

Incidence of Induced Abortion in Southern Ghana

By Clement Ahiadeke

Context: In countries such as Ghana, where the law restricts elective induced abortion, data to quantify the incidence of abortion are scarce. Existing data on induced abortions in Ghana come mainly from hospital records, which are unreliable because record-keeping is poor and induced abortions often are classified inaccurately.

Methods: A multistage random sampling design was used to identify 18,301 women aged 15–49 from eight communities in four of the 10 regions in Ghana between January and March 1997. Of the identified women, 1,689 were pregnant. From March 1997 to March 1998, fieldworkers living in the pregnant women's communities monitored their health and pregnancy outcomes, including self-induced abortions.

Results: During the study period, the rate of abortion in the study areas was 17 induced abortions per 1,000 women of childbearing age. There were 19 abortions per 100 pregnancies (or 27 abortions for every 100 live births). The majority (60%) of women who had an abortion were younger than 30, and 36% were nulliparous. Forty-five percent had obtained their abortions before the seventh week of gestation, and 90% had done so before the 10th week. Only 12% of the women said they had obtained their abortion from a physician. Muslim women had decreased odds of obtaining an abortion. Women who lived in urban areas, who were educated or who had four or more children had increased odds of obtaining an abortion. Women who were self-employed had greater odds of obtaining an abortion than those who were employed by someone else.

Conclusion: Ghana's abortion law does nothing to prevent many induced abortions from occurring. However, few Ghanaian women who seek abortions obtain them from physicians, and most appear to induce abortions themselves, often in collaboration with pharmacists.

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Although few Ghanaians would deny the widespread use of induced abortion in their country, the clandestine nature of the practice severely hampers attempts to estimate the incidence of abortion at the national level. Until 1985, when the criminal code was amended, Ghanaian law prohibited induced abortion except when a woman's life was endangered by her pregnancy. The law now says that abortion is not an offense if it is "caused by a medical practitioner specializing in gynecology or other registered practitioner in a government hospital or registered private hospital or clinic" when the pregnancy is the result of rape, "defilement of a female idiot" or incest; when continuation of the pregnancy would involve risk to the life of the pregnant woman or injury to her physical or mental health; or where there is substantial risk that if the pregnancy were carried to term the child would suf-

fer from or later develop a serious physical abnormality or disease.¹

Despite this relaxation of abortion restrictions, the availability of abortion services in Ghana has not changed much. Ghanaian women long have turned to a mix of traditional practitioners, quack doctors, physicians and other sources, such as a qualified nurse, to obtain an abortion, even though the unhygienic methods used in some cases (often involving insertion of foreign bodies into the uterus) can lead to life-threatening complications.²

Reliable measures of the incidence of induced abortion are needed to evaluate the impact of family planning efforts and contraceptive failure rates in a given setting. Contraceptive failure usually is associated with an increase in unintended births, but if researchers overlook the use of illegal induced abortion as a means to end unintended pregnancies, they will underestimate the number of pregnancies associated with contraceptive failure.³ Precise estimates of induced abortion also are necessary if we are to understand the overall reproductive health patterns in a high-fertility population such as Ghana's.⁴

However, as in most other developing countries, data on induced abortion in Ghana, when they exist at all, are unreliable. Of the 22 published studies on abortion in Ghana conducted between 1972 and 1994, only one (involving a rural area) used data not based on hospital records;⁵ the remaining 21 were hospital-based studies, 19 of which relied solely on data from the Korle-Bu Teaching Hospital, Ghana's largest national teaching hospital.⁶

Even when abortions performed in a hospital are within the legal framework, few medical personnel record such events in the hospital log books. In an environment where induced abortion is restricted, women hospitalized for complications resulting from an induced abortion are likely to be counted as women hospitalized for complications resulting from spontaneous abortions. Thus, poor record-keeping, the unwillingness of hospital staff to accurately classify the type of abortion and lack of hospital policies regarding accurate classification of abortion make hospital data inadequate for estimating Ghana's nationwide incidence of induced abortion.

This article is based on a study of 1,689 pregnant women, most in the early stages of pregnancy, who were among 18,301 Ghanaian women screened for pregnancy as part of the 1997–1998 Maternal Health Survey Project.* The objective of the project is to monitor pregnant women's health and to identify potential maternal health risk factors. Fieldworkers—midwives, nurses and, in one community, an obstetrician—who lived in the pregnant women's communities observed the women through the end of their pregnancies (or until they were lost to follow-up, whichever came first) and at 42 days postpartum, and monitored maternal health care and pregnancy outcomes.⁷

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In light of the need for accurate data on induced abortion, the Maternal Health Survey Project was designed to incorporate indirect questions on induced⁸ and spontaneous abortions and stillbirths as part of the maternal morbidity and mortality studies.⁹ This article examines the incidence of and factors associated with induced abortion in Ghana.

Methods

Sample Design

To select the women who would participate in the study, a multistage sampling procedure similar to that of the Ghana Demographic and Health Survey¹⁰ was used, with weights that would allow the results to be projected nationally. From among Ghana's 10 regions, four in the southern part of the country were selected for the study: Central (which is among one of four regions in the country with the highest maternal and infant mortality rates), Eastern, Volta and Greater Accra. (The northern ecological zone of Ghana was not included in the sample.*) From each region, two districts with the highest recorded maternal morbidity in 1994¹¹ were selected. These eight districts were then stratified according to subdistrict census enumeration areas and by the size of their population.[†] To select study areas that ranged in population size, the largest and smallest towns or villages in each enumeration area were identified. The existing enumeration area map was used to obtain clusters of similar-sized enumeration areas in urban areas. In the selection of some communities, high- and low-risk criteria were considered, with high-risk meaning an area that does not have modern health facilities and also has high infant and maternal mortality.

A total of 18,301 women aged 15–49 were identified in the eight study areas. In terms of age distribution, educational background and fertility patterns, these women did not differ substantially from those in the 1993 Ghana Demographic and Health Survey for the four regions.¹² The women in the sample can be generally thought of as being representative of most Ghanaian women who experienced a recent pregnancy, in that if a similar number of women were selected from the sampled regions, patterns among these women would be similar to those observed in the sample. However, an exception is area of residence, as the sample excluded one of the three main ecological zones of the country.

Between January and March 1997, the study team, which included obstetricians

who had been trained in abortion procedures and midwives, screened the 18,301 women for pregnancy, first using a questionnaire and then an immunological pregnancy test (one that detects the presence of human chorionic gonadotropin in urine). The questionnaire asked women about delayed menses and symptoms of fatigue, nausea and vomiting, breast tenderness, frequent urination, changes in nipple color and changes in appetite. Pregnancy duration was calculated from the first day of the last menstrual period, which generally is considered to occur two weeks prior to conception. No pregnancy was considered too advanced to be included in the study; however, it is possible that the study team was not able to detect very early pregnancies.

A few incentives for participation in the study, such as regular weighing and pregnancy testing, were offered free of charge to all women of childbearing age in the selected communities. Women generally were cooperative, perhaps because some women in early pregnancy needed pregnancy confirmation in order to undergo an early abortion.

The 1,689 women identified either by the test or by the questionnaire as being pregnant resided in 130 enumeration areas—1% of Ghana's 13,000 enumeration areas¹³ at the time the communities were selected for the 1997–1998 Maternal Health Survey Project.

Data Collection

Skilled professional nurses interviewed the 1,689 pregnant women about their pregnancy history, asking them to provide separately the number of pregnancies they had ever had and which of these ended in a miscarriage, induced abortion or live birth, and to provide details about each outcome. To obtain information on induced abortion, for example, interviewers asked women whether they had ever terminated an unwanted pregnancy, and if so, whether they had had a self-induced abortion or what type of facility they had visited to obtain an abortion. Those who had had an abortion were asked to give the date and the circumstances surrounding the most recent previous abortion (for example, whether it was elective or if it was because the pregnancy was life-threatening, and where it took place). In addition, fieldworkers collected information on women's maternal health and pregnancy outcomes from March 1997 to March 1998.

The data also include information gathered by midwives and hospital or clinic personnel at delivery and at 42 days post-

partum for each recorded pregnancy attended to during the prenatal period, including referrals to hospitals and other urban service centers with modern equipment. The standard hospital medical record form used the same questions initially asked of women by skilled nurses. All study participants who appeared for prenatal visits at a clinic or hospital during March 1997 to March 1998 were interviewed again. Thus, it was possible to crossvalidate the initial questionnaire data with interview data collected during prenatal visits.

From 1997 to 1998, field workers also collected data from medical records at the Korle-Bu Teaching Hospital so that these data could be compared to the survey data.

It is important to note here that the abortions that occurred during the study period were not obtained at a prenatal facility. Women who terminated their pregnancies and those who miscarried before obtaining prenatal care either visited the project offices or were traced to their homes by fieldworkers during the course of the study. Some women who miscarried and most women whose pregnancies ended in stillbirth were encountered at health facilities, however. For pregnancy outcomes that occurred in women's homes, the fieldworkers used standard hospital methods and terms to classify pregnancy outcomes so that these outcomes would be consistent with the standard classifications that appear in hospital records.[‡]

These data have limitations. Women participating in community-based surveys on sensitive topics such as pregnan-

*For our survey, we selected the regions where infant mortality is highest. According to the 1988 and 1993 Ghana Demographic and Health Surveys, infant mortality in parts of Ghana's central and western regions was as high as 138.3 per 1,000 births, compared with 103.1 per 1,000 in the northern region. Family planning and contraceptive practices do not differ much across regions.

†Ghana's 1984 population census used 13,000 enumeration areas. For Ghana's 2000 population census, the number of enumeration areas was increased to 30,000.

‡Standard hospital methods classify the outcome of a pregnancy as a live birth if the newborn shows any sign of life—breathing, crying or movement. An infant who shows any sign of life and later dies is classified as a live birth and a neonatal death. If the newborn shows no sign of life, it is classified as a stillbirth if its gestational age is seven months or more, or as a miscarriage or spontaneous abortion if its gestational age is less than seven months. The pregnancy is classified as an induced abortion if it was terminated through medical or nonmedical means within seven months of gestation. For this study, we asked women who had never used a health facility specific questions to help distinguish a miscarriage from an induced abortion when a pregnancy's duration had been less than seven months.

Table 1. Numbers of women, of pregnancies and of pregnancy outcomes, and abortion ratios and rates, by source of abortion data, Ghana, 1997–1998

Measure	Maternal Health Project	Korle-Bu Hospital	
	1997–1998	1997	1998
No. of women	18,301	55,779	52,131
No. of pregnancies	1,689	na	na
Abortions†	317	1,775	1,649
Term births	1,187	12,137	11,412
No. dead 42 days postpartum	9	na	na
Miscarriages	21	na	na
Stillbirths	15	na	na
Lost to follow-up	97	na	na
Refused to cooperate	43	na	na
Abortion ratio			
Per 100 births	27	15	14
Per 100 pregnancies	19	na	na
Abortion rate per 1,000 women	17	32	32

†For the Maternal Health Survey Project, abortions are induced abortions only. For the hospital data, abortions include both induced and spontaneous abortions. Notes: Abortion ratio is the annual number of abortions per 100 pregnancies (in the case of survey data) or births (in the case of routine hospital data). Abortion rate is the annual number of abortions per 1,000 women in the childbearing ages (15–49). The number lost to follow-up and the number refusing to cooperate were included in the denominator in calculating abortion rates and ratios, because although we could not tell what happened to them during the course of the study, we knew at the beginning of the study that they were each carrying a pregnancy. We also knew that all 43 women who refused to cooperate at later stages had successful deliveries. However, because they refused to participate in other aspects of the follow-up study by not answering questions, we had to drop them from the rest of the analysis. na=not applicable.

cy and abortion are likely to underreport or may be unwilling to provide information.¹⁴ To overcome the limitations of self-reported data, study participants were advised that full disclosure regarding their reproductive health history, including the number of previous pregnancies and induced abortions, would help their prenatal care provider in giving them the best care possible and in preventing spontaneous abortions and stillbirths. In essence, full recollection of previous abortions, miscarriages and stillbirths was necessary for successful prenatal care. In addition, nurses served as interviewers to guarantee privacy and to create a sympathetic environment for the discussion of such sensitive topics.

Analysis

The abortion ratios (the number of abortions per 100 live births and 100 pregnancies in a given year) and abortion rate (the number of abortions per 1,000 women aged 15–49 in a given year) were calculated for the pregnant women in the sample. These data were contrasted with the abortion ratio (the number of abortions per 100 live births) and abortion rate for women who were treated for pregnancy

*At a time when fertility appears to be declining in Ghana, this lack of contraceptive use is baffling. Accurate estimates of the number of Ghanaian women who have abortions will help researchers determine whether women are using abortion as an alternative to contraceptives. In our sample, all of the women who had an abortion had had a previous abortion.

complications at Korle-Bu Teaching Hospital during 1997 and 1998. In addition, percentage distributions for age, parity, length of gestation and location where abortion occurred were examined for the pregnant women in the sample. Percentage distributions of pregnant women’s demographic characteristics and reasons for terminating their pregnancy also were examined.

Finally, a multivariate hazard model was fitted, with the observed spells of survival time being the duration of follow-up on each pregnancy until censoring or abortion (or failure).¹⁵ A number of variables

were investigated, including age, parity, sex of previous child, reasons for pregnancy termination, contraceptive use prior to the current pregnancy, education, work status, place of work, study area and pregnancy risk factors, such as malaria and hypertension. These variables were carefully selected based on information recorded on hospital cards during prenatal visits and based on previous research on induced abortion in Ghana. Contraceptive use among the women in our study was marginal: Only 11 women had used contraceptives prior to their current pregnancy. Because of the few cases of contraceptive use, we did not include this variable in our analyses.*

Results

Abortion Rates and Ratios

Of the 1,689 women in the study, 1,187 carried their pregnancies to term, nine died (one as a result of complications related to a self-induced abortion), 317 aborted their pregnancies, 21 miscarried and 15 had stillbirths (Table 1). Of the remaining 140 women, 97 (nearly 6% of pregnant women) were lost to follow-up and 43 (slightly less than 3%) were dropped from the study because they refused to cooperate later in the study. According to the unadjusted data from the Maternal Health Survey Project, the abortion ratios were 19 abortions per 100 pregnancies and 27 abortions per 100 live births; the abortion rate was 17 induced abortions per 1,000 women of reproductive age.

According to data compiled from medical records at the Korle-Bu Teaching Hospital, 55,779 and 52,131 women aged 15–49 visited the hospital in 1997 and 1998, respectively, as both inpatients and outpatients. Of these women, 12,137 gave birth in 1997 and 11,412 did so in 1998. The number of women treated for abortion-related complications was 1,775 in 1997 and 1,649 in 1998. These data produce abortion ratios for 1997 and 1998 of 15 and 14 abortions per 100 live births, respectively, and abortion rates of 32 abortions per 1,000 women for both years. These figures are comparable to the World Health Organization’s¹⁶ estimate of 31 abortions per 1,000 Ghanaian women aged 15–49 for 1997 and 1998.

Because the study sample includes just two enumeration areas each in four of Ghana’s 10 regions and because the study team was unable to ascertain the pregnancy outcomes for 140 women (8% of the sample), the rates and ratios in Table 1 are likely lower than actual rates.

Women Who Sought an Abortion

The majority (60%) of women who had an abortion were younger than 30 (Table 2). More than a third had not given birth before, while one-quarter had two children. Fewer than one-fifth of women who had

Table 2. Percentage distribution of women who had an abortion, by selected characteristics

Characteristic	N	%
Age at abortion		
15–19	14	4.5
20–24	81	25.5
25–29	96	30.4
30–34	76	23.9
35–39	39	12.3
40–44	8	2.4
45–49	3	1.0
Parity		
0	115	36.3
1	58	18.3
2	78	24.6
3	33	10.4
4	16	5.0
5	9	2.9
≥6	8	2.5
Gestation (in weeks)		
5	31	9.8
6	111	34.9
7	49	15.4
8	65	20.5
9	30	9.4
≥10	31	10.0
Type of provider		
Pharmacist	121	38.2
Nurse/midwife	64	20.2
Physician	39	12.3
Self-medication	34	10.7
Quack doctor	51	16.1
Other (paramedical)	8	2.5
Total	317	100.0

an abortion had one child. Almost half of the women (45%) had obtained their abortions before the seventh week of gestation, and 90% had done so before the 10th week. There were very few early second-trimester abortions (at 13–16 weeks), perhaps because of the cost and the risk involved.

Only 12% of the women said they had obtained their abortion from a physician. Even if one considers that 20% of the women obtained an abortion from a nurse or midwife who may have been trained to perform abortions, only one-third of women obtained an abortion from within the health system. The remaining women (68%) said they obtained an abortion from a pharmacist (38%), through self-medication (11%), from a “quack doctor” (16%) or by some other means (3%).

Women’s Characteristics

Sixty-four percent of women who obtained an abortion during the study period were married (Table 3). A smaller proportion (54%) were married when they had obtained their previous abortion. (All of the women who had an abortion had had a previous abortion.) It appears that the sampling procedure oversampled married women, possibly because unmarried women pretended to be married to avoid stigmatization, a situation that the sampling procedure carefully tried to avoid. The fact that a majority of the women were married and said they did not want to have a child at the time they became pregnant could reflect a lack of contraceptive use among married women.

Fifty-six percent of the women lived in an urban area and 44% lived in a rural area. A larger proportion said they were Catholic or Protestant (81%) than said they were Muslim (16%) or practiced traditional religions (3%).

Twenty-seven percent of women who obtained an abortion had had no education, 40% had received a primary education, 17% had received a higher education and 15% had received an Islamic education. The majority of the women (65%) worked outside their homes, and almost half of them were self-employed.

Women provided three main reasons for obtaining their current abortion: Fifty-seven percent were not sure that they wanted a child, 26% cited financial constraints and 17% said that the pregnancy was unplanned. Interestingly, 42% of women cited the last of these as the reason for their previous abortion, significantly more than the proportion who cited it for the abortion that they had during the study period ($p < .001$). There is no evi-

dence that women chose to have an abortion based on the sex of their last child.

Multivariate Analysis

The multivariate analysis was conducted based on the data collected from all pregnant women in the sample, minus those who were lost to follow-up or who refused to participate in later stages of the study. Women who lived in urban areas had increased odds of obtaining an abortion compared with women who lived in rural areas (odds ratio, 1.2) (Table 4, page 100). The same pattern occurs when we group the data into high-risk versus low-risk areas: Women in high-risk areas have greater odds of an abortion than those in low-risk areas (data not shown).

Muslim women had decreased odds of obtaining an abortion (odds ratio, 0.3, $p < .001$). Women with a secondary or higher level of education had increased odds of obtaining an abortion compared with women who had received no education (odds ratio, 2.8), as did women who had had a previous abortion (odds ratio, 1.4). In addition, women who were unmarried had increased odds of obtaining an abortion (odds ratio, 2.3). The odds of having an abortion were increased for women who had four or more children (odds ratio, 1.8), suggesting that the more children a woman had, the more likely she was to obtain an abortion if she became pregnant again.

Age squared was initially included in the model, but was dropped because it produced no statistically significant results.* The nonsignificance of the age-squared term would appear to confirm the earlier bivariate findings that younger women (those younger than 30) and not older women are the major abortion seekers. Perhaps this finding might have been different had lifetime abortions been used

Table 3. Distribution of most recent and previous abortions by social and demographic characteristics

Characteristic	Most recent abortion		Previous abortion†	
	%	N	%	N
Status of preceding child (N=202)				
Alive	62.5	126	68.0	137
Dead	37.5	76	32.0	65
Sex of last child (N=202)				
Boy	54.8	111	50.8	103
Girl	45.2	91	49.2	99
Reasons for abortion				
Unsure to bear child	56.6	180	33.8	107
Financial reasons	26.0	82	23.9	76
Accidental pregnancy	17.4	55	42.3	134
Education				
None	26.9	85	28.4	90
Primary	40.4	128	41.5	132
Higher	17.4	55	16.2	51
Islamic	15.3	49	13.9	44
Marital status				
Single	36.3	115	45.9	146
Married	63.7	202	54.1	171
Religion				
Catholic	21.1	67	21.8	69
Protestant	60.0	190	59.3	188
Muslim	16.1	51	16.1	51
Traditional	2.8	9	2.8	9
Place of work‡				
Home	34.8	110	24.9	79
Outside home	65.2	207	75.1	238
Type of work‡				
Employee	25.6	81	20.7	66
Self-employed	47.8	152	47.0	149
Family worker	26.6	84	32.3	102
Setting				
Urban	55.6	176	52.7	167
Rural	44.4	141	47.3	150
Total§	100.0	317	100.0	317

†All women in this sample who had an abortion had had a previous abortion. ‡Working at home means that a woman is involved in an income-generating activity that is carried out in her home. A woman who is self-employed earns an income from a business that she owns; she may work in or outside her home. A woman who is a family worker is involved in income-generating activity in a business owned by her family; a family worker may work at home or outside the home and may or may not be self-employed. §Totals are 317, except where otherwise noted.

as the dependent variable rather than the most recent abortion.

For the most part, the multivariate results agree with some of the bivariate results presented earlier. For example, recourse to abortion is more common among educated women, higher parity women and the main Christian groups than among their various counterparts. Abortion is significantly higher ($p < .001$) for the self-employed than for an employee or a family worker. Women who work outside the home have a higher probability ($p < .05$)

*When the model was rerun with age categorized into three groups (younger than 25, 25–34 and 35–49), results were not significant for the older age (35–49) category (results not shown). This appears to support the nonsignificance of the age-squared term in the retained model.

Table 4. Odds ratios for the association between induced abortion and women's social and demographic characteristics

Characteristics	Induced abortion
Religion	
All others (ref)	1.00
Muslim	0.32***
Age	1.35
Education	
None (ref)	1.00
Primary/Islamic†	0.64
Middle	1.96*
Secondary or higher	2.80**
Previous abortion	
Yes	1.35**
No	1.00
Parity	
1–2 (ref)	1.00
3–4	0.94
≥4	1.78**
Marital status	
Married (ref)	1.00
Single	2.33**
Residence	
Rural (ref)	1.00
Urban	1.24**
Category of work‡	
Employee (ref)	1.00
Self-employed	1.71***
Family worker	0.13
Place of work‡	
Home (ref)	1.00
Outside the home	1.56*
Log-likelihood	–1,287.9
N	1,549

*Statistically significant at $p < .05$. **Statistically significant at $p < .01$. ***Statistically significant at $p < .001$. † For this model, primary and Islamic education were combined because they are not different in terms of academic qualifications. ‡ Working at home means that a woman is involved in an income-generating activity that is carried out in her home. A woman who is self-employed earns an income from a business that she owns; she may work in or outside her home. A woman who is a family worker is involved in income-generating activity in a business owned by her family; a family worker may work at home or outside the home and may or may not be self-employed. Note: ref=reference group.

of aborting an unwanted pregnancy than do those who work at home.

Discussion

According to the Maternal Health Survey Project, Ghana's abortion ratio is quite high. As mentioned above, the ratio likely is lower than the actual ratio because women do not always disclose whether they have had an abortion. Another reason the estimates could be low is that the study team may not have detected very early pregnancies, some of which may have ended in abortion but were not counted. In addition, 97 women were lost to follow-up during the course of the study, and some of these women may have had an abortion.

Despite their limitations, the Maternal Health Survey data are better suited than

hospital data for ascertaining the number of induced abortions in Ghana. In addition to the reasons stated earlier, hospital data are not suited for research on the incidence of abortion in Ghana because they are based on a nonrepresentative population—women served by Korle-Bu Hospital are those who sought treatment for abortion complications. Women who had abortions somewhere other than the hospital and experienced complications may not have sought treatment at a hospital, and those who did not experience complications are not likely to have visited the hospital. Nevertheless, researchers attempting to calculate estimates of the abortion rate for Ghana use these and other similar data sets,¹⁷ perhaps assuming that Korle-Bu Hospital, because it is relatively large, is representative of what occurs in well-equipped hospitals in Ghana in terms of abortion services. Finally, hospital registration records and cross-sectional demographic surveys do not include the useful insights into women's motivations for seeking abortion that can be obtained from the survey data.

According to the Maternal Health Survey data, a sizable proportion of the demand for abortion services comes from relatively young women, both married and unmarried. Similar to women in developed countries who seek an abortion to pursue employment or to otherwise conserve the limited financial resources of a young family,¹⁸ Ghanaian women may seek an abortion because they are pursuing an education, have employment obligations or have a young child. Almost 80% of the women who had an abortion were nulliparous or had one or two children. This pattern appears to confirm the suggestion that there are a large number of women who wish to postpone their childbearing for economic reasons.

Very few of the women in this survey who had an abortion did so after the first trimester. In an environment where elective induced abortion is restricted and where there is very little public education on the issue, it is striking that women seem to know that early abortions are safer and simpler than late abortions. It also could be that women are aware that the cost of later abortions is higher. While the fee for a second-trimester abortion is lower in the nonhospital setting, the risk of complications and death associated with a second-trimester abortion is very high.

A large proportion of abortions were performed outside of the medical system. If it is assumed that nonphysician providers such as midwives and nurses

have obtained medical training and are able to perform abortions that do not result in severe medical complications, then only one-third of women who obtained an abortion were in safe hands. However, nearly half of the women in the study obtained a clandestine abortion, which they performed by themselves through self-medication or in collaboration with pharmacists.

Because most abortions, by implication, represent unintended pregnancies, one might be quick to equate abortions with unintended pregnancies. However, for many women unintendedness comprises a wide range of more specific underlying factors.¹⁹ A pregnant woman may want to have a child, but her pregnancy may have been mistimed, which may stem from other factors, such as employment, education or economic status, that make the timing of the pregnancy undesirable. Such unintended pregnancies, which are common among young people, do not necessarily occur because women or couples have difficulty in successfully planning births and using contraceptives. Even where effective contraceptive use is high, women experience unplanned pregnancies as a result of contraceptive failure, unanticipated changes in their personal circumstances or sometimes their own ambivalence.

While it is generally believed that women or couples in this part of the world want a large family, it is true that some women also wish to control their family size and the spacing of their births. For example, evidence from the 1998 Ghana Demographic and Health Survey indicates an increase in current use of contraceptive methods, from 13% in 1988 to 20% in 1993 and to 22% in 1998. In addition, younger women reported first use of contraceptives at lower parities than older women, which is suggestive of a move toward the early use of contraceptives and also the desire to delay childbearing.

Yet contraceptive use as a means of spacing or limiting births remains very low. The fact that only 11 women in this survey had used contraceptives prior to becoming pregnant, that all of the women who had an abortion had had a previous abortion and that more than half (57%) of the women aborted their pregnancy because they were unsure about having a child sends a serious message about the underutilization of family planning services in Ghana. A Ghanaian woman may be unsure about carrying a pregnancy to term because her partner denies paternity, she is not willing or ready to marry, the

woman or her family perceives child-bearing outside of marriage as unacceptable, or, if she is older, she disapproves of having children late in life. For example, Ghanaian society tends to disapprove of a mother's sexual behavior if both she and her daughter are nursing infants concurrently or simultaneously. Several of these factors can be classified as relationship problems and can explain why women and couples have difficulty in successfully planning births.

The type of job a woman has may be more important than employment itself in influencing the decision to abort a pregnancy. Women who are self-employed have increased odds of obtaining an abortion relative to those who are employed by someone else, perhaps because, unlike a woman who is employed by someone else, a woman who is self-employed is not entitled to three months paid maternity leave. The self-employed woman has the sole responsibility for managing her livelihood and may be more concerned about the timing of her pregnancy. In addition, women who work outside the home have increased odds of obtaining an abortion relative to those who work in the home, perhaps because a woman who works in the home has support from the larger family in sharing childcare duties.

Surveying women for pregnancy outcomes permitted a much more detailed analysis of some of the factors associated with induced abortion. The data provide information about the differences in the demographic characteristics of pregnant women in addition to how they are correlated with abortion practices. The study team was able to identify and interview women of childbearing age, most of whom were willing to provide information on personal maternal risk factors, including self-induced abortions, making it possible to estimate the abortion rate in four of the 10 regions in Ghana.

The findings must be interpreted carefully. They are not generalizable to the entire country, as the northern ecological zone of Ghana was not included in the sample. Even so, they provide evidence that the prevalence of self-induced abortion in Ghana is high and bring us a step closer to identifying the population of women seeking abortion in Ghana.

This article calls into question the evolution of the legal status of elective induced abortion in Ghana. It appears there is a paradox of *de jure* prohibition and *de facto* availability in the absence of a third party to enforce the restrictions against elective induced abortion. One could view

Ghana's abortion law as quite broad, in the sense that "preserving a woman's mental health" is open to interpretation, particularly when a third party is not needed to authorize an abortion. In addition, while abortion on request is illegal, rarely have legal charges been filed against abortion providers or clients (and usually only if there was a fatality or a complication). Women in Ghana may see abortion not as a typical medical procedure, but as an extraordinary need. Thus, even households with moderate resources are able to raise the necessary funds for this emergency if there is a firm objection to carrying the pregnancy to term. There were a few cases of this sort in our study, whereby school girls or housemaids had to obtain abortions with the help of some family members. Probably these were made known to us because our fieldworkers lived with the study subjects over a long period of time.

Abortion laws and policies ought to be framed on the basis of a commitment to women's health and well-being rather than on criminal codes and punitive measures. Ghana's high levels of maternal mortality could be an effect of the legal restrictions on abortions for some subgroups in Ghana. This, however, requires further investigation. Other pressing issues in need of further investigation include the methods of abortion used at facilities and by individuals, the sources of abortion complications and the extent of health problems arising from clandestine abortions.

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Resumen
Contexto: En países como Ghana, donde la ley restringe interrupción voluntaria del embarazo, son escasos los datos que cuantifican la incidencia de este procedimiento. Se obtienen los datos disponibles sobre abortos inducidos en Ghana principalmente en los registros de los hospitales, los cuales no son confiables porque el sistema de registro utilizado no es adecuado y con frecuencia se clasifican los casos de aborto inducido erróneamente.
Métodos: Se utilizó un muestreo aleatorio en
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multietapas para identificar a 18.301 mujeres, de entre 15 y 49 años, de ocho comunidades en cuatro de las 10 regiones de Ghana, entre enero y marzo de 1997. De las mujeres identificadas, 1.689 estaban embarazadas. Desde marzo de 1997 a marzo de 1998, trabajadores de campo que residían en las mismas comunidades que las mujeres que participaron en el estudio, controlaron el estado de salud y del embarazo de estas mujeres, incluidos los casos de abortos inducidos.

Resultados: Durante el período de estudio, la tasa de aborto inducido en las áreas objeto de estudio fue de 17 abortos por cada 1.000 mujeres en edad reproductiva. Hubo aproximadamente 19 abortos por cada 100 embarazos (ó 27 abortos por cada 100 nacimientos vivos). La mayoría (60%) de las mujeres que se habían sometido a un aborto eran menores de 30 años, y el 36% eran nulíparas. El 45% se habían sometido a un aborto antes de la séptima semana de gestación, y el 90% antes de la décima semana. Solamente el 12% de las mujeres manifestaron que habían obtenido su aborto con un médico. Las mujeres musulmanas tenían menos probabilidades de obtener un aborto. Las mujeres que vivían en las zonas urbanas, que habían estudia-

do o que tenían cuatro o más hijos tenían mayores probabilidades de someterse a un aborto. Las mujeres que eran trabajadoras independientes tenían mayores probabilidades de obtener un aborto que aquellas que eran empleadas.

Conclusiones: La ley sobre aborto de Ghana no previene que ocurran abortos inducidos. Sin embargo, pocas mujeres de Ghana que procuran un aborto lo obtienen de parte de un médico y parece que la mayoría se induce su propio aborto, con la ayuda de un farmacéutico.

Résumé

Contexte: Dans les pays tels que le Ghana, où l'avortement provoqué est sujet à des restrictions légales, les données de quantification de l'incidence de la procédure sont rares. Les données disponibles pour le Ghana proviennent principalement des dossiers tenus dans les hôpitaux, peu fiables pour des raisons de médiocrité administrative et de classification souvent inadéquate de l'IVG.

Méthodes: Un schéma d'échantillonnage aléatoire à plusieurs degrés a servi à l'identification de 18.301 femmes âgées de 15 à 49 ans dans huit communautés comprises dans quatre des 10 régions du Ghana entre les mois de janvier et mars 1997. Des femmes identifiées, 1.689 étaient enceintes. De mars 1997 à mars 1998, les agents de terrain vivant dans les communautés des

femmes enceintes ont surveillé leur santé et l'issue de leur grossesse, y compris les IVG provoquées par les femmes elles-mêmes.

Résultats: Pendant la période à l'étude, le taux d'avortement, dans les régions considérées, a été calculé à 17 IVG par millier de femmes en âge de procréer. Environ 19 avortements ont été relevés par centaine de grossesses (ou 27 avortements par centaine de naissances vivantes). La majorité (60%) des femmes qui s'étaient fait avorter avaient moins de 30 ans, et 36% étaient nullipares. Quarante-cinq pour cent s'étaient fait avorter avant la septième semaine de gestation, et 90% avant la 10e semaine. Douze pour cent seulement ont déclaré avoir obtenu la procédure d'un médecin. Pour les musulmanes, la probabilité d'obtention d'un avortement était moindre. Pour les femmes des milieux urbains, instruites ou mères de quatre enfants et plus, elle était supérieure. Les travailleuses indépendantes étaient aussi plus susceptibles d'obtenir un avortement que celles employées par autrui.

Conclusion: La législation du Ghana sur l'avortement, bien que d'apparence plutôt restrictive, n'empêche nullement la pratique de nombreuses IVG. Peu de femmes obtiennent cependant la procédure de médecins, et la plupart semblent en fait provoquer elles-mêmes leur IVG, souvent avec l'aide d'un pharmacien.