Characteristics of Women Seeking Abortion Services and Post-Abortion Care in Nigerian Hospitals

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Background

In Nigeria, as in most countries in Sub-Saharan Africa, abortion is only legal for one indication: to save the life of a woman. The practice is, however, common. An in-depth study by The Alan Guttmacher Institute (AGI) and The Campaign Against Unwanted Pregnancy (CAUP) in Nigeria in the mid-1990s estimated that 610,000 abortions overall and about 25 abortions per 1,000 women of childbearing age, 15-44 years, occur each year.[1] This study also found that 27% of physicians in private practice performed abortions. Furthermore, indirect evidence from the Nigeria Demographic and Health Surveys (NDHS) suggests that the number of abortions taking place in the country is not only likely to be high but also likely to be on the increase as more and more women and men want smaller families and contraceptive use remains low. For example, 14% of all births in the five years preceding the 2003 NDHS were mistimed or unwanted compared to only 10% of births in the five years prior to the 1990 DHS.[2] Similarly, in 2003, 52% of married women want to delay or stop childbearing compared to 48% in 1990. In addition, the proportion of women aged 15-24 who are unmarried and therefore at risk of unwanted pregnancy increased from 43% in 1990 to 55% in 2003. However, contraceptive use is low: only 13% of currently married women are using any method while 8% reported current use of a modern method.[3]

Unfortunately, because of their clandestine nature, most of the abortions in Nigeria take place under unsafe conditions and constitute a major source of maternal morbidity and mortality. Experts believe that about 44% of Nigerian women having abortions experience complications[4] and that unsafe abortion accounts for as many as 30-40% of maternal deaths.[5]

As in many other countries in the region, a high proportion of hospital gynecological admissions result from complications of unsafe induced abortion, thereby imposing heavy burdens on a fragile health care system. As a result, health establishments incur huge expenses in treating abortion complications. Given the extreme poverty and strained resources in this region, the high costs of treating abortion complications drain the financial and human resources of the public sector. These costs diminish its capacity to maintain an adequate health care system while trying to improve other sectors at the same time.

Because of the heavy social, economic and health burdens of unsafe abortion to women, their families and society, efforts to assess and address the magnitude of these burdens

and their root cause(s) in the country are crucial. Yet there is little empirical evidence on this subject. The objective of this paper is to examine:

1. The characteristics of women who are admitted into hospital for complications from unsafe abortion (or to obtain an induced abortion)

2. The conditions under which women obtain abortions (e.g. where they go, who they see, what method was used and at what gestation)

3. The nature and severity of complications resulting from unsafe abortions and

4. The cost of obtaining an abortion and cost of treatment of abortion complications.

Data source

One of the reasons for lack of empirical evidence on this subject is the absence of relevant data, especially at a large scale, country wide level. In 2002-2003, AGI and its Nigerian partner organization, The Campaign Against Unwanted Pregnancy, carried out a survey of women admitted to public and private medical facilities either for treatment of complications of abortion, including induced and spontaneous abortion, or to obtain an abortion. The survey was conducted between September 2002 and July 2003 in 32 hospitals located in eight states in Nigeria. The states (Ekiti, Gombe, Kaduna, Kano, Kogi, Lagos, Imo and Rivers) were selected such that two states came from each of the four health zones (Northeast, Northwest, Southeast and Southwest). Using the rural-urban distribution of women in the 1999 Nigeria Demographic and Health Survey (NDHS) as the basis, the state that was mostly urban and the one that was mostly rural was chosen in each of the health zones. To take account of the recent change in the zoning of the country, the states were selected such that at least one state came from each of the current six geo-political zones (North-East, North-West, North-Central, South-East, South-West and South-South).

Four hospitals, two public and two private, including missionary hospitals where possible, were selected in each of the eight sampled states. The hospital sample consisted of 7 tertiary (teaching) hospitals, 10 secondary (government) hospitals, 14 private hospitals, and 2 mission hospitals. The hospitals were selected to have high numbers of patients seeking abortion-related treatment to assure an adequate number of interviews within the time available. Most of the hospitals were located in urban areas.

The study design specified that all women who were admitted for treatment of pregnancy loss during the study period were to be interviewed. This included women admitted for treatment of complications due to induced or spontaneous abortion, as well as women who obtained an induced abortion in the facility. This was done because it is not always easy to distinguish induced from spontaneous abortions, and because inclusion of all pregnancy complications provides a group of women who can be compared with those who are considered to have had induced abortions. The physicians who attended to the

women were also interviewed separately. At the end of the survey, 2,318 patients were successfully interviewed.

The survey was conducted via a structured questionnaire in face-to-face interviews. The interview obtained information on issues including the socio-demographic characteristics of women and their partners, contraceptive and pregnancy histories, unwanted pregnancy and abortion. Questions on abortion elicited information on issues such as the abortion decision making process, reasons why women obtained abortions, the abortion seeking process, conditions under which women obtained abortions, complications associated with abortions and costs of treatment. Information on costs of treating complications was obtained independently from women and their health care providers. First, women were asked about the out-of-pocket cost of the procedure and/or treatments that they obtained before they went to the hospital. The cost of each step of this process was obtained and these costs can be combined to produce the total cost incurred by the woman for obtaining an incomplete abortion. Secondly, for each patient, their principal medical provider was asked about specific details of medical care and any surgical procedures, as well as the total hospital charge to the woman, and separately any additional expenses that were incurred by the patient for three categories (additional payments to the doctor, for supplies used in the hospital, and for medications).

Medical doctors and nurses were chosen to be interviewers and supervisors because of the medical nature of the subject and because the task of collecting information may involve checking patients' medical records,. Two training sessions were conducted for the field workers during which the supervisors and the interviewers were instructed about the art of interviewing, the roles of an objective interviewer, the goal and objectives of the study and the contents of the questionnaire. Both training sessions included mock interviews, with one interviewer or supervisor acting as the interviewer and another as the respondent. Question and answer sessions followed the mock interviews to debrief the field workers and to ensure that they were all comfortable with the survey instruments. Before the actual field work, the survey questionnaires were pre-tested and revised as necessary.

The Alan Guttmacher Institute's IRB reviewed and approved the study. In addition, members of the Ethical Committees of the College of Medicine of University of Lagos (CMUL) and Lagos University Teaching Hospital (LUTH) reviewed the survey instruments/questionnaires to ensure that confidentiality and ethical issues were adequately addressed. Supervisors obtained consent of participating hospitals, and interviewers obtained permission for participation from individual patients and physicians. Confidentiality of hospital and patient/respondents was maintained and there was no personal identifier collected on the questionnaires.

Results

Reasons for treatment in hospital

Interviews were obtained with 2,318 women in the 32 hospitals. One hundred twenty-five cases were omitted from the analysis, including 71 because they were seeking pregnancy termination and refused or referred, 36 who were treated for pregnancy complications other than spontaneous abortion, 15 because the physician was not interviewed, and three because the woman was not pregnant.

The remaining 2,205 respondents were classified into four groups (Table 1): those who were treated for complications of an induced abortion that was initiated outside the facility (23%), those who obtained an induced abortion at the facility (43%), those who were treated for complications from a spontaneous abortion or miscarriage (30%), and a small group of women were treated for complications of an ectopic pregnancy and had not attempted to end their pregnancy (4%). The group who sought pregnancy termination in the hospital was further divided into those who had made a prior attempt without suffering significant complications (12%) and those who went first to the hospital when they decided to end the pregnancy (31%).

The distinction between induced and spontaneous abortion was based primarily on the physician's final diagnosis. Those with missing diagnoses were classified according to other relevant variables: whether they presented at the hospital with symptoms, were seeking pregnancy termination, or had attempted to end the pregnancy. They were considered to have attempted to end their pregnancy if they reported in their interview that they had done so or if the physician indicated that either the patient or someone else had said that an attempt had been made.

Of the women who were considered to have attempted to end their pregnancies, 92% reported this to the interviewer. This, together with the high ratio of induced to spontaneous abortions, suggests that women were fairly open about discussing their abortion attempts and that we have not misclassified a large proportion of the induced abortions as spontaneous.

Distinct differences are apparent between women in the southern part of the country, which is relatively advanced economically and is predominantly Christian, and the northern, more traditional and largely Islamic area. In the south, more than three-fourths of the women who were admitted into hospital for abortion-related reasons had induced abortions compared with half in the north. In the south, as many women went directly to the hospital for abortions as attempted to end their pregnancies elsewhere, whereas in the north women were more likely to make abortion attempts before coming to the hospital.

The four types of hospital are quite different in the types of patients seen. Almost three-fourths of the tertiary hospital patients were treated for spontaneous abortions or ectopic pregnancies. A majority of the secondary hospital patients had induced abortions, either with or without complications needing treatment. The private hospitals served primarily

women seeking to end their pregnancies, while four-fifths of the mission hospital patients needed treatment for complications of induced abortions performed elsewhere.

Characteristics of women admitted in hospital for abortion related reasons

Twenty-two percent of the women having induced abortions are teenagers and 59% are under age 25. They are distinctly younger than the women having miscarriages, only 30% of whom are under 25. (The terms "miscarriages" and "spontaneous abortions" as used here include ectopic pregnancies.) This may reflect both the higher risk of miscarriage among older women and the higher proportion of pregnancies of young women that are ended by abortion.

Sixty percent of the abortion sample are never married, compared with only five percent of the miscarriage group, and 65% have no children. Compared with the women having miscarriages, fewer of the women having abortions are Muslim, and more live outside a city, possibly because abortion services and treatment are less available in villages than is treatment for miscarriage. Women who live in rural areas may also seek abortions in a town or city to avoid embarrassment and stigma.

The women treated in these hospitals are relatively educated and economically prosperous compared with the population in general. Only a few respondents have no electricity in their homes (not shown) and one-third have post-secondary education. The relatively high socio-economic status of the sample could reflect the urban location of the hospitals and the personal resources required to pay for treatment, even in government hospitals.

Compared with women having miscarriages, the abortion sample has higher education and a slightly higher standard of living. It may be that women with a higher social position are more determined to control their fertility and less tolerant of an unintended pregnancy.

Thirty-eight percent of those having abortions had a prior induced abortion, while in the miscarriage population only 11% reported having had an abortion.

Only 11% of the induced abortions were performed in the second trimester (past 12 weeks gestation), a figure comparable to that in Great Britain and the United States. The miscarriages were being treated at a later point in gestation on average, 27% of which were in the second trimester.

Table 2 also shows a comparison of the women who went directly to the hospital for an abortion with those who made a prior attempt to end their pregnancies. The former had slightly more education and a higher standard of living than the latter, and they were more likely to have had two or more prior induced abortions. There was a large difference in gestational age; only three percent of those who went directly to the hospital did so in the second trimester, while 18% of those who made an earlier abortion attempt were past 12 weeks. The difference could reflect the higher rate of complications when

abortions are performed later in gestation as well as the delay caused by the earlier attempts.

Women who reported that they had attempted to end the pregnancy before coming to the hospital were asked whom they saw or what they did first, where they saw the person or obtain the materials used, what the person did, how much it cost, and what if any health problems resulted. The same questions were asked about any additional steps they took to end the pregnancy, up to a maximum of four steps. Thirty-five percent reported more than one step before coming to the hospital (not shown). Forty-one percent of the women who reported at least one prior attempt said that one of the steps involved going to a physician (Table 3). It is not clear, however, whether the doctors were fully trained physicians or were less-trained persons who called themselves, or women considered to be, doctors. Thirty-five percent consulted a chemist. Smaller numbers of women went to a nurse or midwife (13%), friend, partner or relative (11%), or native doctor (6%). The last step before going to the hospital followed the same pattern: 39% went to a physician and 22% to a chemist. Of those who took more than one step, consulting a physician was usually the last step (58%). A physician was the last person seen by 57% of the women in the North, compared with 26% of women in the South.

Pills and dilatation and curettage (D&C) were the most commonly reported methods used by abortion providers, followed by injections and manual vacuum aspiration (MVA) (Table 4). The physicians most often performed a D&C (54%) or MVA (21%). Chemists, on the other hand, usually provided pills (57%) or injections (33%). Abortion attempts by the women themselves or assisted by friends usually involved taking pills, native medicines or herbs. Nurses and midwives used the full range of methods, including D&C (43%), injections (23%), MVA (19%) and pills (11%). Native doctors most often used herbs or other native medicines (54%) or inserted objects (39%).

Table 5 shows the complications reported by the woman to have occurred after her last attempt to end the pregnancy before coming to the hospital and the presenting symptoms reported by the physician. The most commonly reported complications by women were bleeding and pain (62-68%). About twenty-one percent reported fever, while 24% reported no complication. In most cases, more women reported complications than the physicians on admission, possibly because some of the complications may have resolved before admission or were not serious enough to be recorded. An exception is genital or cervical trauma, which was recorded more often by the physician, probably because the woman was not aware of the injury.

The symptoms varied according to the method used to end the pregnancy. A large majority of those who had MVAs or D&Cs experienced bleeding or retained products of conception and pain. A significant number also had fever, which was more common among women who had D&Cs than among those who had MVAs. Twenty percent of the D&C group had genital/cervical trauma on admission. This was less frequent in the MVA group (9%).

Among those who took pills, injections or native medicines, 60-63% had no presenting symptoms, indicating that the methods were ineffective but not extremely harmful. Most of the rest had bleeding, retained products, or pain, while fever was relatively rare on admission (7%).

The effect of inserted objects was in between that of medicines and uterine evacuation. Surprisingly, 32% had no presenting symptoms on admission, suggesting that in some cases the objects might not have been inserted into the cervix. Thirty percent had fever, however, more than with any other method, and 16% had genital/cervical trauma.

Because bleeding and pain were most common among women who had had a D&C or MVA, and doctors most often performed these procedures, the presenting symptoms were most common among women who had sought pregnancy termination from doctors (not shown). The doctor was sometimes the last of the abortion attempts, so some of the complications after the doctor's treatment may have been caused by earlier attempts.

Among both those who presented at the hospital with symptoms of induced abortion and those who had miscarriages, the large majority had bleeding and pain. (Table 6) Twenty-six percent of the group treated for abortion complications had fever, compared with only 5% of the women having miscarriages.

The physician's diagnosis at discharge provides a more complete picture of the problems experienced by patients. Among those who came for treatment of induced or spontaneous complications, the proportion given the discharge diagnosis of hemorrhage was much lower than the proportion presenting with bleeding, probably because the bleeding was often not significant enough to be considered hemorrhage. Fever became more common, however, either because it was not recognized on admission or developed in the hospital. Fever and sepsis were much more common among the women treated for attempted abortion than among those treated for miscarriage.

The complications of attempted abortions resulted in the deaths of 2.3% of the women treated. This percentage may be low because some women who were very sick when they were admitted to the hospital may have died before they could be interviewed. On the other hand, many women with complications are treated at private physicians' clinics and lower level hospitals, so the hospitals studied can be expected to have a concentration of women with the most serious complications.

A few cases of complications including one death were reported among the abortions performed in the hospitals. Re-aspiration was evidently required in one percent of cases, and a few had signs of infection.

Most patients received a uterine evacuation, usually by means of vacuum aspiration, which is generally considered to be the safest method. MVA was the method used most often in all four types of hospitals. Other treatments were rarely required for the women who came to the hospital for an abortion but were fairly common among the other groups. Twenty-four percent of women treated for induced abortion complications had

blood transfusions and 13% had abdominal surgery; the comparable figures for women treated for miscarriages were lower at 13% and 10%. Two-thirds of the women with abortion complications stayed at least one night in the hospital, and 7% stayed 10 or more nights. Only about half of the miscarriage patients stayed overnight, and women who obtained abortions at the hospital rarely did so (6%).

The cost to the women is shown in Table 7. The greatest expense, averaging 21,600 Naira, is treatment of ectopic pregnancy, which involves abdominal surgery.[i] Next most expensive treatment is for complications of abortion attempts outside of the hospital, 9,900 Naira on average. These women paid about 6,900 Naira on average for the hospital, which usually included physician care, 1,700 Naira for medications and 1,200 Naira for supplies. In addition, before going to the hospital they had paid an average of 2,100 for the abortion attempts that caused the complications. In all, the pregnancy termination and treatment cost 11,900 Naira on average.

Treatment of spontaneous abortion was less expensive at 5,100 Naira on average. Least expensive at about 3,500 Naira was abortion provided in the hospital. The average cost of prior abortion attempts was 200 Naira, including the majority who made no prior attempt; among those who had a prior attempt, the average expense was 1,100 Naira (not shown).

For women with complications of abortion attempts, the costs in private hospitals (4,900 Naira) were lower than in the other types (10,300 to 16,300 Naira), possibly because the complications were less severe (not shown). Charges for abortions induced in the hospital were similar in secondary and private hospitals (3,500 Naira) but much higher in tertiary hospitals (11,900 Naira) (not shown). This may reflect the tendency for tertiary hospitals compared to the other types to treat more serious complications.

Discussion

In secondary, private and mission hospitals that treat large numbers of pregnancy complications in Nigeria, patients seeking induced abortion care are much more common than those being treated for miscarriages. Induced abortion patients are also common in tertiary hospitals. The large number of induced abortion patients demonstrates the importance of prevention of unwanted pregnancies and the provision of high-quality abortion care. Prevention of unwanted pregnancies that lead to abortion attempts would save countless women the pain and risks of induced abortions, women would save hundreds of millions of Naira each year, and health care resources would be available to treat other conditions.

Most disturbing is the number and seriousness of complications of unsafe abortion attempts. Of the women treated for abortion complications, 22% had sepsis, which frequently results in infertility, 13% required abdominal surgery, and two percent died. As much as half of the cost of induced abortion care provided in hospitals is for treatment

[i] One U.S. dollar was about 120 Naira at the time of this survey.

of complications. If women went only to the safest providers, almost all of this expense could be saved.

It is understandable that many women first try the most convenient and least expensive option for ending an unwanted pregnancy. These attempts are sometimes successful, but they often fail. In our sample of induced abortion patients, 18% made an unsuccessful attempt and came to the hospital with no significant symptoms, and another 36% came with complications. In addition to the danger to their health, the financial cost to these women was several times the cost of a safe abortion obtained directly from the hospital.

These results raise concerns about the safety of abortions provided by physicians in Nigeria. Forty-one percent of the prior abortion attempts were made by doctors. Although we can't be sure that these were all qualified physicians, it is clear that many complications are associated with abortions performed by physicians. The majority of the abortions were performed by D&C. This method is not as safe as aspiration, which was used for only 21% of the abortion attempts. Although D&C is more effective than the methods used by chemists and other practitioners, it also results in more serious complications. An earlier study found that a large majority of physicians who perform induced abortions use vacuum aspiration at least some of the time,[6] so it is likely that complications come disproportionately from abortions performed by D&C.

In the study hospitals, on the other hand, the large majority of uterine evacuations were accomplished by manual vacuum aspiration. These results suggest that training in the safest methods of uterine evacuation has reached most of the physicians in the larger hospitals but that more training is needed by primary care practitioners in the community.

The complication rate of abortions performed in the study hospitals appears to be relatively low, but this study is not adequate to calculate accurate rates. Some complications, including bleeding and fever, could occur after the patient was discharged and therefore unrecorded in the physician interview.

The women seeking to end their pregnancies come from all sectors of society but are predominantly young and unmarried. Efforts to reduce the number of unwanted pregnancies that end in abortion need to focus on contraceptive education—including emergency contraception—and services for young unmarried women, who have sometimes been ignored by family planning programs. Success in encouraging contraceptive use among these women will carry over to when they are older and married and thus have long-term benefits.

Table 1. Percentage distribution of reason for hospital treatment, according to region and hospital type

Reason for treatment	N	Total (N=2205)	Region		Type of hospital			
			South (N=1203)	North (N=990)	tertiary (N=383)	secondary (N=703)	private (N=983)	mission (N=130)
Total	2205	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Induced abortion--total	1455	66.0	77.5	51.8	27.2	58.3	84.2	83.1
Attempted outside hospital, complications treated in hospital	516	23.4	22.2	24.9	23.8	26.5	13.5	80.0
Attempted outside without presenting symptoms, induced inside hospital	256	11.6	15.1	7.4	1.6	9.4	18.7	0.0
Induced in hospital, no prior attempt	683	31.0	40.1	19.5	1.8	22.5	52.0	3.1
Spontaneous	664	30.1	17.2	46.0	58.5	38.0	15.3	16.9
Ectopic, no abortion attempt	86	3.9	5.3	2.2	14.4	3.7	0.5	0.0

Table 2. Percentage distribution of hospital patients, by selected characteristics*, according to reason for hospital treatment

	Induced abortion			Spontaneous/ectopic
	Total induced (N=1455)	Attempted outside first (N=772)	No prior attempt (N=683)	(N=750)
Total	100.0	100.0	100.0	100.0
Age				
11-19	21.9	23.2	20.4	9.0
20-24	37.4	34.7	40.5	20.8
25-29	19.8	21.2	18.2	27.6
30 and over	20.9	20.9	21.0	42.7
Marital status				
Single (never married)	60.2	59.6	60.8	4.9
Married	35.0	34.9	35.2	94.5
Separated/divorced/widowed	4.8	5.5	4.0	0.7
Religion				
Muslim	22.3	24.9	19.5	57.0
Protestant	32.2	29.3	35.5	11.1
Catholic	27.0	24.6	29.6	12.9
Other Christian	17.7	20.0	15.1	15.9
Other and none	0.8	1.2	0.3	3.1
Residence				
Town or city	79.5	77.9	81.2	87.2
Village	20.5	22.1	18.8	12.8
Education				
No schooling	5.5	6.2	4.7	16.8
Primary - part or completed	11.0	13.8	7.7	19.2
Part secondary	18.3	21.8	14.2	9.3
Secondary completed	29.9	28.4	31.7	28.2
Post secondary	34.3	28.5	41.0	24.4
Standard of living**				
Poor	31.4	38.6	23.3	36.0
Middle	33.6	34.3	32.8	33.3
Rich	35.0	27.1	43.9	30.7
Number of living children				
None	65.0	63.6	66.6	31.3
1-3	20.7	22.3	18.9	45.6
4 or more	14.3	14.1	14.5	23.1
Number of prior induced abortions				
None	61.6	62.4	60.8	89.5
1	15.4	18.1	12.3	4.5
2 or more	23.0	19.4	26.9	6.0
Weeks of gestation				
<8	46.7	30.8	64.6	12.4
8-12	42.1	50.8	32.3	60.6
13-19	7.4	12.5	1.6	19.5
20-26	3.6	5.5	1.3	7.1

*From patient interview, except weeks of gestation, which is from physician interview

**Standard of living index comprises wealth indicators such as respondent's household amenities, water source, home roof material and toilet facility.

Table 3. Among women who had attempted to end the pregnancy before coming to the hospital, percent who saw each type of provider*

Provider	All providers seen before hospital** (N=646)	Last provider women saw before hospital: Total (N=644)	South (N=367)	North (N=277)	Women who reported more than one step (N=227)
Physician	41.0	39.2	25.6	57.0	57.7
Chemist	34.7	21.7	26.4	15.5	12.8
Self	13.3	7.4	10.4	3.6	3.5
Nurse/midwife	12.5	9.6	9.5	9.7	7.0
Partner/friend/relatives	11.3	7.5	11.1	4.0	3.5
Native doctor/traditional healer	5.9	3.7	5.7	1.1	1.8
Other/other health provider	4.0	2.5	1.6	1.1	3.1
Did not specify	8.4	7.9	9.3	6.1	10.6

*Patient interview
**Adds to more than 100% because women could go to several sources.

Table 4. Among women who had attempted to end their pregnancy, percentage distribution by type of method, according to type of provider (includes every step taken)*

	Provider						
Method	Total (N=855)**	Doctor (N=315)	Chemist (N=246)	Self (N=92)	Nurse/ midwife (N=86)	Friend/ partner/ relative (N=77)	Native doctor/ traditional healer (N=39)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pills	28.4	3.8	56.5	52.2	10.5	45.5	0.0
D&C	26.9	54.0	5.3	4.3	43.0	6.5	2.6
Injection	15.9	7.9	32.5	6.5	23.3	5.2	2.6
Syringe/MVA	10.1	20.6	0.8	1.1	18.6	1.3	2.6
Native medicine, herbs	6.2	0.0	0.4	16.3	2.3	18.2	53.8
Inserted object	5.6	5.7	2.8	4.3	1.2	3.9	38.5
Other	6.9	7.9	1.6	15.2	1.2	19.5	0.0

*Patient interview

**N=number of steps with provider

Table 5. Among women who made prior attempts to end their pregnancy, percentage reporting complications on their last step, according to abortion method

	Method at last attempt							
Complication	Total (N=646)	D&C (N=234)	Pills (N=154)	Injection (N=81)	Syringe/ MVA (N=58)	Inserted object (N=44)	Herbs, native medicine (N=27)	Other (N=32)
Reported by patient, complication after last attempt								
Bleeding	61.8	85.9	24.0	45.7	91.4	68.2	44.4	53.1
Pain	67.8	85.5	35.7	81.8	87.9	81.8	70.4	65.5
Fever	21.2	29.1	9.1	13.6	13.8	38.6	22.2	18.8
Injuries	7.7	12.0	1.3	1.2	8.6	13.6	7.4	9.4
Other complications	5.7	8.1	1.3	4.9	5.2	6.8	11.1	9.4
No complication	24.3	6.4	54.5	35.8	5.2	13.6	22.2	37.5
Reported by doctor (presenting symptoms/history at admission)								
Bleeding/retained products	53.2	71.8	27.3	32.9	91.4	54.5	25.9	46.9
Pain	56.3	72.2	31.2	39.0	89.7	59.1	29.6	53.1
Fever	17.3	26.1	6.5	7.3	15.5	29.5	7.4	15.6
Genital/cervical trauma	11.7	20.1	1.9	2.4	8.6	15.9	3.7	18.8
No presenting abortion symptoms	36.6	17.5	63.0	59.8	6.9	31.8	63.0	34.4

Table 6. Percentage of women reporting various symptoms, complications and treatments, according to type of abortion*

Symptom, complication or treatment	Induced abortion		Spontaneous, ectopic
	Induced abortion outside hospital, complications treated (N=516)	Induced abortion inside hospital (N=939)	(N=767)
Presenting symptom			
Bleeding/retained products	85.3	0.0	89.7
Pain	87.8	0.0	74.9
Fever	26.2	0.0	4.7
Discharge diagnosis			
Retained products of conception	48.4	1.0	57.1
Hemorrhage	33.3	1.1	48.8
Fever	33.1	0.9	5.7
Sepsis	22.3	0.5	1.9
Pelvic infection	20.3	0.5	1.6
Instrumental injury	10.9	0.3	1.6
Shock	5.4	0.0	2.7
Death	2.3	0.1	0.4
Treatments			
Uterine evacuation	77.3	97.9	82.4
MVA	53.7	66.2	67.5
D&C/D&E	17.1	28.6	7.7
Labor induction	6.6	3.0	7.2
Abdominal surgery	13.2	0.3	9.5
Blood transfusion	23.8	0.6	12.7
IV antibiotics	49.0	8.4	28.1
Days in hospital			
day patient	33.1	94.3	47.5
1 night	22.6	1.7	19.5
2	14.4	1.1	10.6
3-4	12.0	2.4	9.4
5-9	11.0	0.2	9.0
10 or more	6.8	0.3	4.0

*Physician interview

Table 7. Mean amount paid for abortion and treatment of complications, according to type of abortion, in Naira

Type of expense	Induced abortion: Induced abortion outside hospital, complications treated (N=494)	Induced abortion: Induced abortion inside hospital (N=881)	Spontaneous (N=602)	Ectopic/tubal (N=78)
Charges in hospital*				
Hospital	6,870	3,064	3,971	16,643
Medications	1,731	241	796	2,263
Supplies	1,172	80	336	2,347
Doctors	86	71	25	433
Hospital total charge	9,859	3,456	5,128	21,686
Amount paid for abortion attempt before going to hospital**	2,077	238	0	0
Grand total	11,936	3,694	5,128	21,686

*Physician interview
**Patient interview

[1] Stanley, K. Henshaw et al, "The incidence of induced abortion in Nigeria", *International Family Planning Perspectives*, 1998, 24(4):156-164.

[2] National Population Commission (NPC) [Nigeria] and ORC Macro. 2004. *Nigeria Demographic and Health Survey 2003*. Calverton, Maryland: National Population Commission and ORC Macro; Federal Office of Statistics (FOS) [Nigeria] and IRD/Macro. 1992. *Nigeria Demographic and Health Survey 1990*. Columbia, Maryland: IRD/Macro International Inc.

[3] National Population Commission (NPC) [Nigeria] and ORC Macro. 2004. *Nigeria Demographic and Health Survey 2003*. Calverton, Maryland: National Population Commission and ORC Macro

[4] Paulina Makinwa-Adebusoye et al. "Nigerian health professionals' perceptions about abortion practice", *International Family Planning Perspectives*, 1997, 23(4):155-161.

[5] Boniface Oye-Adeniran et al. "Complications of unsafe abortion: a case study and the need for abortion law reform in Nigeria", *Reproductive Health Matters*, 2002, 10(19): 18-21.

[6] S. Henshaw et al., op. cit. (see reference 1).