# Perception and Practice of Emergency Contraception by Post-Secondary School Students in Southwest Nigeria

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ABSTRACT

A survey of 1500 students in post-secondary institutions in southwest Nigeria showed that the concept of emergency contraception (EC) was well known. Respectively, 32.4%, 20.4% and 19.8% knew that combined pills, progesterone only pills and intrauterine contraceptive device (IUCD) were usable for EC, while 56.7% mentioned the use of traditional methods. Only 11.8% had ever used either pills or IUCD and 10.7% had used a traditional method. Few students (11.5% and 2.3% respectively) knew the correct timing of EC pills and IUCD. The respondents reported varying circumstances under which EC was indicated but the majority cited condom breakage and sexual assault. The popular media represent the commonest source of information while hospitals/clinics were the commonest sources of procurement. About 37% of the respondents planned to use EC in future while 58% would not and 4.7% were uncertain. Reasons for these responses were explored. (*Afr J Reprod Health* 2000; 4 [1]:56-65)

RÉSUMÉ

**Perception et pratique de la contraception d'urgence par les étudiants des institutions tertiaires au sud-ouest du Nigéria.** Une étude de 1500 étudiants des institutions tertiaires dans le sud-ouest du Nigéria, a montré que le concept de la contraception d'urgence (CU) était bien connu des étudiants. 32,4%, 20,4% et 19,8% respectivement savaient que les pilules combinées, les pilules à seule progestérone et le dispositif intra-uterin (DIU) étaient utilisable pour CU, alors que 56,7% parlaient déjà de l'emploi des méthodes traditionnelles. Il n'y avait que 11,8% qui avaient jamais employé des pilules ou le DIU et 10,7% s'étaient servis de la méthode traditionnelle. Peu d'étudiants (11,5% et 2,3% respectivement) connaissaient la bonne chronologie des pilules de la CU et du DIU. Les circonstances diverses qui ont nécessité le recours à la CU ont été signalées par les répondants, mais la majorité ont cité la rupture des préservatifs et le viol. La presse populaire constitute la source d'information la plus commune alors que les hôpitaux et les cliniques étaient les lieux d'approvisionnement les plus communs. A peu près 37% des répondants ont envisagé l'emploi de la CU dans l'avenir tandis que 58% n'aimeraient pas s'en servir et 4,7% n'etaient pas encore sûrs. Nous avons étudié à fond les raisons qui ont motivé ces réponses. (*Rev Afr Santé Reprod* 2000; 4 [1]:56-65).

KEY WORDS: *Perception, practice, emergency contraception, students, Nigeria*

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## Introduction

Emergency contraception involves methods of contraception used for preventing a pregnancy after an unplanned or unprotected sexual intercourse.[1] The concept appears appropriate for adolescents and students in higher institutions or those in vocational training who engage in sporadic and occasional sexual intercourse. This is more so among those who find regular contraceptives intolerable or those who use them sparingly. Several efforts are being made by the Federal Ministry of Health and non-governmental organisations to make emergency contraceptives available to adolescents and to those in schools or vocational training institutions in Nigeria.[2] Unfortunately, despite their relative availability, contraceptives use is poor, due to several factors. Such factors include poor knowledge and perception of the methods and their effectiveness by youths[3] and the reluctance by health workers to provide the methods, because of the belief that they are abortificents.

The availability of only few products in the country limits the choice to the relatively cheap methods that are not necessarily the most effective or those with the least side effects. There has been no organised study relating to the availability of emergency contraception nation-wide. Various reports available on this are haphazard and inconsistent. However, judging from the group discussions we had prior to this study, the idea of emergency contraception has been in existence for centuries although most users have adhered to traditional methods that are of no proven efficacy.

Post-secondary school students form an important high-risk group for unplanned pregnancy in Nigeria and as such they should attract our attention. For instance, most of them reside in hostels where there is no parental supervision. As such, they freely associate with one another, while a large percentage of them engage in premarital sex.[2-8] It is evident from previous studies that increased adolescent premarital sexuality would be responsible for increased number of unwanted pregnancies and subsequent illegal abortion with its sequelae.[9-11]

Few statistics are available on sexuality and pregnancy among youths in Nigeria. This is because of the privacy and secrecy that surround the act of sexual intercourse and abortions. In a study of sexual behaviour among young urban Nigerians, Makinwa-Adebusoye[12] reported that the mean age at first sexual intercourse was 17 years among females and 18 years among males. These ages fall within the age group of new entrants into post-secondary institutions in Nigeria. The results of the 1990 Demographic and Health Survey (DHS)[13] in the country showed that 40% of all teenage women had either given birth or were expecting their first child. Information on reproductive tract infections and illegally induced abortions in Nigeria reveals that the problem is outrageous.[14-17] In a study of reproductive tract infection and abortions among adolescents in Nigeria, 80% of the women aged 17–19 years admitted to being sexually active while 29% of those aged below 19 years had had clandestine abortions.[11]

In Benin City, Okojie[14] reported that 53% of 59 women on admission in the gynaecological ward for post-abortal complications were aged 14–17 years while Oronsanye, Ogbeide and Unuigbe[18] found that 99% of adolescents in the city's three main hospitals were admitted for complications of induced abortions. In the eastern part of the country, Ozumba[7] reported that 21% of female post-secondary school respondents in a survey of contraceptive practice indicated that they had had an unwanted pregnancy and 18% claimed that they had induced an abortion. Similarly, among young female secondary school students surveyed in Ibadan, a large city in southwest Nigeria, 44% had been pregnant and nearly all of these had had an induced abortion.[6]

All these studies have indicated that the use of family planning methods is low and the majority in the population studied was not in favour of using contraceptives. It is estimated that about 500,000 illegally induced abortions occurred in Nigeria in 1980, and this represented the main cause of death among unmarried women between 15 and 24 years of age.[19] A recent report on the incidence of induced abortion in Nigeria indicated that approximately 610,000 abortions are carried out by Nigerian women yearly.[20] This represents a rate of 25 abortions per 1000 women aged 15–44 years. The rate is dependent on the extremely large socioeconomic, cultural and educational differences, and urbanisation that exist between regions. It is therefore much lower in the poor rural regions of northern Nigeria than the more economically developed southern regions.

This study was designed to assess the perception and practice of emergency contraception by students in post-secondary institutions in the southwestern part of Nigeria. It sought to understand the factors that affect the knowledge, attitude and perception of emergency contraception by this group of Nigerians and the circumstances under which they use it. The study conceptualised that majority of adolescents are sexually active and have used an emergency contraceptive method. It enquired about students' willingness to use emergency contraceptives when necessary and their sources of relevant information and available methods. The results would help in policy formulation, education initiatives and strategic planning to make emergency contraceptives readily available to the students and other groups of youths in the country and in other developing nations with a similar setting.

## Methodology

The population sampled is in the southwest of Nigeria and it comprises students from the University of Ibadan; University of Lagos; Ogun State University and Ibadan Polytechnic. Others are the Schools of Nursing and Midwifery at the University College Hospital, Ibadan; Oyo State Schools of Nursing and Midwifery and the Civil Service Training School, Ibadan, Oyo State. These institutions were randomly selected among the 30 government-owned post-secondary institutions in the region. The universities of Ibadan and Lagos are federal government institutions while the other institutions belong to the respective state governments where they are located. The catchment areas for admission into the federal institutions extend beyond the southwest. Therefore, students from other parts of the country are well represented in the populations of these institutions. On the other hand, those from the state-owned institutions are mainly from the southwest.

There were about 35,000 female students in the institutions chosen. To estimate an appropriate sample size, we assumed that 95% of the student population had knowledge of emergency contraception. Therefore, with a confidence level of 0.95, a precision of 0.01 and Z of 1.65 for a one-sided comparison at $\alpha = 0.05$, the calculated sample size required was 1,293. A total of 1,500 copies of the questionnaire were prepared, so as to take care of non-responses.

## Data Collection

In February 1997, a structured questionnaire was administered to a random sample of 1,500 female students in the study institutions. The questionnaire consisted of three main blocks. We sought to find out the demographic characteristics of the students surveyed, their knowledge, use and intention to use emergency contraceptives. Other questions included knowledge of fertile periods, previous abortions, circumstances under which emergency contraception would be required and how information on emergency contraception was obtained.

A sample questionnaire was developed following a focus group discussion with five university and five nursing school students. A pre-test of the questionnaire was carried out at the University of Ibadan and the School of Nursing of the University College Hospital, Ibadan. The questionnaire was later modified to produce a final copy. Data was coded into a computer using *Epi-Info* version 6 software (CDC, Atlanta, Georgia and WHO, Geneva, Switzerland) and analysed with *SPSS/PC+* software. Results were presented in percentages, crosstable analysis and descriptive measures. Chi square tests and Mantel Haenszel test for linear association were used to examine the differences in responses between demographic subgroups. In order to determine the main predictors of the dependent variables, forward stepwise logistic regression models were fitted with age, religion and educational level as independent co-variates, while the dependent variables were awareness of emergency contraception and willingness to use emergency contraception in future.

## Results

### *Response Rate*

The response rate was 71.5%, comprising university students (50.5%); polytechnic students (30.8%); and nursing, midwifery and the Civil Service Training School students (18.9%).

### *Characteristics of Respondents*

The demographic characteristics of respondents are as shown in Table 1. Most respondents were in

the 16–25 years age group (75.1%), single (86.3%), Christians from Pentecostal churches (49.9%) and university students (50.5%). Among the married respondents, 89.7% had monogamous union while 11.3% were polygamous. The parity among the married ranged from 1 to 5 with majority (44.4%) having a parity of 2. Eighteen per cent had terminated one or more unwanted pregnancies in the past.

*Table 1* **Distribution of the Respondents According to Selected Demographic Characteristics**

| Characteristic | Number (%) of respondents (n = 1072) |
|---|---|
| *Age group (years)* | |
| 16–25 | 805 (75.1) |
| 26–35 | 229 (21.4) |
| > 36 | 38 (3.5) |
| *Religion* | |
| Catholics | 136 (12.7) |
| Protestants | 117 (10.9) |
| Pentecostals | 535 (49.9) |
| Muslims | 183 (17.1) |
| Traditionals | 57 (5.3) |
| No response | 44 (4.1) |
| *Educational level* | |
| University | 540 (50.5) |
| Polytechnic | 329 (30.8) |
| Nurses/midwives/secretaries | 203 (18.9) |
| *Marital status* | |
| Single | 925 (86.3) |
| Married | 139 (13.0) |
| Cohabiting | 8 (0.7) |

### *Knowledge and Practice of Regular Contraception*

Knowledge of regular contraception was found to be high and majority (86.3%) approved of family planning although only 32.8% were actually using a method of contraception. Condom (64.3%) was the most popular method, followed by withdrawal method (27.9%) and natural family planning method (27.5%). The duration of use of regular contraception ranges from less than one year to 8 years with majority having used it for 1–2 years.

### *Awareness, Knowledge and Use of Emergency Contraception*

Only 1066 students responded to the question on awareness of emergency contraception. The concept of emergency contraception was known to 75.7% of the respondents although only 17.1% had accurate knowledge of the fertile period and 43% did not know any method of emergency contraception (Table 2). Respectively, 32.4%, 20.4% and 19.8% of the respondents were aware that combined pills, progesterone only pills or intrauterine contraceptive device (IUCD) could be used for emergency contraception. A sizeable number of the respondents (56.7%) cited some traditional methods with no proven efficacy. Only 11.3% of the respondents have used emergency contraceptive pills (ECP) or IUCD, and 10.7% a traditional method in the past for emergency contraception (Table 2). Neither awareness of the concept of emergency contraception nor its past use was significantly influenced by age, education or religion of the respondents (Mantel Haenszel test; $P > 0.05$).

### *Awareness of the Indications for Emergency Contraception and Timing of ECP and IUCD*

Awareness of the circumstances under which emergency contraception might be needed vary among the respondents as shown in Table 3. Accidental breakage or slippage of condom and sexual assault were the most cited indications. Others were as shown in the table. The correct timing of ECP, i.e., within 72 hours of unprotected sexual intercourse, was identified by 11.8% of the respondents; 28.9% mentioned the morning after; 1.4% cited 4–6 days after; 1.0% cited 7 or more days after; while 57.1% were uncertain. With regards to IUCD, timing of effectiveness, i.e., within 6 days after unprotected sexual intercourse, was correctly identified by only 2.3% of the respondents while other responses were morning after (13.6%), 2–3 days after (8.1%), more than 7 days after (1.9%) and uncertain (74.3%).

It would appear that although the majority of respondents were aware of emergency contraception, few identified the major indications and the correct timing of its effectiveness.

*Table 2* **Percentage Distribution of Respondents According to Knowledge and Use of Each Known Method of Emergency Contraception (EC)**

| Type of EC | Percentage of respondents with knowledge of EC (n = 1066)* | Percentage of users of the type of EC (n = 1066)* |
|---|---|---|
| None | 43.0 | 79.9 |
| Combined oral contraceptive pills | 32.4 | 7.2 |
| Progesterone only pills (Postinor) | 20.4 | 3.0 |
| IUCD | 19.8 | 1.1 |
| Herbal vaginal pessaries | 17.0 | 0.5 |
| Bitter medications, e.g., quinine, lemon, potash | 5.2 | 2.9 |
| Strong alcoholic drinks, e.g., Brandy, Gin, Whisky | 13.4 | 5.5 |
| Hot bath and douching immediately after | 20.4 | 1.9 |
| Purgatives, e.g., *Senna*, herbs | 5.6 | 1.9 |

* *Some respondents have multiple answers.*

*Table 3* **Awareness of Indications for Emergency Contraception amongst the Respondents**

| Indications | Percentage of respondents who cited the indication |
|---|---|
| When a woman... | |
| has just been sexually assaulted | 64.7 |
| has experienced condom breakage or slippage during coitus | 67.5 |
| has neglected to use regular family planning method | 47.9 |
| has experienced failed coitus interruptus (withdrawal) during coitus | 50.6 |
| has just had unexpected unprotected coitus | 59.1 |
| has accidental ejaculation of semen on the external genitalia | 0.1 |
| has a miscalculation of the rhythm method | 54.9 |
| has incorrectly inserted, dislodged or prematurely removed her diaphragm | 48.4 |
| has pre-coital expulsion of IUCD | 41.9 |

*Sources of Information and Procurement of Emergency Contraceptives*

The results of our enquiries about the respondents' sources of information on emergency contraception are indicated in Table 4. The commonest sources were friends and magazines while health workers were mentioned only by 26.7%. Concerning the source of procurement, hospital and clinics were the most popular, having been cited by 67% of the respondents (Table 5). About 17% were uncertain of the sources. These responses were uninfluenced by age, educational level, religion or marital status of the respondents (Mantel Haenszel test P> 0.05).

*Attitude towards Future Use of Emergency Contraceptives*

Approximately 37% of the respondents would like to use emergency contraceptives in future, 58% would not, while 4.7% were unsure. The frequency of the reasons given for each desire is shown in Table 6. The commonest reason given by those intending to use emergency contraceptives in future was that it is more convenient than regular contraceptives. On the other hand, the commonest reason for those without such intention was that it is dangerous to one's health.

*Table 4* **Respondents' Sources of Information on Emergency Contraception**

| Main source of information* | Percentage of respondents who cited the source |
|---|---|
| Friends | 32.8 |
| Magazines | 33.7 |
| Radio | 25.2 |
| School teacher | 17.2 |
| Health workers | 26.7 |
| Family planning clinics | 16.0 |
| Parents | 6.0 |
| Relatives | 1.9 |
| Spouses/sexual partners | 7.7 |
| Other sources | 0.7 |
| No known source | 19.9 |

* *Some respondents have multiple answers.*

*Table 5* **Sources of Procurement of Emergency Contraception Cited by Respondents**

| Main source of information* | Percentage of respondents who cited the source |
|---|---|
| Hospitals/clinics | 67.0 |
| Pharmacy shops | 26.7 |
| Community based distribution agents | 5.9 |
| Patent medicine stores | 4.6 |
| Drug hawkers | 0.6 |
| Other sources | 0.2 |
| No known source | 17.2 |
| No response | 3.1 |

* *Some respondents cited multiple sources.*

*Logistic Regression Models*

Table 7 shows a summary of the forward stepwise logistic regression. The only positive association was between age and awareness of emergency contraception, the older students being more aware than younger ones. With regards to the use of ECP, the independent predictors were age, religion and awareness of emergency contraception. There was a negative association between use of ECP by the respondents and their age while a positive association exists between it and their awareness of emergency contraception. Thus, the respondents in the age group 16–25 years and those who were aware of emergency contraception were likely to have used ECP. This also applies to respondents from Pentecostal churches and those with traditional religion. The independent predictors of the willingness to use emergency contraception in future were education, religion, awareness of contraception, past use of ECP and procurement of illegal abortion. In summary, the respondents from Pentecostal churches, aged between 26 and 35 years who have used ECP, have had illegal abortions, and are aware of emergency contraception were more likely than any group to favour the use of emergency contraception in future.

*Table 6* **Respondents' Attitudes towards the Use of Emergency Contraceptives in Future**

| Reasons | Percentage of respondents who cited each reason* |
|---|---|
| *(A) Reasons given by the 400 respondents who planned to use EC in future* | |
| It is safer than regular contraceptives | 50.0 |
| It is more convenient than regular contraceptives | 58.5 |
| It is more effective than regular contraceptives | 28.0 |
| *(B) Reasons given by the 622 respondents who do not wish to use EC in future* | |
| It is against my religion | 41.1 |
| It is not effective | 23.7 |
| It is dangerous to ones health | 46.8 |
| I am using a regular contraceptive method | 1-14 |
| My partner does not like it | 13.3 |
| My parents are against it | 12.3 |
| It causes abortion | 21.9 |

* *Some respondents had multiple answers.*

*Table 7* **Logistic Regression Coefficients of the Effect of Selected Demographic Variables on Awareness of EC, Use of ECP and Willingness to Use EC in Future by the Respondents**

| Variables | Awareness of EC | Use of ECP | Willingness to use EC |
|---|---|---|---|
| *Age* | | | |
| 16–25 | 0.3916 | 0.6194* | 0.0625 |
| 26–35 | 0.7312* | 0.0865 | 0.4409* |
| *Education* | | | |
| University | 0.5743 | 0.0409 | 0.1875 |
| Polytechnic | 0.1304 | 5.2773 | 0.1879 |
| Nurses/midwives/secretaries | 0.5150 | 0.0057 | 0.4946* |
| *Religion* | | | |
| Catholic | 1.6479 | 0.5935 | 2.7149 |
| Protestant | 0.4589 | 3.5320 | 0.0437 |
| Pentecostal | 0.2700 | 0.6479* | 0.2797+ |
| Muslims | 0.6941 | 5.9974 | 1.6120 |
| Traditional | 2.2412 | 5.9220 | 0.0504 |
| No religion | 0.3678 | 3.8008 | 0.0000 |
| Awareness of EC | NA | 1.0362* | 0.6413* |
| Use of ECP | NA | NA | 0.7743* |
| Abortion(s) | NA | NA | 0.7698* |
| Constant | 0.9912 | 1.2340 | 1.0372 |
| 2Log likelihood | 1311.852 | 1250.914 | 1471.567 |
| Model chi-square | 17.093 | 91.416 | 124.893 |
| Degree of freedom | 1 | 1 | 1 |
| % of desire correctly predicted | 75.56 | 75.56 | 66.86 |

* $P < 0.001$ $^{+}P < 0.05$ *NA = Not available*

## Discussion

Majority of our respondents is in the age group 16–25 years, the group mostly at risk of unplanned pregnancy following unprotected sexual intercourse.[21,22] In keeping with studies in developed countries,[23-25] our results indicated that a high awareness of the concept of emergency contraception exists. However, the practice is poor and comparatively few students know about modern emergency contraceptives, while 25.2% have relied on traditional methods of doubtful efficacy. Emergency contraceptives have been available in form of oral pills (Yupze method) in the past 10 years in Nigeria but it was not until recently that IUCD and other methods were considered for the purpose. The fact that emergency contraceptive pills are the most popular method may be a reflection of their long-standing availability in the community. IUCD is not readily given to young single nulliparous women, therefore, it is not surprising that the device is not a readily available choice for the students.

Knowledge of indications for emergency contraceptives and the correct timing of their use are essential in order to benefit from the contraceptives. Wrong timing often leads to failure of the methods and a reluctance to use them in future. In this study, knowledge of the correct time to use either ECP or IUCD was poor. This is similar to the findings of several workers in developed countries.[25,26] Thus, there is an urgent need to educate the students about emergency contraception with emphasis on the indications, available methods, and timing of use.

Source of information plays an important role in determining its accuracy, most especially with regards to side effects and correct timing of emergency contraceptives. In this study, most sources of information cited were friends and mass media rather than health workers who have received formal training. This was irrespective of the fact that the most commonly cited sources of procurement of emergency contraceptives were hospitals/clinics and pharmacy shops. A similar picture was seen in studies elsewhere.[25,26] The implication is that most health workers may not have adequate knowledge of emergency contraception or may be reluctant to discuss the topic with students. From a preliminary review of an ongoing study in Ibadan, Nigeria, we found a lack of knowledge of emergency contraceptives among health workers, some of whom were unwilling to discuss the topic with their clients. This is because they believe that these contraceptives are abortificents or because they have negative attitudes towards premarital sex by youths.

Very recently, an equally alarming lack of knowledge about emergency contraceptives and very judgmental attitudes by public sector health workers towards sexually active teenagers seeking emergency contraception was reported in Zimbabwe.[27] In the study, adolescents seeking emergency contraceptives were rebuked by some providers. Only 16% of the health workers consulted could give correct advice to the clients, while the majority gave incorrect advises. There is an urgent need to address this negative attitude by educating both health workers and potential users on the place of emergency contraception, in order to overcome the unmet needs of young contraceptive seekers.

There is a considerable scope for improving the ways by which contraceptive information to students in post-secondary institutions is provided. While the non-health sources may be strong advocates of emergency contraceptives, and create awareness in more people than health workers in hospitals and family planning clinics, they may not provide accurate information in terms of availability, side effects and correctness to enable users to make efforts to obtain emergency contraceptives based on informed choice. In addition, awareness should be created among community-based distribution agents to ensure their proper dissemination of information to potential clients.

The use and non-use of ECP is highly dependent on individuals' sexual experience and perception of emergency contraception. While women who have had unprotected and unplanned sexual experience might be inclined to use emergency contraceptives, those with steady relationship where sex is mostly planned might not see the need to use it. However, judging from previous reports and the incidence of clandestine abortions in Nigeria, sexual relationship among youths is usually unplanned and it tends to occur during unstable relationships. Although the assumption that students would readily use emergency contraception is faulty, it is noteworthy that the majority of our respondents were unwilling to use the method in fu-

ture for various reasons. This suggests their lack of in-depth knowledge of emergency contraceptives. The fear of side effects was the commonest reason cited by our respondents for non-use, despite the strong consensus among health workers that emergency contraception is relatively safe.

In a similar study among London and Oxfordshire women, 43% expressed fears of increased health risks of emergency hormonal contraceptives compared with regular hormonal ones.[28] Therefore, the establishment of health information centres on campuses, where questions on family planning services can be discussed in confidence should be addressed.

## Conclusion

The high awareness of the concept of emergency contraception detected amongst post-secondary school students is not reflected in its practice due to poor knowledge of the methods and where they can be obtained. Although emergency contraceptives should not be seen as an alternative to other commonly available contraceptive methods, a considerable scope for improving the modes of providing contraceptive information to students and health workers so that the benefits of emergency contraception can be realised is evident. Therefore, there is an urgent need to establish health information centres on campuses, where enquiries on family planning and reproductive health matters can be discussed in confidence and without prejudice.

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