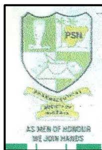

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QUALITATIVE ANALYSIS OF PHARMACISTS' KNOWLEDGE AND PRACTICES OF EMERGENCY CONTRACEPTION.

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Abstract

The success of use of emergency contraception (EC) is dependent on the awareness, knowledge, attitude and practices of pharmacists' as custodian of drugs. This study aims to assess qualitatively, Ogun state pharmacists' knowledge and practices of EC. Semi structured interviews lasting 20-30mins were conducted among 12 key informants from various pharmacy practice areas. Questions were asked on their knowledge and practices of EC. Interviews yielded qualitative data that were coded and categorized into themes. Key informants had a range of 5-29 years practice experience, were a mixture of males and females and of different religious background. All key informants were aware of EC and their major source of information was through reading of drug literature, textbooks and journals. A number of themes emerged : suboptimal knowledge, inaccurate information, right timing and efficacy, fake drugs/ban of 'positron', abuse/misuse of EC, concerns about EC, acceptability of prescribing/counselling on EC, comfort while counselling, access to pharmacist, conditions to prescribe, religion and recommending EC.
This study showed suboptimal knowledge level and practices on emergency contraception. Further quantitative study is required to further authenticate results obtained.

Keywords- Pharmacists, Emergency Contraception.

INTRODUCTION

Nigeria, with a currently estimated population of 140 million and an annual growth rate of 2.8%, faces the persisting challenge of high fertility, and high rates of unwanted pregnancy, unsafe abortion, maternal mortality and unmet need of contraception (Sedgh *et al*., 2006).
Some of this unintended pregnancies, unsafe abortions and their consequences can be averted by the use of emergency contraception (Efetie *et al*., 2002).

Emergency contraception (EC), which is used to prevent pregnancy following unprotected intercourse, could prove invaluable to a country like Nigeria with its population problems and fertility challenges.
Levonorgestrel -only pills and combined oral contraceptives are the most common emergency contraceptive methods available in Nigeria. They can be obtained over the counter from patent medicine stores and pharmacy shops(Aziken *et al*.,

2003). Pharmacies are conveniently located and open on evenings, weekends and holidays when contraceptive accidents are most likely to occur (Boonstra, 2002).
This implies that the pharmacist can play a major role in averting Nigeria's population problems and fertility challenges. He/she is considered suitable because of his/her expertise about drug interactions, adverse reactions, the role in counselling for prescribed medicines and accessibility (Smith, 1980). Likewise Pharmacists are ideally positioned to educate patients about EC and to provide EC where collaborative drug therapy agreements allow (Downing, 2002).

The ongoing suggest that the success of EC use is dependent on the awareness, knowledge, attitude and practices of pharmacists'.
Studies examining pharmacist knowledge and attitudes towards EC gave varying results (Efetie *et al.*, 2002;, Hariparsad, 2001;, Bennett et al 2003;, Monastersky and Landau 2006;, Sutkin *et al.*, 2006; Glasier *et al.*, 1996), however such studies are still scarce in this location, and this gives rise to the need to investigate the knowledge and practice of pharmacists towards EC. This study will assist in determining the extent to which pharmacists can perform their roles as drug experts as regards EC.
This study aims to assess qualitatively the knowledge level and practices of Ogun State pharmacists' in towards EC.

METHODS

Twelve key informants (pharmacists) were recruited. They represented different practices of pharmacy and were selected on the basis of their understanding and knowledge of contraceptives and their direct or indirect impact on their specific practice in the community. The number used was based on suggestions made in 'The Access project' (The access project 1999).
Prior to the interview, the nature and content of the interview were outlined to each key informant and request to participate was requested.
All the interviews were conducted on a face to face basis and eight of the interviews took place during short breaks of a pharmacy continuing education programme, the rest took place in the participants' work place.
Each key informant provided consent for the responses to the interview to be written down and interviews took 20-30 minutes.

Key informants were requested to answer questions on their knowledge on EC, and practice of prescribing of emergency contraceptives.
Under each question the participants were provided with a variety of topics that they could consider when providing their views and insights. To maximize comprehensiveness of the topics, the interviewer (UIHE) raised a series of probing questions to elicit more information on issues directly related to participants' experiences and to explore the various aspects of emergency contraception pills and their knowledge, and practice towards it.
At the commencement of each interview introductions were made (demographics were obtained from here), participants were then asked a) if they had heard of emergency contraceptive and their sources of information b) knowledge on EC, prompts made to the interviewees on this included contents of EC, mechanism of action, efficacy towards prevention of pharmacy, types of EC available, effective interval of use, contraindications, occurrence of congenital abnormalities with EC use and c) their practice in prescribing EC.

Qualitative Analysis

The interviews were written down and themes emerging were analyzed by manual content analysis.

Ethical issues

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 were sought and obtained from key informants before commencement of the study.

RESULTS

Although the replies were diverse, various common themes did emerge such as suboptimal knowledge, inaccurate information, right timing and efficacy, fake drugs/ban of 'postinor', abuse/misuse of EC, concerns about EC, acceptability of prescribing/counselling on EC, comfort while counselling, access to pharmacist, conditions to prescribe, religion and recommending EC.

Socio demographic characteristics

Twelve key informants were interviewed within the period of study. (Table I)

Awareness of Emergency Contraception/Sources of Information:

All key informants were aware of emergency contraceptives. Sources of information for 7 key informants were basically through reading (drug literature/leaflets, textbooks, journals), others mentioned peers (colleagues and friends), lecturers and pharmacy school.

Knowledge of Emergency Contraception:

Active Content-Non of the key informants could give offhand all that an emergency contraceptive could contain. However they made attempts in the following ways: Four mentioned levonorgestrel as the active content in EC, 3 said it contained progesterone, 3 mentioned steroids while 2 key informants admitted not remembering the name of the active ingredient in EC at the time of interview.

Efficacy of EC in Preventing Pregnancy-Majority of the informants (11) claimed that EC is effective in prevention of pregnancy if used within a specified time frame however the time frame mentioned varied (within 12- 72hours, 22-48hours). Some expressed that efficacy was dependent on factors such as purchase of right drug/type, use it as soon as sexual intercourse occurs(right timing), fake drugs and misuse, approval/ban by NAFDAC-. Key informant 8 has this to say- .

"It varies, the earlier you use it the better within 72 hours. Efficacy relies on a lot of factors: a- purchase of right drug/type, b-use it as soon as sexual intercourse occurs. It's about 85-100% effective. (**K8**)

Mechanism of action of EC- Only four of the key informants knew something about the mechanism of EC at the time of the interview. Some of the points given include-

> *"Yes (thinking) they slow down sperm motility. They make the vaginal mucosa unconditional for sperm cells"*. (**K4**)
>
> *"I don't know. Is it not to stop fertilization of the ovum egg?"*(**K5).**
>
> **"***Supposed to be used immediately after (*sexual intercourse*) such that it neutralizes whatever"*(**K11**)

Types of EC available- Key informants mentioned available EC in their trade names as Postinor I and Postinor II. One of them commented on the active content saying, *"They are basically the same except for difference in concentration."*(**K4)**

Menstrogen, and apeopill were also mentioned as a types of EC**.**

Contraindications of Oral Emergency Contraceptives-
Six key informants mentioned pregnancy as one of the contraindications of EC. (**K1, K5, K7, K8, K10)**, One key informant talked about the conversion of this contraindication (pregnancy) in EC to use it as an abortefacient "*pregnancy is a major contraindication, but this has been converted to use for abortion")*(**K10**)

Other contraindications mentioned by key informants included- "cardiovascular problems, thrombosis, renal problems, obese patients, patients with varicose veins" (**K1**), BP issue, Haemorrhage, (**K2**),Hypersensitivity to active ingredients (**K4, K7 and K11**), patients on antibiotics (**K4**), issues of cancer **(K11).**

Two of the key informants mentioned side effects like weight gain, hormonal imbalance, ectopic pregnancy as contraindications. One had this to say-

> "*Ectopic pregnancy… there are so many, delay in menstrual period/early, period depending on the individual, headache, dizziness, nausea*"*(**K12**).*

Congenital Abnormalities of EC

Some key informants agreed EC could cause congenital abnormalities with comments *"I agree it can cause congenital abnormalities even though manufacturers may not have it indicated in the drug leaflets or literature, also clients may use it at the wrong trimester which will result in congenital abnormalities"(**K2**)*

> *"It should, you cannot compare a child that is free born to the one suppressed by hormones."(**K9**).*

However others said it would not. Below are some of the comments made by them-

> *"Progesterone should not cause congenital abnormalities since normally they are produced in pregnancy*"*(**K4**)*

> ***"****Not known, it will expel the egg whether it has been fertilized or not."(**K6**)*

> ***"****How will that come in if there is no pregnancy since it is contraindicated in pregnancy.*"*(**K8.**)*

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PRACTICE

Will You Prescribe It?
Majority of the key informants (K1, K4, K7, K8, K9, K10, K11, K12) agreed that they would prescribe EC. Here are some of their comments-"*Yes but in practice we don't because the family planning clinic does that*" **(K1)**

> *"Yes I will, they send minors but I encourage them to bring the persons who sent them"* **(K10)**

"I don't see anything wrong, I enjoy it, it makes me feel I'm educating people" **(K12)**

Other key informants (K2, K3, K5) said they wouldn't prescribe EC. They had this to say *"No , I always damn them. For the married ones , I refer them back to the doctor"* **(K3)**

One key informant (K6) was in between prescribing or not, saying-

"*Will not prescribe because you never know the state of the womb when you give it, except in cases of rape, condom breakage, incest that is in genuine cases*". **(K6)**

Will you Stock It?- Majority of the respondents said they would stock emergency contraceptives Three respondents said they will not stock EC with the following comments:

"I never sold any anti pregnancy products except condoms. They contain

Table I: Socio-demographic characteristics of key-informants (n=12)

Id no	Place of practice	Post	Highest qualification	Years of experience	Sex	Religion
K1	Hospital pharmacy	Senior pharmacist	WAPCP (in progress)	5years	Female	Muslim
K2	Ministry of health	Asst.director	FPCPharm	23years	Male	Christian
K3	Community pharmacy	Superintendent pharmacist	M.Pharm(in progress)	5years	Female	Christian
K4	Hospital/community pharmacy	Senior pharmacist	MSc (pharmacology)	7years	Male	Christian
K5	Academic/community pharmacy	LecturerII	Pharm D	20years	Female	Christian
K6	Academia	Lecturer I	PhD(in view)		Male	Christian
K7	Hospital pharmacy	Senior pharmacist	B.Pharm	10years	Male	Muslim
K8	Ministry of health	Senior pharmacist	WAPCP (in progress)	16years	Male	Christian
K9	Community pharmacy	Superintendent Pharmacist	B Pharm	29years	Male	Christian
K10	Hospital pharmacy	Senior pharmacist	B.Pharm	18years	Male	Christian
K11	Community pharmacy	Superintendent pharmacist	B.Pharm	17years	Female	Christian
K12	Community pharmacy	Superintendent pharmacist	BPharm	12years	Female	Christian

steroids, so I don't sell them. My religion is against it"(**K2)**

"*I don't stock it based on religious grounds and it may also encourage abuse"*(**K5)**

Will you direct clients elsewhere to obtain EC ?-

While some key informants said they will direct clients to other pharmacies to obtain EC if they ran out of stock. One key informant said he always stocks EC so he wouldn't need to direct them to other places.

Four key informants said they would not direct them to other places with the following comment:

"*When not in stock I still advice them but I do not send them to*

other pharmacies to obtain EC"(**K10)**

Does your pharmacy have a place for counseling-

Some key informants had private areas for counselling of EC. However all respondents whom it was applicable to provided privacy for counselling. Here are some of their comments."*If the pharmacy is full I take the patient to the drug store for counseling"* **(K4)**

" I ask people to leave the pharmacy to provide privacy for counselling on EC" **(K12) Are you comfortable counselling on EC**

All key informants said they were comfortable counselling on EC

Do you discuss other form of contraception-?

Some key informants claimed that they discussed other forms of EC that are safer such as natural planning methods. (K2, K6, K7, K10, K11, K12) Below are some of their comments-

"*Yes, I am well grounded on natural family planning, so I advice them.*" **(K2)**

"*Yes it is necessary for me to do that so that patients won't see EC as a regular form but only emergency. In fact most of my patients on other forms of contraception now, came asking for EC, before I counselled them on other forms of contraception*" **(K12)**

Three key informants (K4, K5, and K9) said they would not discuss other form of contraception due to their disadvantages and on the assumption that the client knows what he or she wants.

"*No those who come to buy already know what they want to use but if they ask I will tell them*" **(K5)**

Should EC be over the counter or prescription drug?

Varying responses were obtained for this question. Key informants (K4, K9, K11, K12) agreed that EC should be an OTC drug. Here are some of their comments –

"*In Nigeria it should be OTC*" **(K11)**

"*OTC since it is the same class as Duofem that is obtainable by OTC*" **(K12)**

Four key informants (K5, K6, K7, K10) said it should be prescription medicines. Below are some of their comments:

"*Prescription not OTC because if OTC the girls can sell without counselling*"(**K5)**

"*Prescription, since these drugs tamper with life because of abuse*"(**K10)**

"It could be prescription on pharmacy only drugs(POM)" **(K7)**

One key informant had this to say-

"*We should be careful looking at the situation it should be in between OTC/prescription drugs. Because we are not living in an organized community, it could be OTC in a registered pharmacy***"(K8)**

How often do you demand for EC:

Comments on demand for EC showed that some stocked once stock was low, based on demand or monthly;

"Based on demand. For now there is demand but no supplies (NAFDAC problem)"(**K9)**

Increased Public Awareness on EC .Key informants believed that there should not only be an increase in public awareness of emergency contraception but also sex education. Below are some of their comments:

"*Public awareness should be increased. Generally start with abstinence and condoms. Government and other stake holders must take reproductive health seriously. Awareness should be increased"* **(K 8).**

"It should be increased but it promotes promiscuity" (K9).

One key informant felt there should be no increase in public awareness saying-

"*Public awareness should be decreased because increase in awareness will lead to gross abuse and people may switch to it"* **(K5)**

Literature regarding EC to hand over to clients

Only two respondents had a form of literature to hand in to clients. One commented

"*Yes if I know that you are learned, I let you know the implications before giving"*(**K12**)

DISCUSSION

This is the first survey that has asked pharmacist in Ogun State about their knowledge and practice towards EC. Several themes emerged. All key informants were aware of emergency contraception and majority learnt of EC from reading. A few learnt about the EC 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 (Blanchard *et al*., 2005)

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Mass media as a source of information was not mentioned by any of the key informants. This needs to be considered 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. (Trussell *et al*., 2001).

Generally the Pharmacists were moderately knowledgeable about EC. Similar moderate knowledge has been found in previous studies (Uzuner et al 2005).

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Specifically, key informants were quite knowledgeable on efficacy of EC, and types of EC available, moderately knowledgeable on the active contents of EC and congenital abnormalities, and poorly knowledgeable on mechanism of action, timing and contraindications of EC. The implications for not knowing the appropriate timing is grave since EC's effectiveness are dependent on a time window of 72 hours or 120 hours. Similar incorrect knowledge has been obtained in other studies (Tripathi *et al*., 2003 and Uzuner *et al.* 2005). Uzuner *et al.* (2005) 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 has passed the appropriate time limits. Clients desiring to prevent a possible pregnancy after an episode of unprotected intercourse could benefit immensely from increased pharmacist awareness regarding recent research findings on EC time limits.

Limited knowledge about contraindications of EC should also be addressed. 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 (WHO, 1998).

Knowledge on the mechanism of action of EC was quite low among the key informants. This could affect their attitude towards prescribing and dispensing EC**.**

Generally Pharmacists' knowledge about EC may play an indirect role in their likelihood of stocking and selling

this method (practice). For instance, well informed pharmacists' in the US are more likely to carry medications (Bennett *et al.*, 2003; Blanchard *et al.*, 2005).

The suggestion that training on EC could be right from the university curriculum as well as in short courses and modules of the mandatory (MCPD) should be adopted to enhance the role of pharmacists.

Majority of the key informants also believed that public awareness of EC should be increased however only very few of them had a form of literature to hand in to their clients as regards to EC.

CONCLUSION

This study showed that the knowledge of pharmacists about EC is moderate as a number of key informants nominated some dominant issues. They had varying ideas for their practice. More studies particularly quantitative are needed to triangulate results obtained here.

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