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Women's Experiences of Unwanted Pregnancy and Induced Abortion in Nigeria

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Summary Report

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Abstract

A population-based study was conducted to determine the prevalence and pattern of abortion use among women in two communities of Nigeria. A total of 1516 randomly selected women aged 15–45 years were interviewed by trained female interviewers in Ile-Ife and Jos Local Government Areas (LGA) in southwest and northern areas of Nigeria. The study used a structured questionnaire in which the abortion questions were framed in a value-free manner.

The results show a high frequency of reports of unwanted pregnancy and induced abortion among the women. There was no difference between Ife and Jos in the proportion of women reporting unwanted pregnancy and ever-use of induced abortion. Both married and unmarried women reported unwanted pregnancy and induced abortion; however, women residing in the urban areas were twice as likely to report unwanted pregnancy and induced abortion as compared to women residing in the rural areas. Other predictors of unwanted pregnancy and induced abortion in the multivariate logistic model were older age of women, higher educational achievement, employment in the formal sector, knowledge of family planning, and current use of a family planning method.

In both communities, unwanted pregnancy was most commonly reported to be due to "bad timing"; the next most common reason given was that the women were still in school at the time they became pregnant. Contraceptive failure was reported by about 19 percent of the women. Among the women reporting induced abortion, approximately 72 percent reported a single abortion episode, while 28 percent reported multiple abortion episodes. Nearly 60 percent of the women reported that they had the abortions before their first recorded live birth, while 40 percent indicated that the abortions occurred between full-term pregnancies. Nearly 80 percent of the women reported that the abortions were performed by doctors operating in private settings, while 13 percent carried out the abortions themselves. Over 35 percent of the women reported that they had significant post-abortion complications, with over 60 percent of these reporting that they sought treatment from private medical practitioners for the complications. Dilation and curretage (D&C) was the most common abortion method reported by the women, followed by various local herbs.

Less than 10 percent of the women supported full liberalisation of abortion. However, more than half of the women supported liberalisation of abortion when a woman is seriously ill or carrying an abnormal baby, or when an unwanted pregnancy occurs as a result of rape. The factors which predicted women's willingness to support abortion liberalisation in the logistic regression model included young age, higher levels of education, knowledge of family planning, current use of a family planning method, unmarried marital status, and residence in urban areas.

There was little variation between the two study sites in the pattern of responses to the questions. The results suggest that detailed information can be obtained on abortion in areas with restrictive laws if a sensitive approach to interviewing is adopted. Our data have implications for designing community-based programs for reducing the problems associated with unwanted pregnancy and induced abortion in Nigeria.

1. Introduction

Unwanted pregnancy and unsafe abortion currently pose some of the greatest challenges associated with women's reproductive health in sub-Saharan Africa. In Nigeria, the law on abortion is highly restrictive and does not permit termination of pregnancy except when it is needed to save the life of a woman. Consequently, women frequently resort to clandestine abortion performed by unskilled practitioners, leading to high rates of maternal mortality and morbidity. Of the 50,000 maternal deaths that are estimated to occur in Nigeria annually, nearly 20,000 are attributable to complications of unsafe abortion. In addition, induced abortion has been implicated as a cause of chronic pelvic inflammatory disease[1], ectopic pregnancy[2], secondary infertility[1,3,4,5], secondary amenorrhea[6], spontaneous abortion[7,] and prematurity[8] in Nigerian women.

In spite of the high levels of immediate and long-term complications due to unwanted pregnancy and induced abortion in Nigeria, there has been very little documentation of relevant epidemiological and social science data for designing appropriate intervention policies and programs to address the problem. In particular, there is lack of substantive community-based data on the prevalence of unsafe abortion, the social and contraceptive use factors leading to unwanted pregnancy, the number of women seeking induced abortion, and the circumstances surrounding the decision to carry out induced abortion. We also do not know the health-seeking behaviour of women desiring to terminate unwanted pregnancies and the characteristics of their preferred health care providers for abortion and post-abortion complications. These data will be important for designing comprehensive community approaches for reducing the high rate of unwanted pregnancy and induced abortion.

Most studies on abortion in Nigeria have been based on women admitted into major hospitals in urban centres for abortion complications. While such studies have yielded interesting results[9,10,11,12], they cannot be generalised to the wider Nigerian context since only women who develop complications or present in public hospitals are included. There is often no information on women who carry out induced abortions themselves, utilize private and smaller hospitals, or reside in rural areas. Moreover, very little information is available from the northern part of Nigeria where close to 50 percent of the population resides.

Objectives of the study

The purpose of this report is to present the results of a population-based study of unwanted pregnancy and induced abortion among women of reproductive age in two communities in the southwestern and northern parts of Nigeria. The overall objective of the study was to provide data necessary for the design of practical interventions and policies for reducing the high rate of morbidity and mortality associated with induced abortion in Nigeria.

The specific objectives of the study were as follows:

1. To determine the levels of unwanted pregnancy and induced abortion among women of reproductive age in Ife Central and Jos North Local Government Areas (LGAs) of Nigeria;

2. To identify the social, economic, and contraceptive use factors leading to unwanted pregnancies and the conditions that lead to pregnancy termination and the use of particular abortion methods and services;

3. To determine the attitudes of the women toward induced abortion and toward the Nigerian national abortion law;

4. To describe the abortion methods and services available in the two LGAs; and

5. To make recommendations on community-based methods of reducing morbidity and mortality from unwanted pregnancy and induced abortion in the study areas.

2. Summary of Research Methods

The study was undertaken in two communities in Nigeria — Ife Central Local Government Area (Ife LGA) in southwestern Nigeria and Jos North Local Government Area (Jos LGA) in northern Nigeria. The study was a population-based household survey of women aged 15 to 45 years in the two LGAs. At the time of the study, the estimated population of Ife LGA was 196,538 while Jos LGA had a population of 200,000 people. Based on sample size calculation, our objective was to interview 725 women in the rural and urban parts of Ife LGA and 725 women in the rural and urban parts of Jos LGA. However, 692 women in Ife LGA and 824 women in Jos were actually interviewed. Stratified simple random sampling was used for the identification of the women in both areas. The 1992 national integrated households list was used as the sampling frame in Ife

LGA, while the 1991 census listing of households was used in Jos.

The women were interviewed in their households by trained female interviewers using a structured, pre-tested questionnaire. The questionnaire survey was carried out in Ife LGA from December 1994 to January 1995 and in Jos LGA from April to May 1995.

The questionnaire, which was designed to elicit information on pregnancies and reproductive health from the women, was divided into five sections. The first part of the questionnaire assessed whether the household contained women that were eligible and willing to participate in the fully explained study. Once the respondents were identified, the second section elicited the sociodemographic characteristics of the women. Section three of the questionnaire collected information on the number of pregnancies and living children the woman had and her knowledge of reproductive health and use of family planning services.

Section four of the questionnaire asked, in a "value-free manner", whether the woman had ever been pregnant when she did not want to be. The question was followed by a series of questions on how the woman dealt with the unwanted pregnancy. This manner of framing abortion questions has previously been shown to be highly sensitive in providing insights into the extent of induced abortions in countries where abortion is illegal[13]. If a woman claimed to have successfully terminated the pregnancy, she was asked to identify the practitioner who performed the termination, the cost of the termination, and whether she experienced complications and how she managed the complications. The questionnaire also asked the woman whether she received post-abortion counselling and the type of counselling received. The final part of the questionnaire was designed to explore women's attitudes toward induced abortion and toward the Nigerian national abortion law. In addition, some questions probed for local practices relating to induced abortion, particularly the methods and drugs used for abortion locally.

The data were computer-entered and processed using the EPI-Info and SPSS PC+ computer software. For data analysis, initial univariate analysis was carried out to describe the sociodemographic characteristics of the respondents, their experience of unwanted pregnancy, their pattern of use of induced abortion and family planning services, and their attitudes toward induced abortion and toward the Nigerian national abortion law. Thereafter, bivariate analyses and cross-tabulations were performed to determine the effects of selected explanatory variables on the women's experiences of

unwanted pregnancy and induced abortion and their attitudes toward the Nigerian abortion law. Finally, multivariate logistic regression was undertaken in SPSS PC+ to identify predictive factors among women in the population for the likelihood of having an unwanted pregnancy and induced abortion and being favourably disposed to induced abortion. The analyses were undertaken separately for the Ife and Jos LGAs in order to identify factors which may operate differently in the two communities.

3. Summary Results

3.1. Sociodemographic Characteristics of the Respondents

The women were aged 15 to 49 years (mean: 26.9, SD = 10.1). Over 22 percent of the respondents in Ife LGA and 23.7 percent in Jos LGA were teenagers aged ≤ 19 years. Approximately 22 percent of the women in the two study areas were aged ≥ 35 years. The results indicate that nearly two-thirds of the women were married and living with their husbands while 2.5 percent of them were widowed, divorced, or legally separated. Overall, 28.7 percent of the respondents were unmarried; however, the proportion of unmarried respondents was slightly higher in Ife LGA than in Jos LGA.

Regarding educational status of the women, close to 60 percent of the respondents in Jos LGA had no education or had only a primary level education. By contrast, 45 percent of the women in Ife LGA had no education or had only a primary level education. Thus, Ile-Ife women were slightly better educated than Jos women, a result that is consistent with the findings in the Nigerian Demographic Health Survey (DHS). The level of formal sector employment among the women was also significantly lower in Jos as compared to Ife LGA; approximately 34 percent of women in Jos were unemployed compared to only 4 percent in Ife LGA. The most frequent occupations in both areas were trading and sewing. Both study areas were university towns; students constituted 20 percent of the sample in Ile-Ife and 17 percent of the sample in Jos.

The predominant ethnic group in the sample in Ife LGA was Yoruba, while Hausa/Fulani was the predominant ethnic group in the Jos sample. Northern minorities constituted a significant proportion of the Jos sample. Overall, Christians constituted 60 percent of the sample, while Muslims made up 37 percent of the sample. However, Muslims constituted a greater proportion of the sample in Jos, whereas Protestant Christians were in the majority in Ile-Ife.

3.2 Women's knowledge of reproductive health and practice of contraception

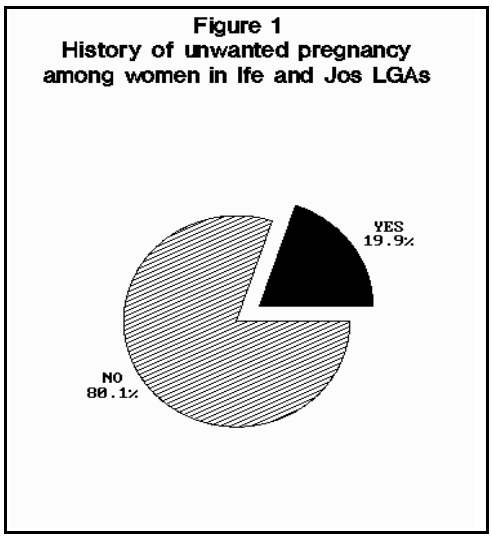
We assessed the women's knowledge of reproductive health by asking them whether they knew the time during the menstrual cycle when a woman who has sexual intercourse while not contracepting can become pregnant. About 14.5 percent of the women in Jos and 39.4 percent in Ife provided correct answers to the question, indicating poor knowledge of reproductive health in both communities. However, a high proportion of the women in both LGAs admitted having knowledge of family planning methods and knowing a source of family planning methods. However, from the data it was clear that a significant proportion of Ile-Ife women had better knowledge of reproductive health and family planning compared to women in Jos. Government hospitals and designated family planning clinics were the most frequently mentioned sources of family planning. However, women in Ife LGA were more likely to mention government hospitals while women in Jos were more likely to mention family planning clinics. This probably reflected differences in the organisation of services for family planning in each community. In both Ife and Jos LGAs private hospitals did not feature as preferred sources of family planning for women, accounting for only four percent of the responses in Jos and eight percent in Ile-Ife. This might have been because private hospitals charge high fees for family planning services whereas such services are subsidized in government hospitals.

About 39 percent of the women in Ife LGA admitted ever using any family planning method compared to only 31 percent in Jos. By contrast, 28 percent of Ife women and 19 percent of Jos women were practicing some contraceptive method at the time of the survey. These figures were substantially higher than data obtained from the 1990 National Survey, which suggests increasing use of family planning methods in the country. The pill was the most widely practiced family planning method in both communities, followed by the intrauterine contraceptive device (IUD), injectable contraceptives, and the rhythm method. The rhythm method was particularly common among Ife women, while the pill was particularly common among women in Jos.

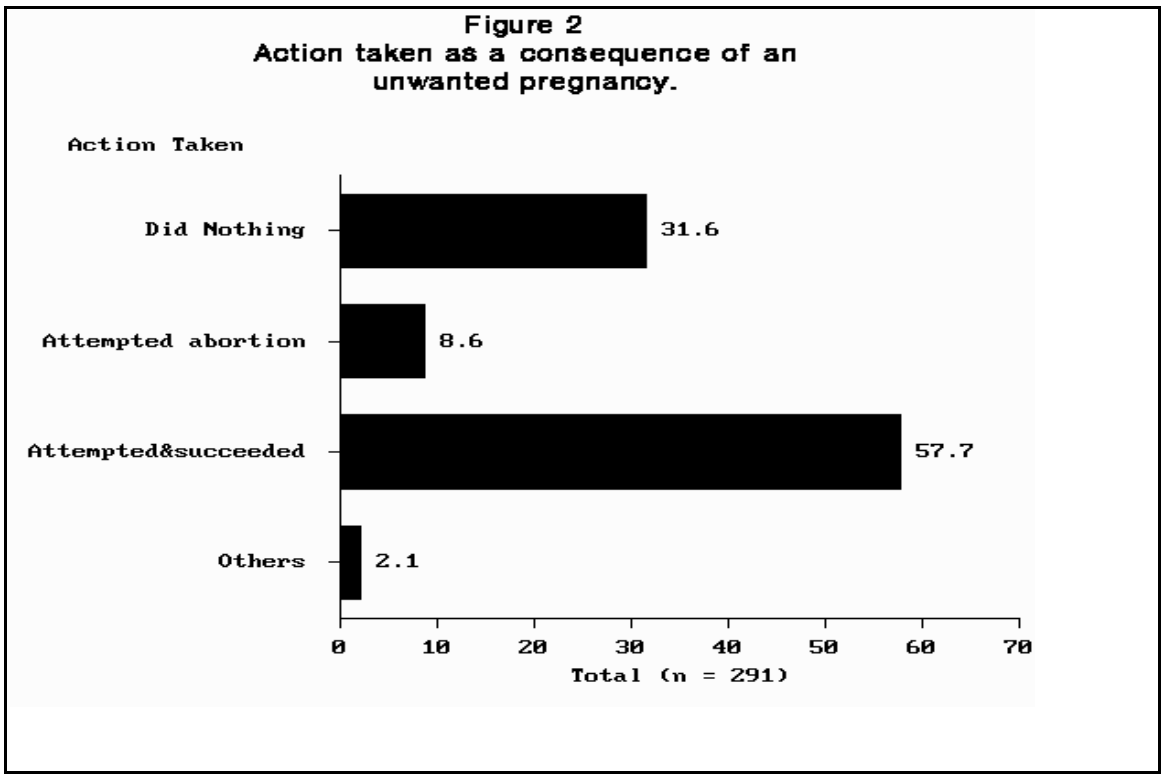
Among married women, 43 percent reported ever-use of contraceptives while 29 percent were currently using contraceptives. By contrast, 16 percent of sexually active unmarried women had ever used contraceptives and 13 percent were using contraceptives at the time of the survey, indicating that married women were more likely to use contraceptives than unmarried women. These data have implications for the prevention

of unwanted pregnancy, particularly among unmarried women, and may reflect differential access to contraceptives for married and to sexually active unmarried women.

3.3 Prevalence of unwanted pregnancy and induced abortion

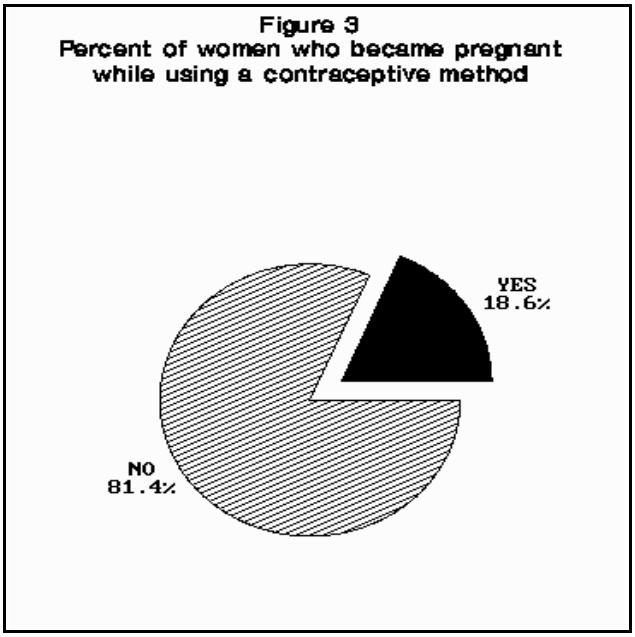


As shown in Figure 1, nearly 20 percent of the women reported a history of unwanted pregnancies. This consisted of 19 percent of Ife women and 21 percent of the women in Jos LGA. Of these, 57.7 percent of the women overall stated that they had successfully terminated the pregnancy and another 8.6 percent reported that they had attempted termination but failed (see Figure 2). However, there was no significant difference between Jos and Ife LGA in the proportion of women reporting termination of their pregnancies. There was also no difference between the two study areas in the proportion of women who reported that they had attempted termination but failed. In absolute terms, 73 women in Ife LGA and 95 women in Jos LGA reported lifetime use of induced abortion, resulting in rates of abortion use of 10.5 percent and 11.5 percent in Ife and Jos respectively. This difference between Jos and Ife in the rates of self-reported abortion was not statistically significant ($P > 0.05$, X^2 test). Women in the urban parts of both Ife and Jos LGAs were more likely to report a history of unwanted pregnancies compared to rural areas. Similarly, urban women in Ife and Jos were more likely to report successful terminations in cases of unwanted pregnancies. By contrast, rural women were more likely to report failed attempts at pregnancy termination, which may reflect poor access to abortion services for women in the rural areas of the LGAs.



3.4 Reasons for unwanted pregnancies

Approximately 18.6 percent of the women who reported an unwanted pregnancy became pregnant while using a family planning method — 15 percent in Ife LGA and 21 percent in Jos LGA (see Figure 3). The pill was the most common contraceptive used by the women at the time they reported the unwanted pregnancies, followed by the IUD, injectable contraceptives, and condoms. This might have been due to incorrect use of contraceptives and suggests inadequate quality of care in the



practice of family planning in both communities.

Among the reasons the women gave for not wanting the pregnancies, the results presented in Table 1 indicate that bad timing was the most frequent, after which the most common reasons were the desire to remain in school, the high cost of having more children, and the feeling that the pregnancy was not socially acceptable. When the results were disaggregated by study areas, bad timing was the most common reason offered by women in Jos while the desire to remain in school was the most common reason given by women in Ife LGA. The responses did not differ significantly between urban and rural areas in the two study locations.

Table 1
Reasons for unwanted pregnancy by study location

Reasons	Ife LGA Percent n=127	Jos LGA Percent n=164	Total Percent n=291
No reason	8.9	3.1	5.6
Still in school	38.2	25.5	31.0
High cost of children	7.3	9.9	8.8
Bad timing	30.9	47.8	40.5
Abandoned by partner	5.7	1.9	3.5
Pregnancy is socially unacceptable	4.1	6.2	5.3
Extramarital pregnancy	—	2.5	1.3
Others	2.4	1.2	1.8
No response	2.5	1.9	2.1
TOTAL	**100**	**100**	**100**

3.5 Determinants of unwanted pregnancy and induced abortion: results of multivariate analyses

To measure the simultaneous effects of some selected background variables on the likelihood of reporting an unwanted pregnancy and induced abortion, multivariate logistic regression analyses were carried out for the whole sample and separately for women in

the two study locations. The results showed that age, education, employment, and current use of family planning were the most significant independent predictors of unwanted pregnancy. In the overall sample, women aged 25–34 years and those aged 45 years or older were more likely to report an unwanted pregnancy as compared to those aged 24 years or younger (OR 1.9 and 3.4 respectively). In addition, women aged 35–44 years in Jos LGA were also more likely to report unwanted pregnancy as compared to women aged 24 years or younger. However, this latter relationship did not hold for Ife LGA women or in the overall sample.

As compared to women without education, the results indicate that women with higher education had higher odds of reporting unwanted pregnancy than those with lower levels of education. In particular, women with tertiary education are on the average three times more likely to report an unwanted pregnancy compared to women without education. However, the relationship between the prevalence of unwanted pregnancy and education was stronger for Jos women than Ife women. Indeed, women with tertiary education in Ife tended to have a decreased likelihood of reporting an unwanted pregnancy, although the relationship on its own was not significant. Thus, overall increased women's education increased the likelihood of reporting an unwanted pregnancy. Also, respondents in professional jobs (teaching and biomedics) had greater likelihood of reporting an unwanted pregnancy compared to unemployed women.

Other predictors of unwanted pregnancy in the logistic regression model were having knowledge of family planning and current use of a family planning method. Overall, women who knew of family planning were two times more likely than those without knowledge to report an unwanted pregnancy. Similarly, women who knew a source of family planning were three times more likely than those who did not know a source to report an unwanted pregnancy. This relationship was significant in Ife and Jos as well as in the overall sample. By contrast, marital status of the women, place of residence (rural versus urban), and knowing the fertile period did not significantly predict women's likelihood of reporting an unwanted pregnancy in the logistic model.

The key predictors of induced abortion in the overall sample were age, education, marital status, current use of family planning, and knowledge of the fertile period. In terms of age, older women had a much greater likelihood of reporting induced abortion. In particular, women aged 25–34 years were significantly more likely to report an induced abortion compared to women aged 15–24 years. The observed effect of age on reported

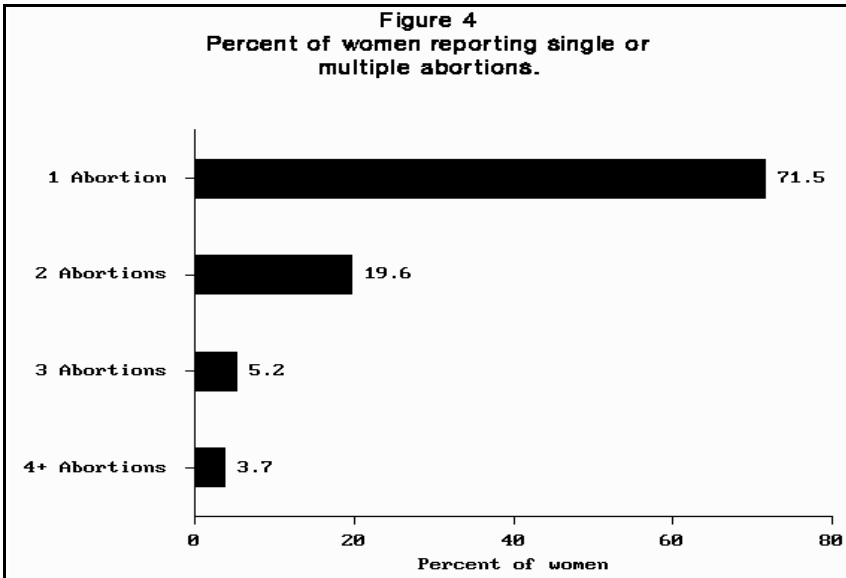
induced abortion may be due to the fact that our study was designed to solicit information on ever-use of induced abortion. In communities with low prevalence of contraceptive use, older women were more likely to experience an induced abortion compared to younger women since they had a longer exposure to unprotected intercourse than younger women. In addition, older women might have been more willing to report abortion use than younger women because of their better knowledge and rationalisation of reproductive health problems.

Regarding the effect of education on abortion, respondents in the total sample with tertiary education were four times more likely to report an induced abortion, followed by those with secondary level education who were two times more likely to report an induced abortion relative to those without education. Similarly, professional women (teachers and biomedics) who were often better educated were more likely to report an abortion than unemployed women.

In the overall sample, divorced and unmarried women were more likely than married women to report having had an induced abortion. Also, women who had knowledge of family planning, who knew a source of family planning, and knew the fertile period were significantly more likely than their counterparts to report an induced abortion. For knowledge of family planning, the adjusted odds ratio was as high as seven. Presumably, women with better knowledge of reproductive health may have been better able to access abortion and other reproductive health services. In addition, the increased knowledge of family planning by women reporting induced abortion might have been due to the tendency for practitioners to offer counselling on family planning to women after induced abortion.

3.6 Practice of induced abortion in the Local Government Areas

As shown in Figure 4, approximately 72 percent of the women who said they



had successfully terminated a pregnancy had one termination while 28 percent admitted they had repeat abortions. As shown, 19.6 percent had two abortions, 5.2 percent had three abortions, and 3.7 percent had four or more abortions. There was no significant difference between Jos and Ife LGAs in the proportion of women reporting a second repeat abortion. However, more women in Jos reported having three or more repeat abortions (14 percent in Jos LGA compared to 4 percent in Ife LGA).

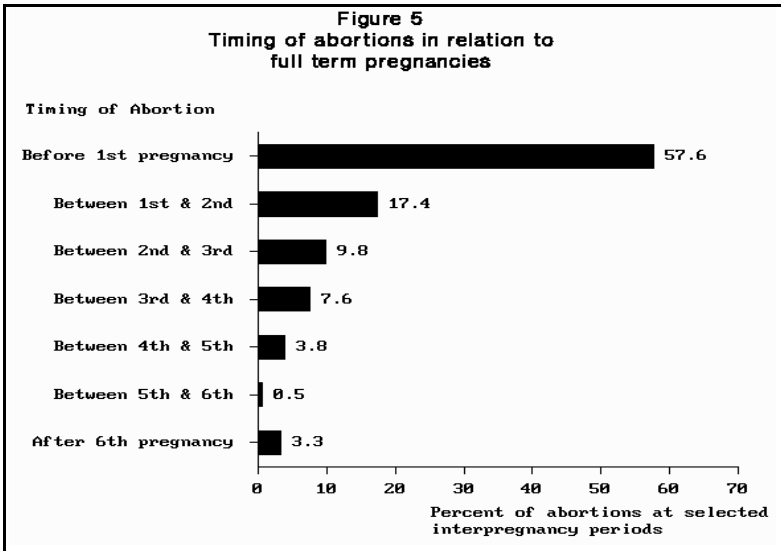
We next solicited information from the women who reported having induced abortions on how they handled the abortions. Specifically, we asked the women to identify the practitioners who performed the abortions and the time during the marital and pregnancy cycles when the abortions were completed. We also asked the women about post-abortion complications, the types of complications experienced, and treatment received for the complications. If women said they received treatment, we asked the women to identify the practitioners they sought. Finally, we asked the women whether they received counselling after the abortions and the type(s) of counselling received.

In administering this part of the questionnaire, we asked the questions separately for each abortion episode, where indicated, before pooling the results. For example, for the women reporting two abortions the questions were asked separately for the two

procedures, for women reporting three abortions questions were asked for the three procedures, and so forth. Thus, responses were obtained from 73 women on 113 abortions in Ife LGA and from 95 women on 175 abortions in Jos LGA, making a total of 288 reported abortions in 168 women for which clinical and procedural information was sought. The results of the analysis are presented below.

3.7 Timing of abortion in relation to previous pregnancies

As shown in Figure 5, most reported abortions were performed before the women had their first full-term pregnancies. There was a progressive decline in the number of abortions following successive pregnancies up to the fifth pregnancy. After the sixth pregnancy, there was again a small increase in the proportion of reported abortions. There was no difference between Ife and Jos in the proportion of women



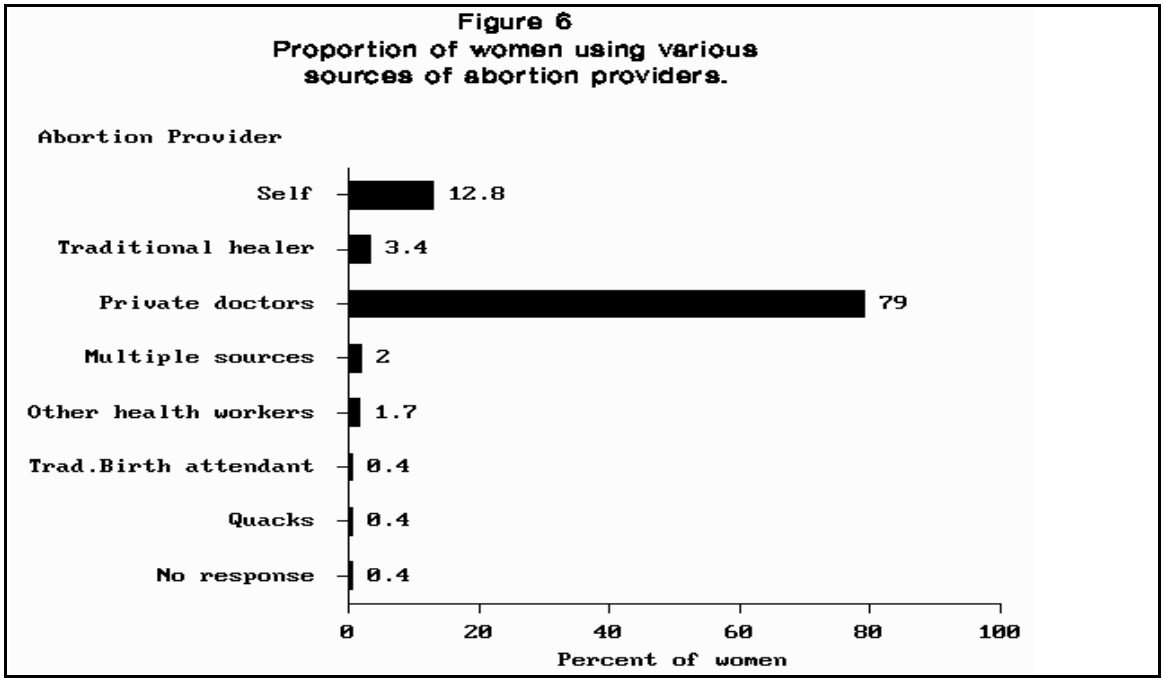
reporting induced abortions at the different inter-pregnancy periods.

The high proportion of reported abortions before the first pregnancy was attributed to premarital conceptions which were not likely to have been socially acceptable. After the first pregnancy, most pregnancies tended to occur in the context of formal marital unions and therefore were more likely to be wanted pregnancies. Unwanted pregnancies occurring after the first pregnancy were most often reported as due to "bad timing" indicating inadequate use of contraceptives to space births. The slight

increase in abortion after the fifth pregnancy might have been due to women who desired no more children at the end of their reproductive lives not using contraceptives.

3.8 Profile of abortion practitioners

The results in Figure 6 show that most reported abortions were carried out by private doctors operating in private clinics. This pattern was evident in both LGAs; however, close to 20 percent of the women in Jos LGA said they carried out the



abortions themselves as compared to only five percent of women in Ife LGA. An interesting feature was the two percent of women in both study areas who indicated that they resorted to multiple sources in carrying out the abortion procedures. The most common tendency was for the women to first attempt self-abortion, then, if the attempt failed, to seek out the services of a private medical practitioner.

3.9 Cost of abortion

We determined the direct cost of the abortion procedures by asking the women the amount of money they paid for the abortions. The mean cost of abortion in both LGAs was Naira 1130 (sd 1774.5; range 140–2200). The mean cost was more than one and half

times the current monthly minimum wage in Nigeria and approximated USD$ 30.00 (1 USD=40 naira) at the time of the study. However, repeat abortions were uniformly more costly in both LGAs than single first-time abortions: the mean cost of first abortions was Naira 335.1 (range: 4–2000, sd 401.9) and the mean cost of second abortions was Naira 475.7 (range: 40–2000; sd 554), while the mean cost of third abortions was Naira 978.3 (range 40–8000; sd 2145.2). This may have reflected the fact that repeat abortions were conducted in latter years with increasing inflationary costs or the fact that they were more difficult procedures warranting increased costs. Abortions conducted in Ife LGA were consistently more costly than those performed in Jos LGA despite the observation that private doctors (who tend to charge higher fees) carried out more abortion procedures in Ife than in Jos. Most abortion costs in both LGAs were paid by the partners of the women (husbands or boyfriends). However, more than a third of the women in Ife and about one fifth of Jos women paid for the abortions themselves.

3.10 Prevalence of post-abortion complications

We asked the women whether they experienced health problems after the abortions. Overall, 36.7 percent of the women admitted that they experienced health problems (Figure 7). The prevalence of post-abortion health problems was highest after the third abortions and lowest after the second abortions. The health problems reported by the women were abdominal pain, vaginal bleeding, and vaginal discharge. On average, more Ife women admitted having post-abortion health problems than Jos women for every type of induced abortion despite the performance of abortions by doctors in Ife.

Figure 7
Post-abortion health

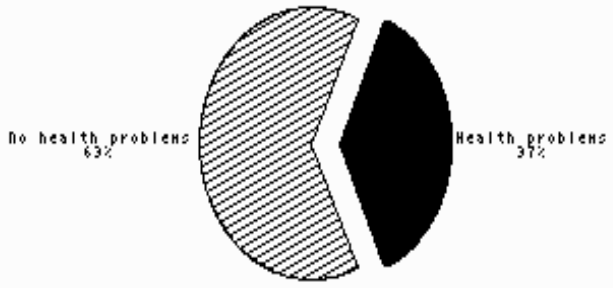


Fig 7a: 1/3 of women have health problems after abortion

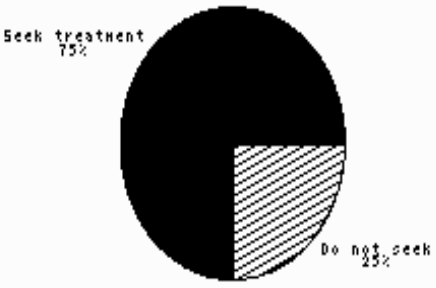


Fig 7b: 75% of women with health problems seek treatment

Approximately 75 percent of the women said they received treatment for abortion-related health problems. The women most frequently consulted private doctors for treatment of post-abortion complications, followed by doctors in government hospitals and traditional healers. However, women in Ife LGA were more likely than Jos women to receive treatment and visit government hospitals when they developed post-abortion complications.

We asked the women whether they received counselling after the induced abortions and the type of counselling they received. As shown in Figure 8, 60 percent of the women said they received post-abortion counselling. The proportion of women receiving counselling did not differ between Ife LGA and Jos LGA. The use of family planning was the most common advice the women received, followed by advice on other ways to prevent an unwanted pregnancy. Only 50 percent of the women specifically received counselling on family planning after induced abortion.

Figure 8
Post-abortion counselling

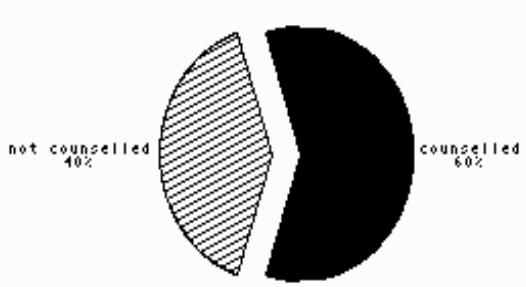


Fig 8a: 60% of women received counselling after abortion

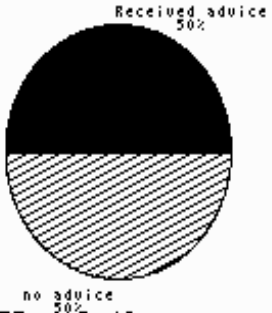


Fig 8b: 50% of those counselled received advice on family planning

3.11 Women's attitudes toward induced abortion

Over 80 percent of the 1516 sampled women in both Ife and Jos knew that abortion is illegal in Nigeria. There was no statistically significant difference between Ife and Jos in the proportion of women who knew that abortion is an illegal procedure in Nigeria (83 percent in Ife compared to 84 percent in Jos). Less than seven percent of the women were favourably disposed toward legalisation of abortion. There was also no difference between Ife and Jos in the percent of women who were favourably disposed toward legalisation of abortion in Nigeria (8.1 percent in Ife and 5.4 percent in Jos). Whereas 50 percent of the women agreed that abortion is frequent in Nigeria despite its illegality, a high proportion of the women felt that the available abortion services are unsafe (79 percent in Ife and 83 percent in Jos).

Fifty percent of the women supported legalisation of abortion in situations where the woman is seriously ill, when the woman is pregnant with an abnormal baby, or when the pregnancy occurs as a result of rape, respectively. By contrast, only a small proportion of the women agreed that abortion ought to be legal when family planning fails, when a woman who has completed her family becomes pregnant, and when the woman does not desire the pregnancy. Only one-fifth of the women agreed that abortion should be allowed when an unmarried schoolgirl becomes pregnant. And, in accordance with their earlier response to the question on whether they thought abortion should be legalised, only 8.5 percent of the women agreed that abortion should be allowed all the

time (4.1 percent in Ife and 12.5 percent in Jos). These results suggest that Nigerian women only favour abortion in circumstances where the life of the woman needs to be preserved or when the baby is grossly abnormal. An interesting finding was that there was no difference between Ife and Jos LGA women in the responses of the women under the various categories of questions.

In order to gain further insights into the practice of abortion in both communities, we asked the respondents to identify the places most frequently visited by women for induced abortion. Consistently, women in both communities mentioned private doctors as the most common providers of abortion services in both Ife and Jos. Other common providers mentioned by the women were government-employed hospital doctors and "backstreet abortionists," as well as induction of abortion through self-medication. Of particular interest was the high prevalence of the use of traditional birth attendants and traditional healers in Jos LGA, which were not frequently mentioned in Ife LGA.

We then asked the women their opinion on why women do not often seek the services of qualified medical practitioners in procuring abortion. Women in Ife LGA most frequently mentioned the high fees charged by doctors as the major deterrent to the use of doctors, while women in Jos most commonly felt that women are shy to approach doctors. Yet, the results of this study indicate that the fees charged in Ife for abortion services are consistently higher than in Jos. A high proportion of the women mentioned the lack of confidentiality attendant with the use of doctors as an additional deterrent to the use of qualified doctors for the procurement of abortion. This was mentioned by 17.3 percent of the women in Ife and 18.3 percent of the women in Jos.

3.12 Determinants of women's attitudes toward induced abortion: results of multivariate analysis

To examine the factors that predict women's willingness to accept legalisation of abortion, we carried out multivariate logistic regression with Ife and Jos data separately and then with the overall data. The results indicated that women aged 25–34 years in Ife were less likely to support legalisation of abortion than women aged 15–24 years. By contrast, women aged 25–34 years in Jos LGA were more likely to support legalisation of abortion as compared to women in the younger category. In the overall sample, there tended to be a decreased likelihood of support for legalisation with increasing age of the respondents; however, the results were not significant in the multivariate logistic model.

The age-related effects were independent of parity. With respect to parity, the higher the number of previous pregnancies, the lower the likelihood that the women would support abortion legalisation; however, this relationship was not independently significant on the multivariate logistic regression.

Education had a substantial effect on support for legalisation of abortion. At the tertiary level of education, respondents were more likely to support legalisation of abortion, with odd ratios of 3.6, 4.6, and 3.2 for Ife, Jos, and the overall sample respectively. Employment status had no effect on support for legalisation, nor did knowledge of family planning or knowing a source of family planning. Women currently using contraceptives were approximately two times more likely to support legalisation of abortion as compared to women not using contraceptives. However, unmarried women were two times more likely to support legalisation of abortion as compared to married women. Divorced status was no longer significant when controlled for (by other factors) in the logistic regression model.

Rural women were significantly less likely to support legalisation than urban residents. Women who have had an unwanted pregnancy were significantly more likely to support legalisation of abortion. This relationship was strong in the overall sample and in Ife, but not in Jos. It was of interest that previous induced abortion was not a significant predictor of the likelihood of support for legalisation. The odd ratio of 1.7 for previous induced abortion in Ife was significant, but that of 1.4 in the overall sample was not significant, nor was the relationship important in Jos.

3.13 Methods for procuring abortion

The women were asked to list all traditional and modern methods used for terminating pregnancies in the communities in order to assess the safety of the abortion methods used in the northern and southern parts of the country. Only about 30 percent of the women mentioned a method of pregnancy termination, including those who mentioned multiple methods. Essentially women in the two communities mentioned the same type of methods, with the majority of the responses coming from women in the urban parts of the LGAs. The most frequently mentioned method was dilation and curettage (D&C). Other methods mentioned by the women are listed in Table 2. It is of interest that the responses did not include manual vacuum aspiration (MVA), which is currently the safest and most effective method of pregnancy termination worldwide. RU

486 was also not mentioned, possibly because it is still not available in the country.

Table 2: **Methods of pregnancy termination in decreasing order of frequency as identified by the respondents**
Dilation and curettage (D&C)
Drugs
Potash (lime) and Osanwewe (a local herb preparation)
Potash
Potash and salt (sodium chloride)
D&C and pills
Pills and Schwepps (soft drink)
D&C, potash
Pills and alcoholic drinks
D&C and injection
Potash, Krest (soft drink)

4. Discussion

The primary objective of this study was to estimate the prevalence of unwanted pregnancy and induced abortion among a representative sample of women in southern and northern Nigeria. Our results indicated that up to one fifth of the women could have had an unwanted pregnancy, with more than half resolving such pregnancies with induced abortion. Although the study used the "value free" technique to elicit abortion history and included the rigorous training of interviewers for the purpose of obtaining confidential responses, nevertheless we believe that there could have been under-reporting of unwanted pregnancy and induced abortion by up to 50 percent by the women. Therefore, we estimated, based on the results of pretesting of known abortion users in the community, that the incidence of induced abortion in both study areas could be more than 20 percent. Our results indicated that it was possible to obtain detailed information on abortion and abortion use from women in communities where the procedure is illegal when a sensitive approach to interviewing was used. A major finding of this study was that abortion was common in northern Nigeria just as it was in the southern parts of the

country. As a result of the paucity of studies on abortion from northern Nigeria, it had been assumed that abortion was less common in the north as compared to the southern parts of the country. Although not statistically significant, the results of this study suggested that unwanted pregnancy and induced abortion were more prevalent in some parts of northern Nigeria as compared to southwestern Nigeria.

Regarding the social context of unwanted pregnancies and induced abortion, the results of this study indicated that the desire to remain in school or to space badly timed pregnancies were the most frequently mentioned reasons for seeking induced abortions. A substantial proportion of the women became pregnant as a result of failed contraception and a few others mentioned the social non-acceptability of the indicated pregnancy. In addition, up to 60 percent of the pregnancies and abortions were due to premarital conceptions, while the remaining 40 percent occurred in the context of marital unions. The finding that the use of abortion was higher among women who contracepted or had better knowledge of family planning indicated that there was an improperly met need for family planning in both communities. Although the prevalence of current contraceptive use in this study was approximately 20 percent, this situation has not always been so salutary. Contraceptive use in the country has always been less than 10 percent (Nigerian DHS, 1992), with a majority of the women using ineffective methods. In particular, unmarried women have always had limited access to contraceptives, and many married women who use contraceptives use ineffective methods or use effective methods irregularly and incorrectly. Clearly, there is a need to design or reformulate community-based approaches to enable women to gain access to effective contraceptives needed for the prevention of unwanted pregnancies and reduction of induced abortion in this population. In particular, operations research is needed to determine the best ways of improving the effectiveness of contraceptives in developing countries characterised by high rates of illiteracy. Finally, studies are warranted to determine the basis for non-use of contraception among women who do not immediately desire pregnancies, and the results could be used to design community-based approaches for the promotion of contraceptive use among married and unmarried women.

To the best of our knowledge, this was the first comprehensive population-based study of unwanted pregnancy and induced abortion ever undertaken in any part of Nigeria. A major goal of the study was to determine the nature of the services used by women for induced abortion in the situation where abortion cannot be legally carried out

in government-operated health institutions. Our results indicate that private medical practitioners were the preponderant providers of induced abortion in the northern and southern parts of the country. In addition, private medical practitioners were most likely to be consulted when women developed complications of induced abortion. By contrast, the results of this study indicate that private medical practitioners were less likely to be consulted for family planning services by women. The finding that a large proportion of the women who had induced abortions had no post-abortion family planning counselling, and the very high rate of repeat abortions and post-abortion complications reported by women in the study, suggested the need for an intervention specifically targeting private medical practitioners in the southern and northern parts of the country. Our survey of abortion methods suggested that private practitioners still commonly use the D&C method rather than the safer suction evacuation method for procurement of abortion. Therefore, as a strategy to promote reproductive health and reduce the incidence of unwanted pregnancy and induced abortion in this population, a study of private medical practitioners needs to be undertaken in the northern and southern parts of the country to determine practitioners' provision of family planning and induced abortion, and the facilities available to practitioners for the provision of contraception and induced abortion services and the management of post-abortion complications. Thereafter, a retraining program for private practitioners could be designed to encompass sensitive approaches for providing contraceptives and family planning counselling to at-risk groups of women, newer and safer methods for the management of abortion and post-abortion complications, and approaches for providing post-abortion family planning services and counselling to women in a consistent and effective manner.

Since this study showed that doctors working in public hospitals may be responsible for providing some of the induced abortions, and that doctors manage a substantial part of the treatment for complications associated with induced abortion, the formative study and training intervention should include public practitioners as well. In addition, an extensive health-seeking behaviour study needs to be undertaken to determine how women seek services for unwanted pregnancy and induced abortion. Such a study will enable the identification of other practitioners who require retraining and also assist in designing an educational and informational package for women who desire abortion and post-abortion care.

An important approach proposed for designing programs for reducing the

problems associated with unwanted pregnancy and induced abortion is to target programs toward meeting the needs of specific high-risk groups where these can be identified[14]. Thus, we sought to identify the risk factors for unwanted pregnancy and induced abortion in the sample through multivariate analysis of selected independent variables. Our results indicated that unwanted pregnancy and induced abortion were more prevalent in the urban areas as compared to the rural parts of the LGAs. This finding is in accordance with the results of published data from other parts of Africa[1,15,16,17,18]. Employment level and educational status of the women were also significant predictors of unwanted pregnancy and induced abortion in the multivariate logistic regression model. Women in formal employment and those with higher education were significantly more likely to experience unwanted pregnancy and induced abortion than women with lower levels of education or those without formal employment. Shapiro and Tambashe[19] similarly reported that better educated women in formal sector employment in Zaire were more likely to have had induced abortions than unemployed women with lower levels of education. These results are of interest since better educated women and women in formal employment are also more likely to use contraceptives.

Thus, abortion was more likely among better educated women in formal sector employment who also reside in urban areas. The higher rates of abortion among these women may have reflected better access to abortion services or greater willingness to report abortion. The better educated women may have simply been more active in fertility control and been contraceptive and family planning innovators. Targeting preventive programs selectively to such women, especially in our developing country situation where there is already inequality in access to health care, may heighten the level of disparities in the allocation of health resources and may worsen the situation of women of low socioeconomic class in rural areas. Therefore, our recommendation is for program planners to seek to improve access to family planning and abortion, and provide specific information on reproductive health for all classes of women.

Another explanation for the observed relationship between education and employment of women and the likelihood of experiencing unwanted pregnancy and induced abortion was that better educated women were more likely to have stronger motivation to space their children or delay the onset of a first birth. The effect of employment parallels that of education because educated women were also the same set of women often employed in the formal sector. We hypothesized that educated women in

the formal sector were the ones most likely to seek to use contraceptives. However, in situations where effective and efficient utilisation of contraceptives were not guaranteed, as in most parts of sub-Saharan Africa, women's motivation to terminate an unwanted pregnancy may well have exceeded the need to use contraception efficiently. Thus, educated women in Nigeria may have used induced abortion to regulate the number of children they wished to have since effective contraception was either not easily accessible or not desired. Further studies are warranted to determine the exact pattern of this relationship.

Numerous studies in Nigeria have identified adolescents as at increased risk of developing complications of induced abortion[1,9,15,18]. However, no studies have yet accurately measured the strength of association between adolescence and unwanted pregnancy and induced abortion in this population. The results of our study indicated that adolescents were at decreased risk of unwanted pregnancy relative to older women. This was not surprising since unmarried adolescents were less likely to be exposed to the risk of pregnancy on a regular basis than older women. Furthermore, married adolescents were more likely to desire a pregnancy than older women and thus less likely to abort. From the study, adolescents aged 15–24 years were more likely to report that they sought induced abortions for unwanted pregnancies. However, they were less likely than older women to report that they successfully terminated their unwanted pregnancies. By contrast, adolescents were more likely to report that their attempt at pregnancy termination failed and they were more likely to report the use of self-abortion or non-medical methods of abortion. These results suggested that adolescents, while not necessarily at an enhanced risk of unwanted pregnancy, may have been more likely to resort to induced abortion when they developed undesired pregnancies. In addition, as a result of their limited access to safe abortion methods, adolescents may have been more likely than older women to develop post-abortion complications and their sequelae. Clearly, prevention programs specifically targeting adolescents in rural and urban locations are needed to reduce the scale of abortion-related problems among adolescents. In particular, programs should enable adolescents to handle every phase of the induced abortion cycle, including programs for the prevention and safe termination of unwanted pregnancy and the provision of post-abortion family planning services.

In Nigeria, induced abortion is not a legal procedure and cannot be carried out in government health institutions. Yet, despite its illegality, abortion continues in Nigeria,

with attendant consequences and an unacceptably high toll on women's lives. In this study, we extensively investigated women's attitudes toward induced abortion and toward the Nigerian abortion law in order to understand the basis for the continued practice and utilization of induced abortion in Nigeria. Our finding that up to 84 percent of the women said they knew that abortion was illegal indicates that continued use of induced abortion cannot be because Nigerian women are ignorant of the abortion law. Furthermore, since only six percent of the women felt that abortion ought to be made legal in Nigeria, the high prevalence of abortion in the country cannot be attributed to the fact that women were protesting the law. A possible explanation for the observed negative correlation between abortion use and concurrence with the abortion law was the lack of a cultural support system that would have enabled women to rationalize abortion use in the context of women's needs and desires. The traditional Nigerian woman still derives her values from the belief systems of the larger society where her views are hardly taken into account. Unfortunately, due to chronic marginalisation and disempowerment she has come to accept even those beliefs that negatively impact on her health and social development.

A major strategy for reducing the magnitude of the problems associated with induced abortion that has been promoted by practitioners and reproductive health advocates is the need to liberalise the Nigerian abortion law. It is believed that the liberalisation of the abortion law would create an environment that will allow for the use of safe abortion methods and the elimination of back alley abortionists, and permit the effective promotion of contraceptives for the prevention of unwanted pregnancy. The results of our investigation into women's attitudes toward legalisation of abortion indicate that women will only support the liberalisation of abortion law in circumstances where it is needed to protect the life of the woman or prevent the birth of a malformed child.

Since legalisation of abortion is regarded to be a key issue in women's reproductive rights in Nigeria, we carried out multivariate logistic regression to identify factors that predict the chances that women would support legalisation of induced abortion. The favourable factors that predicted support for legalisation in the model were age 25–34 years, tertiary education, unmarried status, and knowledge of family planning, while rural residence was negatively associated with support for legalisation. Women who had an unwanted pregnancy were also more likely to support the legalisation of abortion. Therefore, the modern, well-educated women with knowledge of reproductive

health were more likely to be in the vanguard for the campaign for legalisation of abortion in Nigeria. We recommend that the support of these women be enlisted in advocacy efforts to promote safer abortion practices and the reproductive rights of women in this country. In particular, all women need specific information and education to enable them to make appropriate decisions on such issues as access to safe abortion and the treatment of post-abortion complications, as well as access to safe and effective methods of contraception, that have important consequences for their health and social and economic development.

In conclusion, unwanted pregnancy and induced abortion are common problems among married and unmarried women in northern and southern Nigeria and among rural and urban residents. Most abortions are carried out by private doctors operating in private medical settings, with attendant high reported rates of complications. The analyses show that older, well-educated women employed in the formal sector are more likely to experience unwanted pregnancy and induced abortion in Nigeria. By contrast, adolescents are more likely to experience failed attempts at pregnancy termination and to have higher rates of post-abortion complications. These data are relevant for designing programs for reducing the high rate of complications associated with unwanted pregnancy and induced abortion in Nigeria.

5. Policy Recommendations

1. As this study has confirmed that induced abortion is common among Nigerian women, it is imperative that the Nigerian government begins to develop a set of realistic policies and programs to address the high rate of morbidity and mortality associated with induced abortion. Since a restrictive abortion law has not succeeded in stemming the practice of abortion in the country, it is clear that a more flexible approach to the problem is now needed. While the government continues in its efforts to work out a legal framework for legalisation of abortion in the country, appropriate mechanisms ought to be put in place to assist women who experience unwanted pregnancy and induced abortion. In particular, efforts should be concentrated on providing quality services for the management of post-abortion complications.

2. From this study, it is clear that education is an important factor in determining the types of decisions that women make about unwanted pregnancy and induced abortion. Women need education to enable them to handle every phase of the induced abortion cycle. Both general and specific education of women are vital in this regard. Women need family life education to enable them to use contraceptives effectively for the prevention of unwanted pregnancy. When they have a pregnancy they do not desire, they need education to enable them to make an informed choice on the available options for resolving such pregnancies. When they do choose induced abortion, women need education to assist them in choosing the right kind of health providers and for them to seek appropriate care for post-abortion complications. Finally, women need education to enable them to develop confident, healthy, and rational attitudes toward induced abortion and toward other issues that affect their reproductive health.

Government and non-governmental organisations working in the development and health arena must recognize the role that education of women can play in eliminating the problems associated with unsafe abortion in Nigeria. Specific educational and informational programs and materials focusing on different segments of the induced abortion cycle must be developed and evaluated for women. For enhanced effectiveness, such programs must be tested separately for different high-risk groups and must include local community methods of information dissemination.

3. The specific needs of adolescents must be recognised and fully addressed. Operations research is needed to determine the best method to adopt in providing family life education and contraceptive services to adolescents. In particular, it is recommend that a national policy on adolescent reproductive health should be formulated. Such a policy should include a framework for assisting adolescents who experience an unwanted pregnancy.

4. Increased access to contraceptives and family planning services is required for Nigerian women, especially for those in rural areas and for adolescents. This will reduce the number of unwanted pregnancies and decrease the need for induced abortions. Since this study found that contraceptive failure was responsible for a substantial proportion of unwanted pregnancies and induced abortions, emphasis should be directed at ensuring that the quality of counselling and care provided in our family planning clinics continue to meet acceptable standards.

5. From this study, we found that medical doctors working in private settings are the major providers of abortion services. However, they are less likely to be involved in the provision of contraceptive services for women, while doctors in the public sector are involved in the treatment of post-abortion complications. Since up to one-third of the women reported significant health problems in association with the abortions, we recommend that a situation analysis of the services available for the prevention and management of abortion and post-abortion complications in the country be carried out in selected areas. Such a study should include an assessment of the attitudes of the practitioners toward induced abortion and their experiences with various methods of pregnancy termination. The results of the study could be used to evaluate the retraining needs of private and public practitioners and to design alternative frameworks for improving the management of abortion and post-abortion complications in the country.

6. In this study, approximately 40 percent of the women who had induced abortion reported that they had post-abortion health consequences. This high rate of reported health consequences does not include those with asymptomatic complications or those who died as a result of induced abortion. Therefore, a multi-centre, prospective, hospital-based study is warranted to describe the full range of medical complications associated

with unsafe abortion in this population. Such a study should include an estimate of the direct and indirect costs of managing abortion complications in private and public health institutions in a defined geographical area. Finally, operations research is needed to better understand the best approaches for providing contraceptive services for women at risk of developing unwanted pregnancies and to improve the quality of care offered to women with post-abortion complications.

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