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Perception and Practice of Emergency Contraception among Female Undergraduates of the University of Ibadan, Nigeria

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Objective *To assess perception and level of proper utilization of emergency contraception (EC) among female undergraduates.*

Methods *Cross-sectional questionnaire study was performed on 383 female undergraduates in Nigeria in June 2006. Data analysis was with χ-square test and logistic regressions ($P<0.05$).*

Results *One hundred and five (48.2%) had been sexually exposed. Only 32 (30.5%) used regular contraception. Seventy-three (24.3%) female undergraduates were aware of EC. Only 29 (7.6%) had used EC before. Most would not use emergency contraceptive drugs in future due to lack of awareness (64.8%), and fear for future fertility and of drugs being injurious to health. Use of EC was associated with awareness of correct interval for use (OR=9.1; 95%CI: 2.1–39.9).*

Conclusion *There is poor knowledge about EC and poor use, while significant need remains. Most knowledge was acquired from peers and inaccurate. Peer educators are important and professionals' knowledge needs improvement.*

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Key words: emergency contraception; postcoital; female undergraduates

In Nigeria, the most populous country in Sub-Saharan Africa, the awareness, accessibility and utilization of birth control methods are of great public health importance. Yet, the level of modern contraceptive use remains only 8%, from the most recent national survey[1].

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The mean age of sexual debut was reported as 15 years in a study on Nigerian females[2]. This is close to the age group of new entrants into tertiary institutions in Nigeria. Most of them reside in hostels (where there is no parental supervision), they associate with one another socially, and a large percentage of them engage in premarital sex[3]. As one study reported, despite their intelligence, university undergraduates exhibit a high degree of risk-taking behavior[4].

Yet, several studies corroborate that, despite their relative availability, young people have poor knowledge of emergency contraception and poor utilization[5-7]. Factors limiting utilization include the absence of comprehensive family life education[8] and judgmental attitude of health workers towards sexually-active youths seeking such[5].

A similar study was carried out on tertiary students in Southwest Nigeria 9 years before, showing that the respondents in a similar population were more aware of traditional than conventional methods; though having now been made aware, 37% planned to use EC in future[9].

This study was aimed at assessing the perception of these young adults, and to evaluate how it influences their practice of emergency contraception.

Materials & Methods

Materials

The study was a descriptive cross-sectional study carried out amongst 400 single, female undergraduate students, proportionately sampled from the four female halls of residence of the University of Ibadan in June 2006.

The sample size was calculated using a formula for cross-sectional studies $n = Z^2pq/d^2$ [p, the expected prevalence, was assumed to be 67.8% (i.e., 0.7), according to a study carried out on a similar population in Lagos][10]. Calculated sample size was 323; oversampling was done to account for attrition.

The sampling frame was determined by computing the number of undergraduates (totalling 2 968) in the University's four female halls of residence. This population was used, rather than all females in the University, as single women residing in hostels have been identified as more typical users[3]. For the same reason, married women were excluded. The sample was 13.5% of this population.

Methods

A multi-stage sampling of these occupants was carried out. The first stage was a cluster sample involving all of the four halls. The residential halls consisted of 790 rooms in all; the second stage was systematic random sampling of alternate rooms (with the first room in each hall randomly selected from either the first or second room). The third stage was a simple random sampling of one person in each selected room.

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The survey instrument was an anonymous, self-administered questionnaire, containing both closed-and open-ended questions. Information was obtained on demographic characteristics, sexual behavior of respondents, perception concerning emergency contraception and practice of emergency contraception among respondents. The questionnaires were distributed with the assistance of trained research assistants.

Statistical analysis

Data were analyzed with STATA8.0 statistical software. Analysis was carried out with χ^2 test, and logistic regressions. The level of statistical significance was set at $P<0.05$.

Results

Demographic characteristics

A total of 383 respondents' questionnaires were suitable for analysis (response rate was 95.8%). The age of these women ranged from 15 to 35 years, with a mean age of 20.4 ± 2.6 years. The modal age group was 16–20 years, constituting 61.1% of the study group (Table 1).

Table 1 Demographic characteristics of respondents

Variable	*n* (%)
Age (year)	
⩽15	1 (0.3)
16–20	234 (61.1)
21–25	130 (33.9)
26–30	17 (4.4)
>30	1 (0.3)
Year of study (year)	
1st	118 (30.8)
2nd	173 (45.2)
3rd	51 (13.3)
4th	40 (10.4)
5th	1 (0.3)
Broad faculty groups	
Medical	129 (33.7)
Science	120 (31.3)
Social science	117 (30.6)
Art	17 (4.4)
Total	383

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Sexual behavior

A total of 105 (48.2%) respondents admitted to ever having had sexual intercourse before. The mean age of sexual debut was 18.6 ± 2.5 years. Table 2 shows the pattern of sexual behavior amongst these respondents. Eighty-five (80.9%) of them had infrequent sexual exposures, i.e. no more than once a month. Fifty-three (50.5%) respondents had their last sexual intercourse more than a month before. Only 37 (35.2%) used any form of contraception at the last exposure. Of these sexually exposed women, only 32 (30.5%) used a routine contraceptive method. The various types they used are shown in Table 3. A large percentage (40.6%) were incorrectly using Postinor®(Schering, UK)—— levonorgestrel 1.5 mg, a dedicated emergency contraceptive product, as routine contraception. Thirty-one respondents (29.5%) admitted to having been pregnant before, most of them once or twice each (46.4% and 39.3%, respectively); while 25 (80.6% of those who had been pregnant before) had voluntarily terminated such pregnancies. A sizeable number of these respondents, i.e. 12 (48%), had undergone the procedure only once.

Table 2 Pattern of sexual behaviour

Variable	*n* (%)
Frequency of sexual intercourse	
Daily	3 (2.9)
Weekly	17 (16.2)
Monthly	44 (41.9)
More than monthly	41 (39.0)
Duration from last sexual exposure	
One week	12 (11.4)
One month	40 (38.1)
More than a month	53 (50.5)
Use of contraception at last intercourse	
Yes	37 (35.2)
No	68 (64.8)
Total	105 (100.0)

Table 3 Types of routine contraception used by respondents

Types	*n* (%)
Postinor	13 (40.6)
Condom	16 (50.0)
Withdrawal method	2 (6.3)
Menstrogen	1 (3.1)
Total	32 (100.0)

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Perception of emergency contraception

Only 73 (24.3%) were aware of the concept of emergency contraception. Of these, only 19 (33.3%) were able to identify the correct interval (that is, 72 h) within which emergency contraceptive pills must be used to be effective. Most respondents (56.1%) felt it would only be effective if used within 24 h; others identified 48 h (7.0%) and 1 week (3.5%) as the window of action.

Table 4 shows the types of emergency contraceptive known to the respondents. Of these, only 38 (12.62%) correctly identified Postinor® and contraceptive pills. Several local preparations were listed, as well as Menstrogen® (Methylestradiol) and Gynaecosid® (Methylestronolone), both of which are hormonal preparations, used to treat women with low levels or an absolute lack of estrogen or progesterone and in the treatment of non-pregnancy

Table 4 Emergency contraceptive methods known to respondents (*n*=301)

Types	*n* (%)
Postinor	24 (8.0)
Contraceptive pills	14 (4.6)
Salt solution	3 (1.0)
Potash	4 (1.3)
Lime	2 (0.7)
Menstrogen	14 (4.6)
Gynaecosid	2 (0.7)
None	238 (79.1)

Table 5 Sources of emergency contraception and sources of information

Information sources	*n* (%)
Friends	33 (45.2)
Medical personnel	10 (13.7)
Intimate partner	3 (4.1)
School	5 (6.8)
Internet	2 (2.8)
Books	11 (15.0)
Elders	4 (5.5)
Movies	1 (1.4)
Media	3 (4.1)
Pharmacy	1 (1.4)
Medication sources	
Chemists	43 (78.2)
Clinic	12 (21.8)

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related amenorrhea, respectively. The commonest source of knowledge about emergency contraception was from their friends (45.2%), while only 13.7% had learnt from medical personnel. Chemists (patent medicine stores) were the commonest source of these medications (Table 5). Sixty-one (15.9%) felt that emergency contraception was effective in preventing pregnancy.

Practice of emergency contraception

Only 29 respondents (7.6%) had used emergency contraception before. Again, a sizeable number (14 of them) had used a correct option —— Postinor®, while others had used Menstrogen®, salt solution and lime. Two of them had used Neogynon®, a combined oral contraceptive pill. All of them had used these drugs within the correct time frame for action, however, only 3 (15.8%) stated that it was 'within 72 h', the rest used it within a shorter period. Only 66 respondents (17.2%) felt they would use these drugs in future, the commonest reason stated for non-intention to use was lack of awareness of the drugs (64.8%). Others were hesitant because of future fertility issues and fear of the drugs being injurious to health.

Table 6 Logistic regression coefficients of the effect of selected variables on perception of emergency contraception

Variables		Odds' ratio	95%CI	*P*
Awareness of emergency contraception				
Sexually exposed*	Yes	1.6	0.7−3.5	0.23
	No	1.0	/	
Identification of correct options				
Sexually exposed#	Yes	$1.5e^{+08}$	275848.1−$8.24e^{+10}$	0.00
	No	1.0	/	/
Ever used EC#	Yes	81.3	0.3−21087.0	0.121
	No	1.0	/	/
Identification of correct interval for use				
Sexually exposed#	Yes	1.5	0.3−6.9	0.58
	No	1.0	/	/
Ever used EC#	Yes	9.1	2.1−39.9	0.00
	No	1.0	/	/
Intent to use EC in the future				
Sexually exposed#	No	1.0	/	
	Yes	1.8	0.6−5.1	0.27
Ever used EC#	No	1.0	/	/
	Yes	11.7	2.5−54.2	0.00

*: Adjusted for age, level of study, previous use of EC and previous pregnancy

#: Adjusted for age, level of study and previous pregnancy

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Logistic regression models with the correct timing for use as a dependent variable showed that those who had used emergency contraception before were more likely to be aware of the correct interval for its use (*OR*=9.1; 95%CI: 2.1–39.9; *P*<0.01)(Table 6). Similarly, those who had used EC before were also more likely to use it again in future (*OR*=11.7; 95%CI: 2.5–54.2; *P*<0.01). Those who had been sexually exposed were more likely to know the correct options for EC (*OR*=1.51^{e+08}; 95%CI: 0.3–21 087.0^{e+10}; *P*<0.01). Age, level of study and previous pregnancy did not have any bearing on these variables.

Need for emergency contraception

Almost half of the respondents that volunteered information on the subject had had sexual intercourse before, yet 69.5% of them did not use contraception routinely. When independent two-by-two cross-tabulations were carried out, it showed that 68% of respondents that had been pregnant before did not use contraception; and 68% of those who had voluntarily terminated pregnancies before did not use contraception.

Discussion

The demographic characteristics of the respondents matched those of the typical user profile for emergency contraception they were young, single, having infrequent intercourse and condoms were the only contraception method any of them used[11,12]. The mean age of sexual initiation in this study was 18.6 years. Routine contraceptive use was low (30.5%), compared with 94.8% in the above study and 96.8% in Lagos[10].

Awareness appears to have dropped significantly from 75.7%, compared with a previous survey in the same university, although those authors included traditional methods in their result[9]. More disturbing is the fact that even fewer respondents than before were aware of correct options. Postinor®, as found in this study, is the commonest method used by respondents in other studies in similar populations[13,14]. Only a small proportion of the respondents felt that the window of intervention of emergency contraception lasted beyond 72 h of unprotected sexual intercourse. Yet, only a third of them were actually correct in their perception —— most respondents felt that it was 24 h. The latter group may very well benefit maximally from emergency contraception, as its effectiveness has an inverse relationship with the length of time from intercourse[15,16]. But, the major disadvantage is that they may miss out on the benefit of the contraception if they had no opportunity to use it until after the 24 h' perceived window had elapsed. This was similar to the findings of Aziken[13].

The influence of peers on the behavior and attitudes of this population is shown, as commonest source of information knowledge of emergency contraception is from friends; only a few learn from medical personnel. This has obvious bearing on the inaccuracy of their knowledge as to methods, correct interval and possible adverse sequelae. Peer education is an important factor in matters involving adolescents and young adults. This may be the only

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socially acceptable means of spreading awareness, as public campaigns may be misconstrued by authorities and parents as encouraging risky sexual behavior in these young people, rather than solving an existing problem.

The dearth of knowledge may have to do with the perception and interpersonal skills of the professionals themselves. Training and retraining of medical personnel to be able to disseminate the correct information and prescribe the correct method when required will go a long way to address this problem. Also, proactive intervention, that is, counseling likely candidates about its use even when they have entirely different complaints, has been shown to increase its use[17]. But, this may again, be totally inappropriate given our socio-cultural norms in this environment.

The use of effective methods of emergency contraception was inevitably low, as compared with the cited work of Arowojolu *et al.*[9] in a similar population, which assessed it to be 11.3%. Unfortunately, those who knew about the method, whether or not they considered it effective, still would not use it in future. The same concerns about future fertility and health risks by these respondents were also highlighted in other studies[5,6,14,18]. It has even been suggested that abortion is preferred to use of contraception, as the effects of the latter on fertility are perceived to be continuous and prolonged, rather than immediate, like abortion[18].

There appears to be a significant need for emergency contraception, inferred when the various proxies to its need are put together —— sexual activity without contraceptive use, getting pregnant, and resorting to illegally aborting the pregnancy; all of these approximating closely, to a figure as high as 68.4%.

Conclusion

There is a dearth of knowledge about use of emergency contraception in these young people, with a significant need for it. Age, level or faculty of study did not have any influence on knowledge, but those who had used the method before or were sexually active were more likely to have correct knowledge. Means of acquiring knowledge are mostly from peers, so expectedly inaccurate. Fears were expressed on the sequelae of using these methods in future.

Continuing medical education programs should focus on this issue, so as to improve professionals' knowledge and counseling. As peer influence appears pertinent, peer educators need to be trained and deployed to improve perception and use. The establishment of youth-friendly centers on school campuses may facilitate this.

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