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Knowledge, Attitude and Provision of Emergency Contraception Among Health Professionals in Borno State Northern Nigeria

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Abstract

Purpose: To determine the knowledge, attitudes and provision of emergency contraception among health professional's (physicians, pharmacist and nurse/midwives) in Borno State in northern Nigeria.
Methods: A validated self administered questionnaires issued to randomly selected physicians, pharmacist and nurses/midwives. The questionnaire enquired about knowledge, attitudes and provision of emergency contraception.
Results: Overall awareness about emergency contraception is 80.6% among the health professionals, but was lower among nurse/midwives (69.8%). The awareness of the various methods of emergency contraceptives was poor, with only 97 (49.5%) of the respondent aware of Estrogen as a method and only 10(5.1%) knows that Danazol can be use for emergency contraception. In 20 (10.2%) of the cases the respondent were not sure of the correct timing of EC. Only 71 (36.2%) of the respondents had ever provided EC before. Among the professional groups, physicians were more likely to approve the use while pharmacists were more likely to have provided EC before.
Conclusion: Although the awareness of emergency contraception among health care providers in Borno State is high, its provision and the knowledge of the various methods are poor. There is the need of re-educating our health professionals on emergency contraception.

Keywords: Emergency contraception, Health professionals, Knowledge, Attitudes

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Introduction

Emergency contraception, also called post coital contraception, refers to the type of contraceptive given as an emergency procedure after unprotected sexual contact to prevent pregnancy or any female method of contraception administered after sexual intercourse and has its effect prior to the stage of implantation of the blastocyst [1] .Various forms of emergency contraception have been described but, only 6 have been clinically used. These are the high dose estrogens, combined estrogen-progestogens pills (Yuzpe regime), progestogen only (levonorgestrel), IUCD, Danazol and Mifeprostone

Over 60% of pregnancies in adolescents in Africa are unplanned and unwanted [2], with more than half of these ending up as induced abortions [3]. Despite the strict abortion laws in Nigeria, there is clear evidence that induced abortion is still widely practiced in the country with an estimated 610,000 induced abortions carried out annually, and an abortion ratio of 25/1000 women [4]. The estimated maternal death due to induced abortion in Nigeria is 40-50% [5,6].

Giving increasing sexual activity and decreasing age at first sex among adolescents [7,8], and available evidence indicating that abortion is also common among married women and with the low contraceptive prevalence rate coupled with the cultural and religious reservations in our society, there is the need for the use of emergency contraception (EC) offering a second chance to prevent unwanted pregnancy after an unprotected sexual exposure [9]. EC has a significant potential to reduce the burden of unintended pregnancy and was not found to increase the rate of unprotected sex or STI [10]. Therefore the use of EC will lead to fewer pregnancy termination and possibly reduction in mortality from unsafe abortion. To achieve this goal there is the need to have trained/skilful and motivated health care providers that believe that emergency contraception is an effective method to prevent mortalities from unwanted pregnancies and ready to provide such services effectively to clients in need because recent review showed many women and healthcare providers are unaware that EC is an option or perceive it as unnecessary [11,12].

This study was undertaken to ascertain the level of awareness, attitude and provision of emergency contraceptive methods among health professionals in Borno State, North-eastern Nigeria. The findings will form the bases of directing training and encouraging improvement of the provision of emergency contraception.

Subjects and Methods

Borno State occupies the greater part of the Chad Basin and is located in the North-Eastern corner of Nigeria and has an estimated area of 70,898 Km. The State shares boundaries with Adamawa State to the South, Gombe State to the West and Yobe State to the North-West, Republics of Niger to the North, Chad to the North-East and Cameroun to the East. Borno State has 27 Local Government Areas with Maiduguri as the state capital. It has a total of 571 health care facilities (34 secondary, 491 primaries, 44 private and 2 tertiary facilities). Majority of about the 100 doctors and 1000 nurse/midwives practicing in the state are in Maiduguri, the state capital.

The study area was Maiduguri, and two other local government areas; Konduga to the south and Munguno to the north of the state capital. The subjects for this study were randomly selected health care professionals (nurse/midwife, pharmacists and physicians) practising in the study area. Following ethical approval from the Ethical and Research Committee of the University of Maiduguri Teaching Hospital, the selection of the subjects was done following a systematic random sampling technique such that every third health care professional encountered is selected for the survey. The survey was

conducted using a self administered closed-ended questionnaire that was tested for content validation by 15 health care professionals prior to the start of the study. The questionnaire enquired about the professional cadre, awareness of emergency contraception (EC), the various methods and indications of the use of EC, timing of the use of EC from the respondents and if they approve of the use, have provided and can provide EC.

The sample size for the study was obtained using the formula for calculation of sample size for proportion according to WHO methodology [13] using 80% degree of confidence and 5% error. This yielded a sample size of 163, which was increased by 20% to 196 to account for attrition and to increase power. The statistical software SPSS, version 11 (SPSS, Chicago, IL, USA), was used for statistical analysis. The responses were presented as number and percentage and the χ^2 test was used to determine whether there were associations between categorical variables. $P<0.05$ was considered significant.

Results

All distributed questionnaires were retrieved and analysed. Out of the 196 respondents, 158 (80.6%) were aware of emergency contraception (Table 1). In the respective professional groups, pharmacist had the highest awareness rate of 97%, while the awareness rate was 69.8% among nurses/midwifes.

Table 2 showed the knowledge of the respective EC methods among the respondents. EC methods awareness was generally poor among the study group with only 97 (49.5%) of the respondent aware of estrogen as an EC method and only 10 (5.1%) of the respondents aware that Danazole can be used for EC. Among the respective groups, pharmacist were more likely to know estrogen ($p=0.002$) and levonorgestrel ($p<0.001$) as EC methods while physicians were more likely to know that combine oral contraceptives ($p<0.001$) and IUCD ($p<0.001$) can be used for EC.

The knowledge of indications for emergency contraceptive use among the study group are given in Table 3. In 143 (72.9%) of the cases the respondents knew that unprotected sex was an indication for EC, while 136 (69.4%) were aware that EC can be used after failure of other contraceptive methods (like condom burst). The nurse/midwife were consistently less likely to know the correct indications for the use of EC compare to physician and pharmacist ($p<0.001$).

Table 4 depicts the knowledge of timing for the use of emergency contraceptive after unprotected sexual intercourse. One hundred (51%) of the respondent said immediately, 71 (36.2%) said within 72 hours while 20 (10.2%) were not sure of the correct timing of EC use.

The Approval/Provision of Emergency Contraception among the study group is shown in Table 5. In 149 (76%) of the cases the respondents approved of EC use but only 71 (36.2%) had ever provided it although 162 (82.7%) said they can provide EC in future. Among the professional groups, pharmacist were more likely to have ever provided EC ($p=0.028$) while physician were more likely to provide EC in the future ($p=0.043$).

Table 1: Awareness of emergency contraception among the study group

Profession	Yes (n, %)	No (%)	Total (n, %)
Nurses/Midwife	74 (69.8%)	32 (20.2%)	106 (100%)
Physicians	50 (90.9%)	5 (9.1%)	55 (100%)
Pharmacists	34 (97.1%)	1 (2.9%)	35 (100%)
Total	158 (80.6%)	38 (19.4)	196 (100%)

Table 2: Knowledge of emergency contraception methods among the study group

	Nurse/midwife (n, %)	Physician (n, %)	Pharmacist (n, %)	Total (n, %)
Oestrogen				
Yes	39(36.8)	32(58.2)	26(74.3)	97(49.5)
No	19(17.9)	7(12.7)	2(5.7)	28(14.3)
Don't Know	48(45.3)	16(29.1)	7(20)	71(36.2)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=17.23, p=0.002			
COC				
Yes	38(35.8)	33(60)	20(57.2)	91(46.2)
No	14(13.2)	11(20)	11(31.4)	36(18.4)
Don't Know	54(51)	11(20)	4(11.4)	69(35.2)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2 =27.16	P <0.001		
IUCD				
Yes	30(28.3)	18(32.7)	5(14.3)	53(27)
No	24(22.6)	21(38.2)	25(71.4)	70(35.7)
Don't Know	52(49.1)	16(29.1)	5(14.3)	73(37.3)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=30.40, p<0.001			
Levonorgestrel				
Yes	24(22.6)	25(45.5)	27(77.1)	76(38.8)
No	9(8.5)	5(9)	3(8.6)	17(8.7)
Don't Know	73(68.9)	25(45.5)	5(14.3)	103(52.5)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=36.70, p<0.001			
Danazol				
Yes	7(6.6)	3(5.5)	0(0)	10(5.1)
No	15(14.1)	22(40)	24(68.6)	61(31.1)
Don't Know	84(79.2)	30(54.5)	11(31.4)	125(63.8)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=39.68, p<0.001			
Mifeprostone				
Yes	20(18.9)	18(32.7)	5(14.3)	43(21.9)
No	16(15.1)	13(23.6)	21(60)	50(25.5)
Don't Know	70(66)	24(43.7)	9(25.7)	103(52.6)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2= 34.51, p<0.001			

Discussion

This study reveals an appreciable overall emergency contraceptive awareness rate of 80.6% among the respondents, which comprised of physicians, pharmacists and nurse/midwife; this was similar to findings from Lagos southern Nigeria of 90% [14] but significantly differs with the low awareness rate in a study in Ibadan, Nigeria [15] though this may be due to social workers and administrators being part of that study group. A similar study in Kaduna northern Nigeria revealed no awareness about emergency contraception among community health extension workers (CHEW) [16].

Although method awareness is generally poor among the study group, the knowledge about high Estrogens and levonorgestrel as emergency contraception is significantly higher more likely because they are the com-

Table 3: Knowledge of the Indication for use of emergency contraception among the study group

	Nurse/midwife (n, %)	Physician (n, %)	Pharmacist (n, %)	Total (n, %)
Unprotected Sex				
Yes	69(65.1)	43(78.2)	31(88.6)	143(72.9)
No	8(7.5)	6(10.9)	1(2.9)	15(7.7)
Don't Know	29(27.4)	6(10.9)	3(8.5)	38(19.4)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2 =1.71, p=0.02			
Sexual assault				
Yes	51(48.1)	45(81.8)	33(94.2)	129(65.8)
No	10(9.4)	1(1.8)	1(2.9)	12(6.1)
Don't Know	45(42.5)	9(16.4)	1(2.9)	55(28.1)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=34.01, p=0.000			
Method failure				
Yes	63(59.5)	41(74.5)	32(91.4)	136(69.4)
No	8(7.5)	3(5.5)	1(2.9)	12(6.1)
Don't Know	35(33)	11(20)	2(5.7)	48(24.5)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=13.81, p=0.008			

Table 4: Knowledge of Timing of Emergency Contraception use among the study group

	Nurse/midwife (n, %)	Physician (n, %)	Pharmacist (n, %)	Total (n, %)
Immediately	53(50)	27(49.1)	20(57.1)	100(51)
Within 72hrs	31(29.3)	27(49.1)	13(37.1)	71(36.2)
Within 1 week	1(0.9)	0	0	1(0.5)
Anytime	3(2.8)	0	1(2.9)	4(2.1)
Not sure	18(17)	1(1.8)	1(2.9)	20(10.2)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2 =17.09, p=0.029			

monly used methods of EC. The awareness of all the EC methods among the nurse/midwife group is significantly lower compare to that of physicians and pharmacist which fall in line with findings in Ibadan [12] Enugu (Eastern Nigeria) [17] and Abuja [18]. This finding is significant in that majority of contraceptives providers in Nigeria are nurse/midwives and in rural areas were unwanted pregnancy might be more dangerous they are the first point of contact regarding reproductive health matters or may even be the only health care providers available.

The awareness about mifeprostone as emergency contraceptive method in this study is very low, but higher than findings in Ibadan of 13.3% [15], this might not be unconnected with the fact that, Mifeprostone in clinical practice is known more commonly as an arbotificient to health workers rather than an emergency contraceptive method.

Despite the fact that emergency contraception (EC) has enormous potential to reduce the number of unintended pregnancies and abortions, studies to date

Table 5: Approval/Provision of Emergency Contraception among the study group

	Nurse/midwife (n, %)	Physician (n, %)	Pharmacist (n, %)	Total (n, %)
APPROVAL OF EC				
Yes	74(69.8)	48(87.3)	27(77.1)	149(76)
No	17(16)	7(12.7)	6(17.1)	30(15.3)
Don't Know	15(14.2)	0	2(5.8)	17(8.7)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=10.60, p=0.031			
EVER PROVIDED EC				
Yes	30(28.3)	23(41.8)	18(51.4)	71(36.2)
No	76(71.7)	32(48.2)	17(48.6)	125(63.8)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=7.13, p=0.028			
CAN PROVIDE EC				
Yes	80(75.5)	52(94.6)	30(85.7)	162(82.7)
No	16(15.1)	1(1.8)	3(8.6)	20(10.2)
Don't Know	10(9.4)	2(3.6)	2(5.7)	14(7.1)
Total	106(100)	55(100)	35(100)	196(100)
	χ^2=8.83	P =0.043		

revealed that EC is often underutilized [19,20] and some of the barriers identified for the appropriate use of EC include lack of correct knowledge about EC [21,22,23]. Although similar to the findings in Ibadan [15], this study also reveals an appreciable awareness about the possible circumstances that emergency contraceptives can be used, about half of the respondents (51%) are unaware that emergency contraception can be use immediately after sexual exposure and significantly fewer respondents were aware that it can be used up to 72 hours or beyond. In 10.2% of the cases the respondents were not sure of when to use EC.

The approval for emergency contraceptive use was high among the respondent (76%) which is similar to findings by society for family health in Lagos of 80% approval rate [24]. Surprisingly, 24.5% of trained nurse/midwives are not willing to offer emergency contraception to clients with unprotected sex exposure; the various reasons sited include religious beliefs and cultural norms among others which erroneously assumed emergency contraception as abortion in disguise as reported by study in Lagos [24]. This is a good indication of the commitment on the side of the health care providers that they are ready to offer the services but the erroneous cultural and religious barriers believes of some need to be overcome to allow an unhindered access to emergency contraceptive services provision in our health facilities. Access is important because, the sooner after intercourse EC is taken, the more effective it is at preventing unplanned pregnancy.

Less than 40% of the respondents have ever provided emergency contraception to clients which is significantly higher than reported in Ibadan[14], but lower than reported in Lagos and the United states [12,25], the reason for this low provision rate could not be ascertain because there is a high approval of EC use by the study group and 82.7% of the respondent reported that they can provide it. Could it be due to none availability or that client doesn't ask for it? But studies in Nigeria showed varying knowledge and utilization of EC among women [11,26,27]. This is a pointer to the need to open up

availability and accessibility to emergency contraception services so as to prevent unwanted pregnancy and its resultant consequences.

Conclusion

This study revealed that although the awareness of emergency contraception among health care providers in Borno State is high, its provision and the knowledge of the various methods are poor. There is the need for re-training of the health care providers about emergency contraception.

Declaration

We declare that this work was done by AAG, AAK and GUS named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by the authors". All authors mentioned in this contributed sufficiently t be included as authors and approved the manuscript before it was submitted for publication.

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