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Original Article

The knowledge of emergency contraception and dispensing practices of Patent Medicine Vendors in South West Nigeria

Mojisola M. Fayemi[a,*], Olufemi L. Oduola[a], Queen C. Ogbuji[a], Kehinde A. Osinowo[a], Adejoke E. Oyewo[a], and Olabimpe M. Osiberu[b]

[a]Association for Reproductive & Family Health, Qtr 815A, Army Officers Mess Road, Ikolaba, P.O. Box 30259 Secretariat Post Office, Ibadan, Oyo State, Nigeria. E-mail: ope3m@yahoo.com

[b]Center for Research in Reproductive Health, 10 Cinema Road, Sagamu, Nigeria.

*Corresponding author.

Abstract Patent Medicine Vendors (PMVs) can play a critical role in increasing access to emergency contraceptive pills (ECPs) in developing countries, but few studies have examined their knowledge and dispensing practices. Using cluster sampling, the authors selected and interviewed 97 PMVs (60.8 per cent female) in Oyo and Ogun States of Nigeria to assess their knowledge, dispensing practices, and referral for ECPs. About one-third (27.8 per cent) of respondents were not aware of ECPs, and only half knew that ECPs could prevent pregnancy. Forty per cent had ever dispensed ECPs. Reasons proffered by those who do not dispense ECPs included barriers from the State Ministry of Health, police, other regulatory agencies, and religious beliefs. Only 50.5 per cent have referral arrangements for clients. Strategies to increase access to ECPs through PMVs include training on counseling techniques and referral, effective government regulation, and community involvement. Where unsafe abortion is a major cause of maternal mortality, these strategies offer protection for many women in the future.
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Keywords: emergency contraceptive pills; Patent Medicine Vendors; dispensing practices; oral contraceptives; pregnancy; Nigeria

Introduction

Every year women experience 66 million unintended pregnancies and more than 500 000 deaths from pregnancy-related causes.

Ninety-nine per cent of these deaths occur in developing countries.[1] Approximately one in every five pregnancies in Nigeria is unintended and nearly one-third of women of reproductive age have had an unwanted pregnancy at some point in their lives.[2] Lack of access and low utilization of family planning services in developing countries contribute to the high rate of unintended pregnancies;[3] only 10 per cent of sexually active women in Nigeria ever used any modern contraceptive method.[4]

In Nigeria, unsafe abortion is often the result of an unwanted pregnancy, which is frequently owing to low contraceptive use.[5] Induced abortion is illegal, and a criminal offense, unless the woman's life is threatened by the pregnancy. Yet an estimated 760 000 abortions occur annually and a quarter lead to complications.[6] Women usually obtain induced abortions clandestinely, and frequently these are unsafe, accounting for 72 per cent of *all* deaths in young women under age 19[7] and 20 000 of the estimated 50 000 annual maternal deaths in Nigeria.[8,9] Thus, unsafe abortion is the single largest contributor to maternal mortality.

Emergency contraceptive pill (ECP) is an effective method for preventing unintended pregnancy if a woman has unprotected sex, whether consensual or as a case of sexual assault.[10] ECP is most effective within the first 24 hours,[11] but can be effective 120 hours after unprotected sex or contraceptive failure.[10] ECPs remain inaccessible across much of the world, as both supply and demand constraints undermine potential clients' abilities to effectively use the method. This is particularly true in developing countries where limited commodity supplies, provider incompetency, and misinformation coalesce to restrict the availability of ECPs.[12]

In Nigeria there are two main commodity procurement channels. The United Nations Population Fund procures all public sector contraceptives on behalf of the government. The Society for Family Health (SFH), a social marketing program, provides the significant proportion of contraceptives dispensed by the private sector.[13] Nigeria's Federal Ministry of Health did distribute EC pills in government health facilities for a short period in 1999, but discontinued this almost immediately owing to concerns about low demand and its use as a primary birth control method.[13] Consequently, the private sector has played the central role in introducing and promoting ECPs.

Pharmacies and patent medicine stores (PMS) serve as important access points for ECPs. In Nigeria, the distinction between PMS and pharmacies is important: usually a qualified pharmacist manages the pharmacy but a Patent Medicine Vendor (PMV), who may have little knowledge about the commodities, manages the PMS.[14] Thus a PMV in this context is likely to be a person without formal pharmacy training who sells pharmaceutical products on a retail basis for profit. Although this does not designate the PMV as a health-care provider, PMV enterprises are the primary sources of drugs for both urban and rural populations.[15,16]

According to the National Drug Law in Nigeria, PMVs may dispense over-the-counter (OTC) drugs, but restrictive and conflicting policies guide provision of oral contraceptives. The *National RH/FP Policy Guidelines and Standards of Practice* requires basic medical examinations and prescriptions for the provision of oral contraceptives; PMVs may not initiate, but may re-supply oral contraceptive pills. However, under the *National Drug Policy for Nigeria*, Patent Medicine Dealers are neither allowed to initiate *nor* resupply ECPs, including pills for oral consumption.[17,18] Despite this restriction, several studies have documented that especially for young people the preferred sources of contraceptives are PMS.[19,20] The reasons include geographical accessibility, shorter waiting times, more reliable drug stocks, longer hours of service, greater confidentiality, lower cost, and no separate charge for advice.[21,22] Unfortunately, the PMVs may not be aware of the correct dosage or duration of treatment.[23]

Notwithstanding some outcomes of the negative consequences of obtaining drugs from the PMVs (likely inability to provide accurate information regarding the mechanism of action and side effects), they may be strong advocates of emergency contraceptives and create awareness in more people than health workers in hospitals and family planning clinics have been able to do.[24] Studies in India and Bangladesh have demonstrated that paramedics and community workers could provide ECPs as OTC drugs as efficiently as physicians.[25,26]

In Nigeria, studies have documented the knowledge and prescribing attitudes about ECPs among professional health-care workers,[27,28] but there is a dearth of information on the knowledge and dispensing practices of PMVs. Thus, the objective of this study is to

assess PMVs' knowledge and ECP dispensing practices. The results will support review of policies and conceptualization of education initiatives to increase access and quality of ECPs services in Nigeria – and elsewhere.

Methods

We conducted this survey in four and five communities selected by cluster sampling in Ibadan North and Sagamu Local Government Areas (LGAs) in Oyo and Ogun states, respectively. Ibadan North LGA has a population of 308,119; Sagamu LGA has a population of 255,885.[29]

The Pharmaceutical Units of the Federal and State Ministries of Health (SMOH) provide oversight functions and license all registered PMVs. According to the 2008 records at the Pharmaceutical Units of the SMOH, a total of 64 and 71 PMVs were licensed to dispense drugs in Ibadan North and Sagamu LGA, respectively.

We selected 48 PMVs from Ibadan North and 49 PMVs from Sagamu LGAs for the study.

To assess PMV demographic characteristics (professional history, training experience, knowledge of, and ECP dispensing practices, average monthly clientele and categories of clients who request ECPs, ECP promotion activities, experience of stock out, and referral arrangements), we administered semi-structured questionnaires. The survey followed standard ethical guidelines. Respondents' consent was obtained before questionnaire administration and their anonymity protected by ensuring that individual identifiers did not exist in the instruments or in the electronic data set. For analyzing data we employed the Statistical Package for Social Scientists.

Results

Demographic characteristics of respondents

The demographic characteristics of respondents appear in Table 1. All were located in the urban sector; all were storeowners, with one exception. More females (60.8 per cent) participated in the survey. Respondents' ages ranged from 23 to 55 years and more than half (53.6 per cent) had secondary education.

Table 1: Demographic characteristics of respondents

Demographic characteristics	*Number (%) of respondents (n=97)*
Gender	
Male	38 (39.2%)
Female	59 (60.8%)
Marital status	
Single	7 (7.3%)
Married	88 (90.7%)
Widow/Widower	1 (1.0%)
No response	1 (1.0%)
Educational qualification	
No formal education	1 (1.0%)
Primary	9 (9.3%)
Secondary	52 (53.6%)
Tertiary	31 (32.0%)
Professional	1 (1.0%)
No response	3 (3.1%)
Religion	
Christianity	60 (61.9%)
Islam	37 (38.1%)
Engagement in other occupations	
Yes	26 (27.8%)
No	70 (72.2%)
Duration of practice as a Patent Medicine Vendors	
Less than a year	1 (1.0%)
1–5 years	26 (26.8%)
5–10 years	38 (39.2%)
More than 10 years	32 (33.0%)
Net profit per month[a]	
Under $32	32 (33%)
Between $32 and $65	44 (45.5%)
Between $65 and $130	12 (12.4%)
Between $130 and $194	5 (5.2%)
Above $259	1 (1%)
No response	3 (3%)

[a]Exchange rate of ₦155 to $1.

More than one quarter (26.8 per cent) engaged in other occupations including (in order of frequency): nursing, teaching, accounting, transportation business, and farming. A larger proportion (45.4 per cent) reported to have made a profit of between US$32 and $65 monthly.

Professional history

A third had practiced as PMVs for more than 10 years, almost 40 per cent had practiced for 5–10 years.

Most (92 per cent) learned the trade: (73 per cent) through apprenticeship, a few (9.5 per cent) while working in pharmaceutical companies, and (5.9 per cent) during nurses' training or under supervision of medical practitioners (3.6 per cent); only 2.4 per cent inherited the trade. A few others (5.6 per cent) did not specify their means of becoming involved in the trade.

Training experience

Most (67 per cent) reported having had formal training to improve their practice. About 30.1 per cent jointly mentioned the SMOH and Association for Reproductive and Family Health (ARFH), an indigenous NGO, as organizers of such trainings and 14.4 per cent mentioned only ARFH. About 16.5 per cent also participated in training organized by the National Association of Proprietary Patent Medicine Dealers, by the National Agency for Food and Drug Administration and Control (NAFDAC) (7.2 per cent), by pharmaceutical societies (6.2 per cent), by the SFH, or other NGOs (6.2 per cent).

Reports of those trained differed with respect to content addressed: for 21 per cent, breast cancer, for 17.5 per cent, drug abuse and duties of PMVs, for 16.5 per cent restrictions on dispensing drugs, for 10.3 per cent family planning, for 8.2 per cent contraceptive use, for 4.1 per cent fake drugs, for 3.1 per cent drug expiry date, for 3.1 per cent new development in pharmacy procedures, for 3.1 per cent HIV/AIDS, and for 1.0 per cent other health issues.

Knowledge of ECPs

Most (72.2 per cent) affirmed knowing about a modern family planning method that could be used within 3 days after sexual experience (Table 2); but, when respondents were asked about having heard of ECPs before the conduct of the survey, one fewer had.

On further probing, only half (46.4 per cent) of the sample described ECP as a drug for pregnancy prevention, 8.2 per cent said it is a drug used after sex, and 3.1 per cent mentioned a brand name

Table 2: Distribution of respondents according to knowledge and dispensing of ECPs

Variables	*Number (%) of respondents (n=97)*
Knowledge of modern family planning methods that can be used within 3 days after sexual experience	
Yes	70 (72.2%)
No	26 (26.8%)
No response	1 (1.0%)
Awareness of ECPs	
Yes	69 (71.1%)
No	28 (28.9%)
Have you ever sold ECPs?	
Yes	39 (40.2%)
No	58 (59.8%)
Do you still sell ECPs?	
Yes	31 (32.0%)
No	66 (68.0%)
Average quantity of ECPs sold per month	
Less than 5 packs	12 (12.4%)
5–10 packs	8 (8.2%)
11–20 packs	7 (7.2%)
21–70 packs	3 (3.1%)
71 pack and >	1 (1.0)
Not applicable	66 (68.1%)

of ECP – 'Postinor'. One respondent reported that ECPs reduce abortion and two simply said 'it is effective'. One said only the ECP is a 'family planning method', two that it is a menstrogren, and another that EP forte (menstrogen and EP forte are taken to correct menstrual irregularities). As a way of describing the efficacy of ECP, one respondent stated that it is safe, able to delay ovulation, and that it *must be prescribed*.

Dispensing of ECPs

About two in five (40.2 per cent) of the PMVs had ever sold ECPs: 79.5 per cent of this proportion still sold ECPs at the time of the study (Table 2). Sources of ECP supply (in order of frequency) include: pharmaceutical companies, SFH (an NGO), and open, local

Table 3: Characteristics of clients who request to purchase ECPs from Patent Medicine Vendors

Variables	*Number (%) of respondents who cited each category*
Categories of clients who requested ECPs	
Young school girls	20 (20.6%)
Young school boys	4 (4.1%)
Young out-of-school girls	16 (16.5%)
Young out-of-school boys	6 (6.2)
Adult men	6 (6.2%)
Adult women	24 (24.7)
Proximity of clients' residence to PMV store	
Within the neighbourhood	21 (21.6%)
Nearby communities	7 (7.2%)
Distant communities	6 (6.2%)
Could not respond to question	63 (64.9%)
Clients who procure ECPs with prescription	
Yes	14 (14.4%)
No	20 (20.6%)
Could not respond to question	63 (64.9%)

outdoor markets. Average numbers of ECPs sold per month ranges from 5 to 71 pieces.

For the PMVs that did not dispense ECP, reasons proffered (in order of frequency) include: barriers from the SMOH, the police, religious beliefs, National Drug Law Enforcement Agency (NDLEA), and NAFDAC. Others include side effects, low demand for the product, and product out of stock.

About 43.2 per cent reported a clientele of fewer than 20 people monthly; one quarter (25.3 per cent) had 20–100 clients, and 6.3 per cent had a 100 or more clients monthly.

Categories of clients who request to purchase ECPs

On the basis of a review of the PMVs' records, the category of clients who requested ECPs within a month preceding the survey included young in-school girls (20.6 per cent), young in-school boys (4.1 per cent), young out-of-school girls (16.5 per cent), young out-of-school boys (6.2 per cent) (Table 3). About 14.4 per cent of clients who

procured ECPs from PMVs with prescriptions had been referred (in order of frequency) by private hospitals, health workers, government hospitals, and other PMVs.

Experience of ECP 'stock out' (lack of supplies)
More than half (53.1 per cent) of PMVs who currently dispense ECPs had a stock out at some time. Among those, 59 per cent sought resupply from pharmaceutical companies, and 11.8 per cent from colleagues.

Arrangements to refer ECP clients to other sources
About half (50.5 per cent) reported having arrangements to refer ECP clients to other sources. Referral points (in order of frequency) include family planning clinics, pharmacies, other PMS, private and government hospitals.

Monthly, 28.9 per cent of the respondents referred fewer than 10 ECP clients. One in 10 PMVs referred 10–50 ECP clients; 2.1 per cent PMV referred more than 100 ECP clients.

Ability to disseminate information on ECP in the community
Most of the PMVs (73.2 per cent) were sure that they could disseminate information on ECPs in their respective communities. The motivation to disseminate this information stemmed from (in the order of frequency): sense of duty as a PMV, the importance of ECPs to prevent unwanted pregnancy, the life-saving quality of ECPs, people wanting to know more about pregnancy prevention, and the fact that ECP will reduce abortion rate.

About one quarter reported that they could not talk freely about ECP in their communities. Reasons (in order of frequency) include: it is against their religious beliefs, Ministry of Health does not permit them to sell the commodity, lack of interest, it promotes promiscuity, and fear of harassment by regulatory agencies.

Discussion

In Nigeria, unsafe abortion remains a leading cause of maternal deaths because access to contraceptive services remains low and abortion laws remain restrictive.[5] Recent studies offer strong evidence that

increasing contraceptive usage can reduce induced abortion rates[30] and could prevent up to 35 per cent of maternal deaths.[3] Thus, increased access and use of contraceptives through community-based initiatives is a key strategy[31] and PMVs can play a significant role.

In Nigeria, the PMVs' educational level is usually not specified in laws licensing their practice, although by convention, the minimum educational attainment has been primary schooling.[32] In this study, more than half of the PMVs had secondary education or more. The higher educational level is likely to contribute to PMVs' abilities to provide accurate information to clients and to appropriately dispense ECPs. To enhance competence of PMVs, it may be necessary to review the laws and increase the educational level required for practice.

Survey results call into question the ability of PMVs to provide accurate information for clients having had unprotected sexual intercourse (consensual, sexual assault, or condom rupture), as about one-third of the respondents were not aware of ECPs and only half knew ECPs could be used for pregnancy prevention. This is similar to the findings from a study conducted in Ibadan, Nigeria where more than half of the professional health-care workers were not aware that combined oestrogen/progestin or progestin – in the form of pills – can be used as emergency contraception.[27] The SMOH and NGOs should increase awareness about ECPs among community-based distribution agents[26] and PMVs to ensure proper dissemination of information to potential clients.

Nigerians' negative cultural disposition to providing contraceptives to young people makes them wary of public health institutions.[26] The advantage of the PMS for young people, including the higher number of females, may relate to their need for anonymity, which the PMVs provide, but which public health institutions deny. This information is particularly relevant because young persons (15–24 years) have the greatest incidence of unwanted pregnancy and unsafe abortion.[14]

Given the reasons cited for PMVs not being able to talk freely about ECPs and supply shortages, women who need to access information and ECPs appear to face religious, attitudinal, supply and regulatory, or policy barriers.

In Nigeria, the PMVs are approved by the Federal Ministry of Health to dispense OTC drugs and surveillance occurs at three key levels: supervision by the Pharmacy Inspection Committee to ensure

PMVs are licensed and only dispense unexpired OTC drugs, supervision by NAFDAC to ensure they dispense only registered OTC drugs, and supervision by the NDLEA to ensure PMVs do not sell psychoactive drugs. Punitive measures available to authorities include sealing of the PMV stores and confiscation of their products. Governmental bodies, using existing authority and procedures, can enhance the capacity of the PMVs to ensure they provide accurate EC information and services.

As only half of the PMV respondents reported arrangements to refer ECP seekers to the formal health-care system, it will be important to enhance these links, especially in cases of sexual assault, because the women clients may need counseling, HIV post-exposure prophylaxis, and permanent family planning methods.

Conclusion

This study demonstrated that PMVs can play a critical role in enhancing access to ECPs' services. PMVs may require training on counseling techniques, service provision, and referral. Key factors for improving their services include reducing the opportunities for PMVs to supply sub-standard drugs through a combination of more effective government regulation, PMV Association self-regulation, and community involvement.

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About the Authors

Mojisola M Fayemi, MPH, is a public health educator experienced in the implementation of Reproductive Health and HIV/AIDS behavioral change interventions.

Olufemi L. Oduola, MPH, is a public health promoter and educator experienced in design of project evaluations especially in reproductive health.

Queen C. Ogbuji, PhD, is a medical sociologist with nursing/midwifery background. She has participated in several HIV and reproductive health research programs and contributed local and international publications.

Kehinde A Osinowo, MPH, specializes in managing sexual and reproductive health programs, including those focused on adolescent reproductive health, safe motherhood, training capacity development, and reproductive health policies.

Adejoke E Oyewo, BNSC, is a nurse, midwife who has contributed to improving the quality of reproductive health care. In 2009 she was a fellow at the West African College of Nursing.

Olabimpe M Osiberu, MSc, is a nurse, midwife who has served in managerial, research, and administrative posts. She has published locally and internationally.

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