0)	203 (100.0)
ECs might affect future pregnancy	123 (58.9)	18 (8.6)	68 (32.5)	209 (100.0)
ECs might be harmful to the body	134 (64.1)	14 (6.7)	61 (29.2)	209 (100.0)

4. DISCUSSION

Overall, 60.2% of the participants reported having heard about EC prior to the study. This is similar to a previous study from Cameroon (63%), [15] but lower than previous studies from Nepal (66%), [7] Mexico (95%), USA (94%) and

another region in Nigeria (67.8%), [16-18] and higher than similar studies from Ghana [19] and Ethiopia [1]. The need for improvement in the education of our undergraduates on issues bordering reproductive health is highlighted by these findings.

Table 4. Factors associated with EC use among students

Characteristic	Use of emergency contraceptives		Total	X ²	P-value*
	Yes	No			
Age					
15-19	2 (10.5)	17 (89.5)	19		0.477
20-24	6 (5.6)	101 (94.4)	107		
25-29	0	23 (100.0)	23		
≥30	0	6 (100.0)	6		
Total	8 (5.2)	147 (94.8)	155		
Level of study					
100	4 (6.6)	57 (93.4)	61		0.7119
200	2 (4.3)	45 (95.7)	47		
300	0	26 (100.0)	26		
400	2	31 (93.9)	33		
Total	8 (4.8)	159 (95.2)	167		
Faculty of study					
Agriculture	2 (5.7)	33 (94.3)	35		0.822
Engineering	0	3 (100.0)	3		
Management	4 (4.3)	89 (95.7)	93		
Science	2 (5.6)	34 (94.4)	36		
Total	8 (4.8)	159 (95.2)	167		
Marital Status					
Single	8 (5.0)	152 (95.0)	160		1.000
Married	0	6 (100.0)	6		
Total	8 (4.8)	158 (95.2)	166		
Religion					
Christianity	8 (4.9)	155(95.1)	163		1.000
Islam	0	4 (100.0)	4		
Total	8 (4.8)	159 (95.2)	167		
Awareness of EC					
Yes	7 (5.9)	112 (94.1)	119		0.441
No	1 (2.1)	47 (97.9)	48		
Had abortion before					
Yes	3 (5.6)	51 (94.4)	54		1.000
No	5 (5.1)	94 (94.9)	99		
Total	8 (5.2)	145 (94.8)	153		

*All are Fisher's p-value

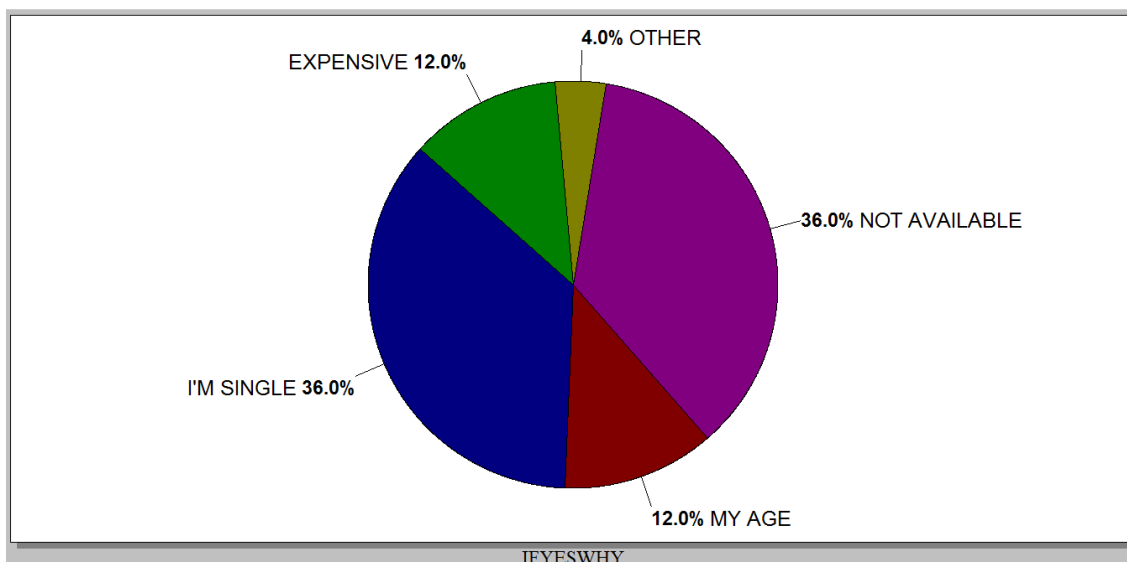


Fig. 1. Reason for denial of access to EC

A large number of students (42.5%) heard about EC from their friends. This is similar to findings from previous studies, [5,6,18] and further reinforces the importance of peer education in increasing awareness of EC. Though over half of the respondents have heard about EC in this study, only 24.6% of them correctly identified the timing of administration of the EC. Similar findings were reported from previous studies both in Nigeria and other developing countries [1,18,20,21]. Furthermore, 30.3% believed EC is abortifacient among other misconceptions, this is comparable to 25.8% and 25.5% reported among university students in India and Ghana respectively, [22,19] but lower than 49% reported from Kenya [23]. This is not surprising since the main source of information for respondents was peer-related, thus information gap and poor compliance are major constraints in emergency contraception and this misconception could lead to high rate of unplanned pregnancies [4,13].

Majority of the respondents who had used EC had obtained it from private sources, suggesting lack of awareness of EC availability at public hospitals and clinics. This is strengthened by the finding of a large number of students who were unaware that EC was available at the university clinic. This poor awareness is similar to findings from previous studies [1,6,13,18].

In this study almost half of the subjects reported that they were already sexually active, a result that is similar to previous studies, [4,11] but higher than similar studies from other African countries [1,20]. Furthermore, only 4.8% of the sexually active ever used EC. This is much lower than 21.2% and 28% from two South African studies, [21,24] but similar to findings from Nigeria and other African countries [1,4,9,22]. Our study shows that the low level of usage of EC was due to high cost, socio-cultural beliefs, lack of knowledge of its use, low availability, attitude of health care workers that discriminate against young unmarried girls, and other misconceptions about EC, which have been reported by previous studies [15,23,24].

Our society stigmatizes the use of contraception by unmarried young women. It links contraceptive use to promiscuity and young women using contraceptives are thought to be indecent. Furthermore, men are suspicious of a woman who brings or knows how to use contraceptives. In addition, the society condemns early sex, pregnancy, and contraceptive use by

young people and believes that contraceptives are for married women [2,24]. Hence, single women who seek contraceptive services face the obstacle of social and cultural restriction which makes it difficult for them to obtain effective contraception. These findings indicate that the undergraduates were at risk of unsafe abortions and it is therefore not surprising that more than a quarter of the respondents had a previous unsafe abortion, which is similar to findings from previous studies [4,9,11-20].

Most of the students had a positive attitude towards utilization of EC as they would use it in future if required, would recommend it to others and they felt that it should be easily accessible to all females. This is in tandem with attitude of respondents from previous studies [2-7,14-18].

5. CONCLUSION

There was a low level of use of EC among the female students of the Niger Delta University who were sexually active, a situation that potentially increased the risks of unintended pregnancy and unsafe abortion among them. There is therefore an urgent need to introduce well designed educational programmes about family planning including EC to the undergraduate curriculum and EC should be made available in the university clinic and all barriers to its use should be removed.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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