

Ogun state pharmacists' knowledge about oral emergency contraception

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ABSTRACT

Background-Emergency contraception (EC) can be maximized if pharmacists are well informed about the practical aspects of providing it. This study ascertained pharmacists knowledge level of EC and determined associated factors.

Methods-A cross sectional survey was conducted among 200 Ogun State pharmacists using a 20 item pretested structured questionnaire.

Results-Response rate was 88%. Modal age group, gender, tribe and educational qualification were 30-39 years 82 (46.6%); males 94 (53.4%), Yoruba's 152, (86.4%) and B Pharm 135 (76.7%) respectively with a working experience of mean±SD of 9±8.364. Awareness to EC was 100% and most popular source of information was university education 109 (61.9%). Positive knowledge rate was 53% and 128 (72.7%) agreed that EC should be used in sexual assault. The respondents were most knowledgeable on EC reducing pregnancy risks by at least 75% 148 (84.1%).

There were significant association between knowledge about EC and gender (P value= 0.019), practice place (P value=0.015), no of children (P value=0.025) highest educational qualification (P value=0.043), religion (P value=0.0043) and marital status (P value=0.039) respectively.

Conclusion-Respondents were averagely knowledgeable about EC and factors associated were gender, practice place, no of children, marital status.
Pharmacists need additional information and training on protocols of EC.

Key words- Pharmacists' Knowledge, Emergency contraception

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La connaissance des pharmaciens de l'état d'Ogun sur la contraception orale urgente.

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RESUME

Contexte-La contraception d'urgence (EC) peut être maximisée si les pharmaciens sont bien avisés sur les aspects pratiques de son approvisionnement. Cette étude a établi le niveau de connaissance des pharmaciens sur la contraception d'urgence et déterminé les facteurs associés.

Méthodes- Une enquête transversale fut menée sur 200 pharmaciens d'Ogun State à l'aide d'un questionnaire structuré pré-évalué sur 20 points.

Résultats- Le taux de réponses était de 88%. Le groupe d'âge modal, de sexe, de tribu et de diplômes était 30-39 ans 82(46,6%); hommes 94 (53,4%), Yorouba 152, (86,4%) et B Pharm 135 (76,7%) respectivement avec expérience professionnelle de moyenne \pm SD de $9 \pm 8,364$. La conscience de la contraception urgente était 100% et la source d'information la plus populaire était l'éducation universitaire 109 (61,9%). Le taux de connaissance positive était de 53% et 128 (72,7%) acceptant que la contraception d'urgence doit être utilisée en cas d'agression sexuelle. Les répondants étaient mieux documentés sur le fait que la contraception d'urgence réduit les risques de grossesse d'au moins 75% 148 (84,1%).

Il y avait une association importante entre connaissance sur la contraception d'urgence et le sexe (valeur $P = 0,019$), lieu d'exercice (valeur $P = 0,015$), nombre d'enfants (valeur $P = 0,025$), diplôme le plus élevé (valeur $P = 0,043$), religion (valeur $P = 0,0043$) et l'état civil (P value=0,039) respectivement.

Conclusion- Les répondants avaient des connaissances moyennes sur la contraception d'urgence et les facteurs associés étaient le sexe, le lieu d'exercice, le nombre d'enfants, l'état civil. Les pharmaciens ont besoin d'information supplémentaire et de formation sur les protocoles de la contraception d'urgence.

Mots clés- Connaissance des pharmaciens, contraception d'urgence

INTRODUCTION

Emergency contraception (EC) sometimes referred to as 'morning after contraception' or post coital contraception' are methods used to prevent pregnancy after unprotected sexual intercourse or following contraceptive failure as in condom breakage or slippage. They are safe and effective¹ and according to World Health Organization guidelines, the only contraindication to use is a confirmed pregnancy.² Unfortunately there are substantial barriers to more widespread use of emergency contraception. Many women are unaware of its existence and many health care professionals are uninformed about the practical aspects of providing it.

In Nigeria, the reported annual incidence of induced abortion-25 abortions per 1000 women aged 15-44 years is very high.³ Associated with this is a correspondingly high rate of abortion related maternal morbidity and mortality in the country.⁴⁻⁶ Some of these unintended pregnancies, unsafe abortions and their consequences can be averted by the use of EC.

A study by Adekunle *et al* (2000)⁷ revealed that healthcare professionals' (physicians, nurses, pharmacists) knowledge of the various methods that can be used as emergency contraception was low and less than half (35.1%) of the respondents were aware that combined estrogen/progestin or progestin only pills could be used as emergency contraception. Also there have been knowledge inaccuracies in previous

studies of healthcare providers (pharmacists inclusive)⁸⁻¹⁸

The public to a large extent rely on the pharmacist (custodian of drugs) for information and advice on health related issues. Pharmacists are in a good position to educate both their patients and other health care professionals by conveying accurate information about emergency contraception.¹⁹ The quality of information supplied by the pharmacists will depend on their knowledge, attitude, beliefs and practice on the issue. Hence in this study we sought to ascertain the knowledge level of pharmacists living and or working in Ogun state concerning emergency contraception and to determine factors that are significantly associated with better knowledge of EC.

METHODS Location of study

The study was carried out among Pharmacists' working or living in Ogun State. Ogun State is one of the 36 states of the Federation of Nigeria with the appellation 'Gateway State'. It is located in southwestern Nigeria and lies within the tropics. It is bounded to the West by Benin Republic; to the south by Lagos State and the Atlantic Ocean; to the East by Ondo State and to the North by Oyo and Osun States.

Ogun State has a Teaching Hospital, a neuropsychiatry Hospital and one Federal Medical Center, state

hospitals, numerous health centers, pharmaceutical industries, a pharmacy school and registered community pharmacies. Most of these health facilities have pharmacy departments under the control of registered Pharmacists.

Study design

A non randomized cross sectional survey was conducted using Pharmacists' working or living in Ogun State. Pharmacists were consecutively sampled to assess their knowledge as regards emergency contraception.

Population and sample size

A list of Ogun State registered pharmaceutical premises was obtained from the Pharmacy division of the Ministry of Health, Ogun state. This was to enable us reach all pharmacists in the State. Also other places not included in the list such as the major health institutions in the state, which had Pharmacists, were visited. Pharmacists in different practice site were selected for their different roles.

A sample size was determined using a known formula for determining sample size²⁰ as shown below: $n = \frac{(Z_{1-\alpha/2})^2 - (p)(1-p)}{d^2}$

$$n = \frac{(1.96)^2 \times 0.875 \times 0.125}{0.0458^2} = 200.31 \approx 200$$

Where n = sample size of the respondents, p=response rate from a previous Nigerian study⁷ expressed as a fraction (0.875).

d= acceptable margin of error 0.0458(4.6%) ($Z_{1-\alpha/2}$)= a constant which is 1.96 at 5% significant level. A sample size of 200 was obtained.

Data collection

Data for this study were collected using a 20 item structured questionnaire adapted from previous studies of KAP of pharmacists on emergency contraception in Mexico and South Africa.²¹⁻²² Questions that are appropriate for pharmacists in Nigeria were incorporated into the questionnaire. The questionnaire was divided into 2 sections:

1) nine questions on the socio demographic characteristics of the respondents such as primary practice setting, highest educational level, years of practice, age, gender, marital status, no of children,

religion and denomination.

2) eleven questions on Pharmacists' knowledge of oral emergency contraception which were close ended with a 'true' or, 'false' option. The questionnaire was pretested on four experienced pharmacists in practice to establish content, and validity. These pharmacists evaluated the instrument for content appropriateness, relevance, ease of use, clarity and length of time required for completion.

Two hundred (200) copies of the questionnaire were distributed to qualified pharmacists who were in academics, hospital practice, community practice, industries, and government parastatals. Academic Pharmacists were included in this study because they are involved in the training of pharmacy undergraduates and continuing professional education of qualified pharmacists. They are also frequently involved in the development of guidelines and standards of practice of pharmacy.

The questionnaires were distributed to pharmacists in their offices. The purposes of the study were discussed with some of the participating pharmacists and they were educated on the questionnaire format and how to indicate desired responses in the appropriate space provided in the questionnaire in order to prevent errors in responses. The copies of the questionnaire were left with the pharmacists who voluntarily accepted to participate in the study and retrieved from them within a period of two to three weeks after one to three visits. Their phone numbers were collected on the first visit and reminder calls were made each week until the questionnaires were filled. Those who were unable to fill the questionnaire by the third visit were considered as non-respondents because of time considerations.

Data analysis

Returned questionnaires were coded for easy reference. The responses were fed into Microsoft Excel software for easy sorting and checked for accuracy. All data obtained were then loaded into SPSS (version 17.0) for descriptive statistical analysis or Graph pad In stat (version 2.05) for inferential statistical analysis. Percentage frequencies were obtained. The average knowledge rate of the respondents was also obtained. Rated scores were treated as interval data suited for quantitative analysis. Relationships between the demographic

profile and responses were explored using Chi square tests. Inferential statistics were calculated with the aid of Graph Pad Instat, which reports exact P values, Hence a P value of ≤ 0.05 was interpreted as significant.

Ethical approval/consent

The study was approved by the West African Post Graduate College of Pharmacists. Also the purpose of the study was made known to the Pharmacists and their verbal consent was sought and obtained before commencement of the study.

RESULTS

Of the 200 questionnaires distributed to pharmacies, 179 questionnaires were returned, however only 176 questionnaires were completely filled giving a response rate of 88%.

Socio demographic characteristics:

The socio demographic characteristics are shown on Table 1

The modal age group of the respondents was 30-39 years 82(46.6%); the majority were males 94 (53.4%). They were mainly Yoruba's by tribe 152, (86.4%). Majority of the respondents had B.Pharm as their highest educational qualification 135(76.7%). The working experience of respondents ranged from one to forty years with mean \pm SD of 9 \pm 8.364.

Awareness of emergency contraception

The awareness to emergency contraception was 100%.

Sources of information

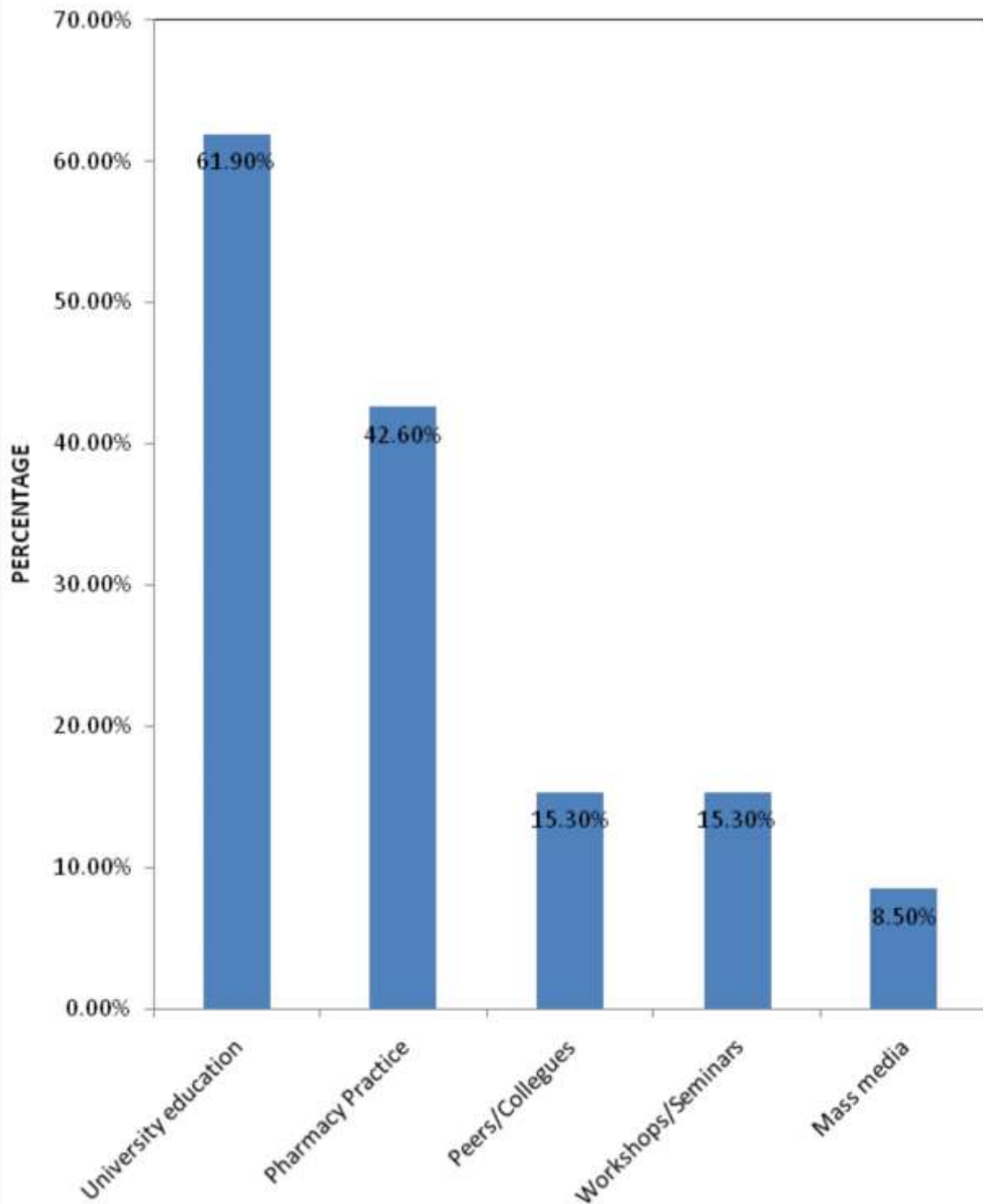
The respondents had various sources of information which are shown in Figure 1.

Knowledge of cases when EC should be used Results obtained showed that 126 (71.6%) of the respondents agreed that EC should be used in cases of condom breakage, while 128 (72.7%) and 63 (35.8%) also ticked sexual assault/ rape and incest respectively. Some of the respondents chose more than one case

Table 1 Socio demographic Characteristics of Respondents (n=176).

Characteristics	Number	Percentage
	No	%
Primary practice setting		
Community pharmacy	65	36.9

Hospital pharmacy	67	38.1	30-39	82	46.6
Academic pharmacy	10	5.7	40-49	33	18.8
Industrial pharmacy	16	9.1		5	2.8
Govt. parastatal	18	10.2	50-59	3	1.7
Highest educational level			≥60		
B.Pharm	135	76.7	No response	3	1.7
PharmD	8	4.5	Marital Status Married	120	68.2
Msc/MBA	23	13.1	Single	55	31.3
Phd	2		No response	1	.6
		1.1	Children Yes		
					58.0
Mpharm	3	1.7		102	
FPCPharm	2	1.1	No	67	38.1
No response	3	1.7	No response	7	4.0
Years of experience (years) 1			Religion Christian		
to 10	111	63		141	80.1
11 to 20	32	18.1	Muslim	33	18.8
21 to 30	17	9.7	No response	2	1.1
31 to 40	2	1.2	Denomination (if a Christian)		
			Pentecostal	80	45.5
No response	14	8.0	Catholic	12	6.8
Gender Male			Orthodox	27	15.3
	94	53.4	Others	5	2.8
Female	82	46.6	Not applicable	33	18.8
Age 20-29			No response	19	10.8
	50	28.4			



Sources of Information Figure 1- Respondents Sources of Information

Knowledge of prescribing emergency contraception
Responses to questions on the knowledge of the pharmacists is as shown on Table 2

Knowledge rate- From the responses on their knowledge, an average of 93.27(53%) respondents

knew the correct answers for the 11 questions asked on knowledge, while an average of 59.9 (34%) and 22.73 (12,9%) respondents had incorrect answers for the questions or gave no response respectively. The respondents were most knowledgeable on questions such as 'Use of oral emergency contraceptives reducing

pregnancy risks by at least 75%'148 (84.1%), 'When interviewing a patient to assess the need for oral emergency contraception, it is important to determine when the last menstrual period occurred'143 (81.3%) and 'If the next menstrual cycle does not begin in the next 21 days, the patient should follow up with a pregnancy test and/ or see the primary care provider'140 (79.5%).

Respondents were least knowledgeable on the question "Congenital abnormalities do not occur when

a woman is pregnant and takes emergency oral contraceptives" 37 (21%).

There were significant association between knowledge about EC and gender (0.019), practice place (0.015), no of children (0.025) highest educational qualification (0.043), religion (0.0043) and marital status (0.039) respectively. Table 3 shows factors that have significant association with respondents' knowledge of EC.

Table 2. Ogun State Pharmacists' Knowledge of Oral Emergency Contraception Prescribing (n=176)

True/False item	Correct answer	Correct No (%)	Incorrect No (%)	No response No (%)
Combined estrogen/ progestin or progestin only pills can Be used as emergency contraception.	True	106(60.2)	43(24.4)	27(14.8)
Oral emergency contraceptives interrupt an established pregnancy	False	111(63.1)	51(29)	14(8.0)
Use of oral emergency contraceptives reduces pregnancy risks by at least 75%.	True	148(84.1)	16(9.1)	12(6.9)
The only approved oral emergency contraceptives are combination estrogen/progestin products	False	96(54.5)	50(28.4)	30(17.0)
The maximum time a woman can take oral emergency contraceptives and expect effectiveness is 5 days or 120hours.	True	45(25.6)	113(64.2)	18(10.2)
If a woman is more than 2weeks late for a contraceptive injection, she cannot use oral emergency contraceptives	False	76(43.2)	68(38.6)	32(18.2)
Known Pregnancy is the only contraindication for oral emergency contraception.	True	85(48.3)	75(42.6)	16(9.1)
When interviewing a patient to assess the need for oral emergency contraception, it is important to determine when t he last menstrual period occurred.	True	143(81.3)	20(11.4)	13(7.4)
Blood clots, Migraines and liver disease are absolute contraindications for progestin only oral emergency contraceptives	False	39(22.2)	93(52.8)	44(25.0)
If the next menstrual cycle d oes not begin in the next 21 days, the patient should follow up with a pregnancy test and/ or see the primary care provider.	True	140(79.5)	15(8.5)	21(12)
Congenital abnormalities do not occur when a woman is pregnant and takes emergency oral contraceptives.	True	37(21)	115(65.3)	23(21)

Table3 -P values for factors significantly associated with respondents' knowledge of emergency contraception.

Knowledge item	Gender (P value)	Place of (P value)	Has Marital (P value)	Education (P value)	Religion (P value)	practice (P value)	children status (P value)
Combined estrogen/ progestin or progestin only pills can Be used as emergency contraception.	0.006	0.015	0.007	-	-	-	-
Oral emergency contraceptives interrupt an established pregnancy	0.031	-	0.019	0.036	-	-	-
The only approved oral emergency contraceptives are combination estrogen/progestin products	0.012	0.010	0.048	0.042	0.054	-	-
The maximum time a woman can take oral emergency contraceptives and expect effectiveness is 5 days or 120hours.	-	-	-	-	-	-	0.0043
If a woman is more than 2weeks late for a contraceptive injection, she cannot use oral emergency contraceptives	0.043	-	-	-	-	-	-
When interviewing a patient to assess the need for oral emergency contraception, it is important to determine when the last menstrual period occurred.	0.023	-	-	-	-	-	-
Blood clots, Migraines and liver disease are absolute contraindications for progestin –only oral emergency contraceptives	0.000	-	0.019	-	-	-	-
Congenital abnormalities do not occur when a woman is pregnant and takes emergency oral contraceptives.	-	-	-	-	0.032	-	-

NB-Only P values with significant values are indicated on this table.

DISCUSSION

This is the first survey that has asked pharmacists in Ogun State about their experience with knowledge of EC. All questionnaire respondents were aware of emergency contraception. However their sources of

information varied. More than half of the respondents learned about the method while at the University suggesting that some formal academic training was available. This is similar to results obtained in a study by Blanchard *et al* in South Africa.²¹ Mass media as a

source of information among the respondents in this study was quite low. This needs to be addressed since some investigations have shown increase in knowledge of EC through the media. A public education media campaign resulted in significant increase in knowledge about EC.²³ The Pharmacists were averagely knowledgeable about EC. Similar moderate knowledge has been found in a previous study.¹⁷

A large proportion of the respondents were knowledgeable on efficacy of EC, role of menstrual period in EC with fewer proportion providing correct information on timing, contraindications and congenital information. The implication for not knowing the appropriate timing is grave since EC's effectiveness is dependent on a time window of 72 hours or 120 hours. Similar incorrect knowledge have been obtained in previous studies.^{14,17} Uzuner et al (2005)¹⁷ showed that only 50% of the participants knew the correct timing and dose interval. This misinformation regarding the time limits of EC is unacceptable in situations in which clients who could still benefit from EC might be denied the medication due to a pharmacist's mistaken belief that she was past the appropriate time limits. As previously discussed, recent studies demonstrate the effectiveness of EC provision up to 120 hours after intercourse. Clients desiring to prevent a possible pregnancy after an episode of unprotected intercourse could benefit immensely from increased pharmacists' awareness regarding recent research findings on EC time limits. In contrast limited information about contraindications and congenital abnormalities of EC is not necessarily a cause for concern. Pregnancy is the only contraindication and even if a pregnant woman took the medication, there is no evidence to suggest it would harm her fetus.²

Generally Pharmacists' knowledge about EC may play an indirect role in their likelihood of stocking and selling EC. For instance, well informed pharmacists' in the US are more likely to carry medications.^{13,21} Limitations of this study included pharmacists inability to fill questionnaires on time due to heavy workload and financial constraints on the part of the researcher.

CONCLUSION

Pharmacists in Ogun State had an overwhelming level of awareness about EC, their knowledge on specific items of EC was average and findings suggest that

significant gaps remain in knowledge about timing, side effects, and mode of action of EC.

Pharmacists in this area of study need additional information and training concerning protocols of emergency contraception.

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