

**Title:** Women's experiences in obtaining and using medical abortion pills from drug sellers in Lagos, Nigeria

## **Background**

Although abortion laws remain restrictive in many low and middle income countries (LMICs), clandestine access to medical abortion (MA) pills, particularly misoprostol, by women has grown considerably in the past 10 years. The emergence of MA has transformed the circumstances under which women obtain abortions. When used correctly, MA has very low risk of complications compared with other more invasive abortion methods, and can be self-administered which allows women greater autonomy and privacy during the process. However, in many restrictive contexts, MA is obtained clandestinely from drug sellers with minimal knowledge about the appropriate medication doses, who do not provide adequate or accurate information to women on how to use the medication, manage side effects or identify potential complications. Studies attempting to evaluate health outcomes among women taking MA purchased from drug sellers are faced with challenges recruiting and following up women from the provider source.<sup>1</sup> Those attempting to recruit women who present for post abortion care (PAC) in health facilities also suffer from selection bias as their samples exclude women who did not need or seek care after the pregnancy termination. For this reason, there is little empirical data from women in restrictive contexts on their experiences obtaining and using MA clandestinely, and little is known about the outcomes of their abortion attempts.

Nigeria, with the largest population in Africa – estimated to be 198 million in 2017<sup>2</sup> – is one such lower middle-income country where abortion is legal only to save the life of a woman, or in cases of severe foetal anomaly.<sup>3</sup> Although the law is restrictive, a nationally representative study on the incidence of abortion in Nigeria in 2012 estimated that 14% of all pregnancies and over 56% of all unintended pregnancies end in abortion. In total, approximately 1.25 million Nigerian women had an abortion in 2012, the majority of which occurred clandestinely, mostly from unskilled providers. An estimated 40% of women experienced complications following their abortion that required treatment in a health facility.<sup>4</sup> A more recent study of women estimated that between 1.7 and 2.7 million abortions occurred in Nigeria in 2017.<sup>5</sup> MA drugs, have become more widely available within Nigeria and it is likely that more women are using MA to terminate pregnancies, particularly misoprostol, which is relatively inexpensive and available for other health indications, such as for postpartum haemorrhage post abortion care (PAC).<sup>6-8</sup> However, Nigeria has a large unregulated market of drug vendors which serve as the first point of care for diverse health problems and most medications can be procured without prescription.<sup>9</sup> A series of news articles published by the Pulitzer center in 2014,<sup>10</sup> highlight how common abortions are in Nigeria, and the ease with which misoprostol can be procured, whilst a recent news article by the British Broadcasting Corporation in Pidgin English analysing google data showed that Nigeria and Ghana have the highest searches related to misoprostol use.<sup>11</sup> However, there is little empirical research on the extent of MA use in Nigeria.

The aim of our study was to understand women's experiences obtaining and using MA, particularly misoprostol, clandestinely in Lagos, Nigeria.

## **Methods**

### **Design, setting and population**

Data for this study were collected in six local government areas (LGAs) in Lagos State, which includes Lagos the most populous city in Nigeria and Africa.

Mapping and screening exercises were conducted to identify the universe of drug stores (primarily pharmacies and patent medicine vendors (PPMVs)) providing misoprostol-containing drugs in the selected LGAs. Drug sellers who reported selling misoprostol recruited women who purchased the medicine into the study, over a period of two months. The prospective study of women included three rounds of telephone interviews with each woman, conducted by members of the study team over the course of one month. The screener interview was conducted 1–2 days after women purchased the medicine, to explain the study, obtain her consent to participate in the study and screen her for eligibility. All women aged 18–49 who bought misoprostol to terminate a pregnancy were eligible for the study. A first follow-up interview was conducted 5–7 days after screening to determine women’s decision-making processes around obtaining an abortion from a drug seller; the type of medication each woman purchased (some women purchased other abortifacients, including mifepristone alone and combi-packs of misoprostol and mifepristone); establish if the woman had ingested the medication; collect information on her interaction with the drug seller, including on the instructions drug sellers had given to each woman on how to take the regimen purchased. Finally, a second follow-up interview was conducted after 3 weeks (one month after purchasing the medication) to understand self-reported health outcomes after taking the medication; experiences with side effects and potential complications and whether women sought further healthcare after taking the medication; how women assess the completion of their abortions; the availability of emotional/social support throughout the process; women’s willingness to recommend medication abortion to friends or use it again in the future.

### **Data collection**

Quantitative data were collected over telephone by field workers trained by the study team in sensitive interviewing techniques. Data were collected using the mobile data collection application SurveyCTO on password protected and encrypted android tablets, and stored on a secure server accessible only to the research team. In each round, eligible women were consented for the interview and the interview was conducted with those who agreed to be interviewed. Consent for follow up interviews was also obtained at the end of the screener and first follow up interviews. Women’s identities were confirmed over the three waves of interviews using unique identification number, age and nicknames provided by the women. Data collection occurred over a period of 6 months from April to September, 2018.

The National Health Research Ethics Committee Nigeria and institutional review board of Guttmacher institute approved the study.

Out of 324 drug sellers invited to participate in the study, 231 (71%) agreed to recruit women. Overall, 501 women who bought misoprostol from participating drug sellers were recruited into the study. 485 women were successfully screened and 446 were eligible to participate. 423 women completed the first follow up interview and a total of 394 women

(88% of all eligible women recruited) were successfully interviewed in all three rounds of the survey (Figure 1.).

**Figure 1. Recruitment and retention**

Total number of women drug sellers recruited into the study	N=501
Total number of women who participated in the first screener interview (1-2 days after purchase)	N=485
Total number of women who were eligible for the study after screening	N=446
Total number of women who completed the first follow-up interview (5-7 days after purchase)	N=423
Total number of women who completed the second follow-up interview (3 weeks to one month after purchase)	N=394

### Preliminary Results

#### *Demographic characteristics of women*

On average, women who completed all three interviews were 29 years old (Table 1). The majority of women (91%) had at least completed senior secondary school, and 37% had completed at least some higher education. Women most commonly worked outside the home (52%) or in a family business (24%), and 13% were students at the time they purchased the misoprostol. Nearly all women (95%) purchased the medicines by themselves. The average number of children women had already was 1.6 and 85% reported that this was their first attempt at terminating a pregnancy.

**Table 1. Demographic characteristics of women who completed all three interviews**

	Among women who completed all three interviews (n=394)	
	%	No.
Average age	29.1	
Mean number of children	1.6	
Age categories		
18 - 24	22.8	90
25 - 29	32.0	126
30 - 34	23.4	92
35 - 39	16.0	63
40 - 44	5.1	20
45 - 49	0.8	3
Highest Level of Education		
No schooling or incomplete primary	0.8	3
Primary school	3.3	13

Junior secondary school	4.1	16
Senior secondary school	54.1	213
Some higher education	21.3	84
Completed higher education	15.7	62
Post graduate studies	0.8	3
<b>Employment</b>		
Work outside the home	51.5	203
Work in a family business or subsistence farm	24.1	95
Housewife	3.8	15
Student	13.2	52
Unemployed	7.4	29
<b>Relationship Status</b>		
Currently married	46.2	182
Living together with a man (not married)	3.8	15
Separated/divorced	4.3	17
Widowed	0.8	3
Never married and never lived together with a man	44.9	177
<b>Local Government Area of recruitment</b>		
Lagos Mainland	17.0	67
Ojo	18.3	72
Oshodi Isolo	16.2	64
Epe	8.9	35
Ikorodu	24.4	96
Ibeju Lekki	15.2	60
<b>Who purchased the medicine</b>		
Medicines bought by the woman	95.2	375
Medicines bought by someone else	4.8	19
<b>Previous attempt to end a pregnancy</b>		
No, has not attempted to end a prior pregnancy	84.5	333
Yes, has previously attempted to end a prior pregnancy	15.5	61

To understand if drug sellers attempted to establish the pregnancy's gestational age and women's eligibility for purchasing/using MA, we asked women (1) whether the drug seller asked whether they had taken a pregnancy test and (2) when their last menstrual period took place. About 79% of women were asked if they had taken a pregnancy test whilst 74% were asked when their last menstrual period has occurred (Table 2).

Sixty-nine percent of women received misoprostol, 2% received another abortifacient such as mifepristone or the combination pack of misoprostol and mifepristone, 25% of women did not know what drug they purchased and ingested, and for 4% of women we have no information about the type of medicine received (not shown). While 78% of women said they received some instructions on how to take the medicine, overall the information women reported getting from drug sellers was inadequate (Table 2). One-fourth of women were told that they should seek medical attention if they experience a potential complication, and only 1% were told to seek follow up care to confirm the pregnancy termination. 67% of women received information about bleeding, and only 35% received information about cramping. Very few women were given any information about other side effects such as headaches, nausea and diarrhea, and 29% of women reported getting no information about side effects at all (not shown).

**Table 2. Women's interaction with the drug sellers, including instructions received, how closely women adhered to instructions and other sources of information women used when taking misoprostol**

	Women who completed all three interviews (n=394)	
	%	No.
How women presented themselves to the drug seller		
Told drug seller she wanted to end a pregnancy	50.5	199
Told drug seller she wanted to purchase misoprostol or other specific brand name medicine	16.2	64
Told the drug seller she wanted to bring back a late period	39.3	155
Told drug seller something else	1.3	5
Women that were asked specific questions by the drug seller prior to purchase		
If she had taken a pregnancy test	79.4	313
When was her last menstrual period	74.1	292
If she had a prescription	31.5	124
Women that received any instructions from the drug seller	77.9	307
Types of information women received:		
Women that were given information about contraindicated medicines	22.8	90
Women that were given information on how to identify an allergic reaction	7.1	28
Women that were given information about or sold pain medication	28.2	111
Women that were told they could experience bleeding	66.5	262
Women that were told they may experience cramps or abdominal pain	35.3	139
Women that were told to seek medical attention for potential complications after taking the medication	24.6	97
Women that were told to seek follow up care to confirm the termination of pregnancy	1.0	4

Women that took tablets according to drug sellers' instructions		
Followed instructions	75.9	299
Did not follow instructions	2.0	8
Did not receive instructions	22.1	87
Other sources of information or instructions that women used when taking the medicine		
Friends/family	12.7	50
Internet	6.1	24
Doctor, nurse, or other medical professional	7.1	28
Television, radio, magazines, or other media	0.3	1
Previous knowledge	1.0	4
She is a health professional	1.0	4
Drug pamphlet	2.5	10
None	72.3	285

At the time of the third interview, 95% of women reported that they were no longer pregnant (Table 3). While the most common method used to assess the completeness of the abortion process was the return of their menstrual period (54%), about a third of women reported taking a urine pregnancy test at home.

**Table 3. Women's perceptions of pregnancy continuation and how they assessed the completeness of the abortion process**

	Among women who completed all three interviews (n=394)	
	%	No.
Women who reported that they were no longer pregnant at the time of the second follow up interview	95.4	376
Reasons given for believing pregnancy has ended (n=376)		
Woman took a blood pregnancy test	16.0	60
Woman took a urine pregnancy test at home	33.2	125
Woman took a urine pregnancy test at a facility	5.1	19
Woman had a sonogram/ultrasound	4.0	15
Woman no longer has pregnancy symptoms	24.7	93
Woman's period returned	53.7	202
Woman passed the products of conception	13.3	50
Woman got cleaned at a facility	1.9	7
Other	0.8	3

Most women (61%) reported that one or two other people, besides herself and the drug seller, knew that she had taken the medication, while 34% reported that nobody else knew (Table 4). Among women who had any support, they most commonly reported husbands

(48%) and female friends (40%) as being the ones who knew. Sixty-two percent of women chose to disclose the information herself. Of women who disclosed the information, most either said they needed their advice or support, or that they discussed the decision together (67%) or that they tell this person everything (29%). The types of support women received were mainly emotional support and advice (76%), while some reported that they got money or were accompanied to get the medicines (33%) and 23% had someone watch their children or do chores for her during the abortion process.

**Table 4. Percentage of women who had a support system during the abortion process, and types of support needed and received**

	Women who completed all three interviews (n=394)	
	%	No.
% of women who reported other people besides the drug seller knew she was taking/took misoprostol		
Nobody else knew	34.0	134
1 - 2 other people knew	61.2	241
3+ other people knew	2.3	9
Don't know	2.5	10
Among women who had support, % who had support from each person		
Husband	48.0	120
Father	0.4	1
Mother	3.6	9
Brother	1.2	3
Sister	10.4	26
Male friend	11.6	29
Female friend	40.0	100
Medical provider	5.6	14
Other	6.8	17
% of women who told/disclosed to at least one person in their support network that she had taken miso	61.7	243
Among women who disclosed, what were main reasons for telling		
She needed his/her help to buy the medicine (money/transport)	4.5	11
She needed his/her help during the termination (at home)	2.9	7
She wanted his/her advice/emotional support throughout the process	66.7	162
She needed his/her help in case I experienced a complication	2.9	7
She tells this person everything	28.8	70
No reason	1.6	4
Other	3.3	8

% of women who received different types of help/support, among those who said someone else knew they took the miso		
No help/support	15.6	39
Emotional support/advice	75.6	189
Gave money/a ride/accompanied me to get the medicines or bought medicine for her	33.2	83
Gave money/a ride/accompanied me to get medical care for a postabortion complication	4.0	10
Watched children, cooked, did chores for her during the process	22.8	57

DRAFT, DO NOT CITE



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