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Emergency Contraceptives: Knowledge, Attitude and Prescription Practice of Primary Healthcare workers in Sokoto Metropolis, Northwest Nigeria.

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Abstract

Background: Emergency contraception refers to methods of contraception that can be used to prevent pregnancy after sexual intercourse. About thirty percent of all pregnancies, and 61% of all unintended pregnancies, ended in an induced abortion in Nigeria, and many women with unwanted pregnancies decide to end them by abortion. Healthcare providers' knowledge and attitude towards emergency contraception is very important for dissemination of awareness, consumer acceptance and use of contraceptives, as health care workers interact with large numbers of women and are reliable sources of information. This study aimed to assess healthcare workers' emergency contraception knowledge, attitude and prescription practice.

Materials and Methods: The study was a cross-sectional study. Healthcare workers providing services in Primary Health care facilities of Sokoto metropolis were studied. Using formula for sample size estimation for cross-sectional study, a total of 419 respondents were recruited into the study using systematic sampling technique. The instrument of data collection was a structured interviewer administered questionnaire and data was collected by means of Open Data Kit for android App and analysed using IBM SPSS statistical software package version 23. Univariate and bivariate analysis were conducted; level of significance was set at 5%.

Results: Few (39.9%) respondents knew that Intra uterine contraceptive devices can be used for emergency contraception, only 15.4% knew how emergency contraceptives work. Most (75.4%) believed that emergency contraceptives should be available only on prescription; and 30.5% felt that emergency contraceptive pills promote irresponsible behaviour. More than half of the respondents (56.5%) had prescribed within the last one month, 48.7% of them prescribed less than 5 times within the month. Only 27(8.0%) have ever prescribed emergency contraceptive pills in advance of need.

Conclusion: The study respondents had good knowledge of emergency contraceptives, albeit, with some misconceptions, they also demonstrated good attitude, however, the prescription practice was fair.

Keywords: Primary Health Care Workers, Emergency Contraception, Knowledge, Attitude, prescription

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Introduction

Emergency contraception (EC) refers to methods of contraception that can be used to prevent pregnancy after unprotected sexual intercourse (1). Emergency Contraceptive Pills (ECPs) are pills used for preventing pregnancy after unprotected intercourse, they are sometimes referred to as "the morning after pill" or "postcoital oral contraceptives (2)." Emergency contraceptive pills recommended by WHO are ulipristal acetate, levonorgestrel, or combined oral contraceptives (COCs) consisting of ethinyl estradiol plus levonorgestrel.¹ The effectiveness of emergency contraception is limited by timing of administration and can prevent up to over 95% of pregnancies when taken within 5 days after intercourse (3). The need for EC may arise when following sexual intercourse the following occurs; no contraceptive method was used, contraceptive failure occurs or incorrect use of contraceptives, such as incorrect use of condom or breakage, three or more consecutive missed combined oral contraceptive pills (OCP), delay more than two weeks for injectable method, failed withdrawal method, intra uterine device (IUD) expulsion and case of sexual assault when woman is not protected by contraception (4).

Despite the availability of highly effective methods of contraception, many pregnancies are mistimed or unintended. These pregnancies may carry a high risk of morbidity and mortality, particularly in settings where safe abortion is not accessible or where quality obstetric services are not available for those women continuing a pregnancy to term. Many of these unintended pregnancies can be avoided using emergency contraception (2).

Between 2015 and 2019, on average, 73.3 million induced (safe and unsafe) abortions occurred worldwide each year (3). About 3 out of 10 (29%) of all pregnancies, and 6 out of 10 (61%) of all unintended pregnancies, ended in an induced abortion (3). Sub-Saharan Africa has the highest pregnancy rate of (218 per 1,000 women per year). The region has the highest unintended pregnancy rate (91 per 1,000). Among women who become pregnant without intending to be, an estimated 37% terminate the pregnancy (5). From 1990–2019, the share of unintended pregnancies resolved through abortion increased by 26% in Middle Africa, by 44% in both Eastern and Western Africa and by 72% in Southern Africa as of 2019 (5). Some 6.2 million unsafe abortions occur in the region per year and the region has the highest rate of abortion-related deaths in the world, at 185 maternal deaths per 100,000 abortions (5).

In Nigeria, unintended sexual intercourse is the primary cause of unwanted pregnancies, and many women with unwanted pregnancies decide to end them by abortion (6). Since abortion is illegal in Nigeria (unless medically recommended to save a mother's life), many abortions are carried out clandestinely, and often in an unsafe environment (6). The consequences of these clandestine abortions are grave and can be life-threatening, often leading to maternal death (6).

The Percent distribution of currently married and sexually active unmarried women age 15-49 by contraceptive method currently using emergency contraceptive in urban setting in Nigeria is low i.e. only 0.3% (7).

Although EC is widely available in many countries, making it available is not enough in itself to prevent unwanted pregnancies and abortions that result from unprotected intercourse. People need to know that it exists; thus the communication component of an introduction strategy for emergency contraception is a key determinant of success (8). EC use has been marred with controversies and misperceptions in some countries, especially concerning its mode of action, impact on behaviour and safety (9) while it has been welcomed in some countries as just another contraceptive option and part of a broader reproductive health agenda. In others, EC has been met by claims that it is an abortifacient, a sign of the population's moral degeneracy, or a tool for abusing children (9). In order to eliminate these misconceptions, healthcare providers' knowledge and attitude towards emergency contraception therefore become key to the dissemination of awareness, consumer acceptance and use of contraceptives for their all-time benefits (10) since they interact with large numbers of women and

are reliable sources of information. They have influence on women's contraceptive behaviour and their knowledge and attitudes about EC can impede or promote women's use (4).

Furthermore, studies have shown that women who are counselled by their health care workers about emergency contraception were 11 times more likely to use emergency contraception in the following 12 months (11). Health care workers' knowledge about emergency contraception and attitude towards emergency contraception therefore become key to the dissemination of awareness, consumer acceptance and use of contraceptives for their all-time benefits in developing countries (8) Healthcare professionals have a responsibility to counsel and offer their patients knowledge on all forms of contraception, including EC (9). Studies have shown that Lack of knowledge and misperceptions about EC also exists among healthcare workers, therefore hindering the dissemination of knowledge to patients (9). Many healthcare professionals have poor knowledge and poor attitude towards emergency contraception especially the general practitioners and those who have worked for more than ten years. The practice of EC is generally poor among the respondents and this may add to unmet needs for contraception (12). This study aimed to assess health care workers' emergency contraception knowledge, attitude and prescription practice.

Materials and Methods

The study was conducted in Sokoto metropolis. Sokoto metropolis consists of Sokoto North, Sokoto South, Parts of Dange/Shuni and Wammako LGAs. The state has a total of 574 primary health facilities (13), however, the Sokoto Metropolis) has a total of 52 primary health facilities. These facilities are mainly manned by nurses, community health officers (CHO) and community health extension workers (CHEWS), however a few have doctors manning them.

The study was cross-sectional and analytical in nature. The study population comprised of Primary Health Care (PHC) workers (Nurses, CHO and CHEWS) working in the selected facilities. Only study participants who had worked in these facilities for minimum of 6 months were included in the study. Sample size was estimated using formula for sample size estimation for cross-sectional studies, where P (33.2%) (14) was the Prevalence of knowledge of emergency contraception among PHC workers, allowing for a response rate of 80%, a total of 419 respondents were enrolled into the study using systematic sampling technique.

The instrument of data collection was by means of structured interviewer administered questionnaire adapted from previous studies. The questionnaire had 4 sections which sought for information on respondents socio-demographic characteristics, their knowledge, attitude and prescription practices of emergency contraception. The questionnaire was pretested among 41 PHC workers

at a Primary Health Care facility in Sokoto that was not part of the study site. Data was collected by trained research assistants using open data kit (ODK) installed into their android smart phones and tablets. At the end of data collection, completed forms were extracted from the ODK server in excel format and exported into IBM SPSS version 23 software for analysis.

Respondents knowledge of emergency contraceptives was assessed using 6 item questions. One mark was awarded for every question answered correctly, zero marks was given for every questioned answered wrongly or not answered at all. Knowledge score was obtained by summing up the scores divided by 6 and converting to percentages. Scores < 50% and $\geq$ 50% were regarded as poor and good knowledge respectively. Univariate variables were summarised using frequencies and percentages for qualitative data and means and standard deviation for quantitative variables. Chi square test statistic was used to test for association between socio-demographic characteristics of respondents and their knowledge, attitude and prescription practices of emergency contraception.

Ethical clearance was obtained from the Ethics and Review Committee of the Sokoto State Ministry of Health, Nigeria. Permission was sought from the Heads of the different PHCs. Informed verbal and written consent was sought from each study participant before enrolment into the study. They were intimated about the research protocol, objectives of the research, any potential risks and benefits associated with involvement in the research. They were assured of confidentiality of study findings and their freewill to opt out of the study voluntarily at any stage of the study.

Results

More than two-thirds of the study respondents 236 (69.8%) were less than 40 years and slightly above half, [187 (55.3%)] were females. Almost one-third, [104 (30.8%)] of the respondents have more than 10 years since basic qualification and more than half, 151 (55.7%) have never had any training on emergency contraception (Table 1)

Majority, 270 (79.9%) of the respondents knew that emergency contraception is legal in Nigeria. Many, 218 (64.5%) and majority, 291 (86.1%) knew that combined oral contraceptive pills and Postinor respectively were used for emergency contraception. Only 39.9% knew that IUCD can be used for emergency contraception. A great majority, 310 (91.7%) and 285 (84.3%) knew that a woman who has been raped and sexual intercourse following a condom breakage, respectively can be given emergency contraception. More than two-third, 219 (64.8%) knew that emergency contraception should be given within 5 days of unprotected intercourse, only 15.4% of respondents knew how emergency contraceptives work (Table 2).

Two hundred and fifty-five respondents (75.4%) believed that emergency contraceptives should be available

only on prescription; and 103 (30.5%) felt that emergency contraceptive pills promote irresponsible behaviour (Table 3).

Majority, 316 (93.5%) of the respondents have prescribed emergency contraception at least once and 191 (56.5%) have prescribed within the last one month. Among those who prescribed within one month, 93 (48.7%) prescribed less than 5 times within the month. Only 27(8.0%) have ever prescribed emergency contraceptive pills in advance of need (Table 4).

One hundred and one (42.8%) of those below 40 years had good knowledge compared to 45 (44.1%) among those who are greater than 40 years and the difference was not statistically significant, $p = 0.822$. A higher proportion, 49 (47%) of those with ≥ 10 years of work experience had good knowledge compared to those with less than 10 years of work experience; and those ≥ 10 years of work experience are 1.26 times more likely to have good knowledge, however, this finding is not statistically significant. A higher proportion of those who had training, 95 (50.8%) had good knowledge compared to 51 (33.85%) of those who had not training. Those who did not have any training were less likely to have good knowledge, 0.49 (95% CI= 0.32 - 0.77), $p = 0.002$ (Table 5).

Table 1: Sociodemographic profile of respondents

Variable	Frequencies	Percentages
Age group		
<40yrs	236	69.8
≥ 40 yrs	102	30.2
Gender		
Male	151	44.7
Female	187	55.3
Religion		
Islam	305	90.2
Christianity	33	9.8
Ethnic group		
Hausa	199	58.9
Fulani	62	18.3
Yoruba	48	14.2
Igbo	25	7.4
Others	4	1.2
Years of qualification		
<10	234	69.2
≥ 10	104	30.8
Work cadre		
CHO	58	17.2
Midwife	54	16.0
Nurse	75	22.2
Chew	151	44.7
Had training on emergency contraceptive		
Yes	187	55.3
No	151	44.7

CHO= Community Health Officer, CHW= Community Health Extension Worker

Discussion

Our study was able to demonstrate some level of general knowledge of EC among health care workers, however detailed knowledge of EC was lacking around crucial issues such as the different types, timing, mechanism

Table 2: Knowledge of Emergency contraception

Variables	Frequencies of correct responses	Proportions of correct responses
Emergency contraception legal in Nigeria	270	79.9
Emergency contraception is included in the Nigerian family planning guideline	281	83.1
The following can be used for emergency contraception*		
Combined oral contraceptive	218	64.5
Progestin only pills with levonorgestrel	184	54.4
Twice monthly injection with levonorgestrel	50	14.8
Postinor	291	86.1
Mifepristone	195	57.7
Copper bearing intrauterine device (IUCD)	135	39.9
The following would benefit from emergency contraception*		
A woman who has had unprotected sexual intercourse and doesn't want to be pregnant	266	78.7
A woman who has been raped	310	91.7
A woman who has had unprotected sexual intercourse after IUCD expulsion	244	72.2
A woman who is very late taking her combined oral contraceptives	153	45.3
A woman who is very late taking her injectable contraceptives	144	42.6
Following condom breakage during intercourse	285	84.3
Immediately after unprotected intercourse	314	92.9
Within one hour after unprotected intercourse	219	64.8
Emergency contraception can be used after unprotected intercourse within...		
24 hours	220	65.1
2 days	187	55.3
5 days	219	64.8
7 days	301	89.1
The following are side effects associated with use of emergency contraception*		
Bleeding per Vagina	321	95.0
Nausea/vomiting	181	53.6
Pelvic inflammatory diseases (PID)	223	66.0
Headache	210	62.1
Acne	167	49.4
Weight gain	212	62.7
Breast cancer	90	26.6
Pregnancy	53	15.7
How emergency contraception works	52	15.4

* = Multiple response questions

Table 3: Attitude of respondents towards emergency contraception

Attitude	Agree	Disagree	Not certain
	Frequency (%)	Frequency (%)	Frequency (%)
Emergency contraceptives should not be available at all	25 (7.4)	292 (86.4)	21 (6.2)
Emergency contraceptives should be available only on prescription	255 (75.4)	58 (17.2)	25 (7.4)
Emergency contraceptive pills should be accessed over the counter	222 (65.7)	57 (16.9)	59 (17.5)
Emergency contraceptives promote irresponsible behaviour	103 (30.5)	174 (51.5)	61 (18.0)
Emergency contraceptives should be provided to women of reproductive age in advance of need	272 (80.5)	25 (7.4)	41 (12.1)

of action of EC. Some of our respondents also demonstrated inaccurate knowledge about the legal status of EC in Nigeria.

Many of the respondents knew that combined oral contraceptive pills as well as postinor can be used for emergency contraception. About a third knew that IUCD can be used for emergency contraception. This result is in line with a previous study conducted in Nigeria (8), which reported that 25.3% knew IUCD can be used for emergency contraception, but contrast with a another study among health care workers which reported that half of the respondents knew that IUCD can be used for emergency contraception (15).

A great majority, 310 (91.7%) and 285 (84.3%) knew that a woman who has been raped and a woman who had condom breakage following a condom breakage, respectively can be given emergency contraception. This level of knowledge may mean that majority of women who need EC due to rape or condom breakage following intercourse may have EC recommended to them if they present to primary health care centres.

Table 4: Practice of emergency contraception prescription among respondents

Variables	Frequency	Percent
Ever prescribed emergency contraception		
Yes	316	93.5
No	22	6.5
Prescribed emergency contraception within the last one month		
Yes	191	56.5
No	147	43.5
How many times prescribed in the last one month (n = 191)		
≥5	98	51.3
<5	93	48.7
Prescribed emergency contraception within the last 1 year?		
Yes	312	92.3
No	26	7.7
Methods of emergency contraceptive ever prescribed for women of reproductive age*		
Combined oral contraceptive	170	50.3
Progestin only pills with levonorgestrel	229	67.8
Methods/twice monthly injection with levonorgestrel	271	80.2
Postinor	239	70.7
Mifepristone	148	43.8
Copper bearing intrauterine device	53	15.7
Have you ever provided women of reproductive age with emergency contraceptive in advance of need?		
Yes	27	8.0
No	311	92.0

* Multiple responses

Table 5: Relationship between knowledge and sociodemographic factors

Variables	Knowledge		Chi square p value	OR	CI (95% CI)
	Poor	Good			
Age group (Years)					
<40	135 (57.2)	101 (42.8)	0.051	1.1	1.06 (0.66 - 1.69)
≥40	57 (55.9)	45 (44.1)	0.822		
Gender					
male	79 (52.3)	72 (47.7)	2.239	0.72	0.72 (0.47 - 1.11)
female	113 (60.4)	74 (39.6)	0.135		
Religion					
Islam	168 (55.1)	137 (44.9)	3.779	0.46	0.46 (0.21 - 1.02)
Christianity	24 (72.7)	9 (27.3)	0.052		
Ethnic group					
Hausa/Fulani	145 (55.6)	116 (44.4)	0.729	0.79	0.80 (0.47 - 1.34)
Yoruba/Ibo/others	47 (61.0)	30 (39.0)	0.393		
Job cadre					
CHO/CHEW	112 (53.6)	97 (46.4)	2.309	0.71	0.71 (0.45 - 1.11)
Nurse/Midwife	80 (62.0)	49 (38.0)	0.129		
Years of qualification					
<10	137 (58.5)	97 (41.5)	0.941	1.26	1.26 (0.79 - 2.00)
≥10	55 (52.9)	49 (47.1)	0.332		
Had training on emergency contraception					
Yes	92 (49.2)	95 (50.8)	9.871	0.49	0.49 (0.32 - 0.77)
No	100 (66.2)	51 (33.8)	0.002		

CHO = Community Health Officer CHEW = Community Health Extension Worker

Less than two-third of our respondents knew that emergency contraception should be given within 5 days of unprotected intercourse. Another study conducted among physicians in Nigeria reported that 7.6% knew that emergency contraception may be used up to 5 days after unprotected sexual intercourse (8). Health care workers not knowing the ideal time to provide emergency contraception to clients means that some clients may miss out on using emergency contraception when they need it the most.

Less than a fifth of our respondents knew how emergency contraceptives work. This result is similar to finding from previous studies which reported that few health workers could explain the mechanism of action of emergency contraception (15, 16). Although several possible mechanism of action have been postulated, research shows that emergency contraception acts by preventing pregnancy and cannot interrupt an established pregnancy (17). The method's ability to inhibit or delay ovulation has been demonstrated in clinical trials and is an important mechanism of action if emergency contraception is used during the first half of the menstrual cycle before ovulation has occurred (17). Some clinical studies suggest that emergency contraception may make the endometrium less receptive to the implantation of a fertilized egg, although some other studies have not found any effect on the endometrium (17). In addition, emergency contraception may prevent pregnancy by interfering with corpus luteum function; thickening the cervical mucus; altering the tubal transport of sperm, egg or embryo; or directly inhibiting fertilization (17). Having accurate emergency contraception related knowledge is thus invaluable for health care workers to feel comfortable in providing adequate and correct counselling as well as prescribing emergency contraception to clients with ease (15). Overall, our study findings contrasted with a study conducted in Ismailia Governorate, Egypt which reported general lack of knowledge of emergency contraception among health care providers (18).

Three quarters of the study respondents believed that emergency contraceptives should be available only on

prescription. Availability of emergency contraception only on prescription would further make its access more difficult. Previous studies reported that less than half of the respondents believed that emergency contraception should be available over the counter (8, 16).

Level of prescription of emergency contraception among our study respondents was far from encouraging. However, emergency contraception is available in Nigeria without prescription, this may account for low demand for it at our study centres. Studies that evaluate the level of knowledge of emergency contraceptives among patent medicine vendors could greatly enhance awareness and access towards emergency contraceptives. A previous study reported that 18.4% of study respondents had ever prescribed emergency contraception (15). Another study reported that only 27 (8.0%) have ever prescribed emergency contraceptive pills in advance of need. Health care workers should be encouraged to provide information on emergency contraception to women of reproductive age at every contact, they should also be encouraged to prescribe them in advance of need.

A higher proportion of respondents with ≥ 10 years of work experience had good knowledge compared to those with less than 10 years of work experience and those with ≥ 10 years of work experience were 1.26 times more likely to have good knowledge. Also, a higher proportion of respondents who had been trained on emergency contraceptives had good knowledge compared to those who had not been trained. This is not surprising as training on emergency contraception is usually aimed to improve knowledge, promote positive attitude and eventually increase prescription practice and access to emergency contraception.

Conclusion

The study respondents had good knowledge of emergency contraceptives, albeit, with some misconceptions, they also demonstrated good attitude, however, there was low prescription practice.

Given the general positive attitude of the study respondents regarding emergency contraception, training

health care providers regarding when to initiate treatment, contraindications, and mode of action may be a relatively simple way to increase prescribing, resulting in increased utilization of emergency contraception.

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