

# Sex-Selective Abortion: Evidence from a Community-based Study in Western India

*Only far-reaching social changes that aim at increasing female autonomy, female economic power and the value of the girl child are likely to make a significant impact on the demand for sex-selective abortion*

**By Bela Ganatra, Siddhi Hirve and V. N. Rao\***

Selective abortion of female foetuses has been documented in India as early as the late 1970s when amniocentesis for genetic screening became available (Ramanama and Bambawale, 1980), but it was only with the

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\* Bela Ganatra, Research Fellow at the Bill and Melinda Gates Institute for Population and Reproductive Health, Johns Hopkins School of Hygiene and Public Health, Baltimore, Maryland, United States of America, and Research Consultant at the KEM Hospital Research Centre, Pune, India; Siddhi Hirve, Research Fellow, Bill and Melinda Gates Institute for Population and Reproductive Health and Research Consultant, KEM Hospital Research Centre; and V.N. Rao, Research Director, KEM Hospital Research Centre.

increasing availability of ultrasound technology in the mid-1980s that the practice became widespread. Most of the existing evidence on sex-selective abortion comes from micro-studies in northern India. These have demonstrated a widespread acceptance of the practice, and several researchers have documented indirect evidence in the form of increasing sex ratios at birth in hospitals or within communities (Booth and others, 1994; Gu and Roy, 1995; Khanna, 1997; Sachar and others, 1990 and 1993; Sahi and Sarin, 1996). While abortion (also called medical termination of pregnancy, or MTP) on broad social and medical grounds has been legal since 1972, sex selection is not. The state of Maharashtra, where the present study was conducted banned prenatal sex selection in 1988; the Prenatal Diagnostic Techniques Bill made sex detection tests illegal throughout India in 1994.

This article examines the circumstances surrounding the abortion decision as well as the actual abortion experience of 252 rural women in the state of Maharashtra in western India who underwent a sex-selective abortion. It also compares the profile and abortion experience of these women with those of 1,085 women from the same community who had undergone an induced abortion for reasons other than sex selection. Such evidence is a crucial first step in evaluating potential approaches aimed at reducing the high prevalence of sex-selective abortion.

## **Methods**

The present article focuses on a part of the data from a rural, community-based study of induced abortions that was carried out by the KEM Hospital Research Centre in 139 villages (population 324,431) in three districts of western Maharashtra during the period 1996-1998. Public sector abortion services in the area include the district hospitals, teaching hospitals in nearby cities, and some primary health centres and rural hospitals. As elsewhere in western Maharashtra, in addition to public sector services, a number of small private hospitals offering varying levels of abortion services are present throughout the study area. Parts of the study area are also serviced by non-governmental organizations (NGOs). Fifteen per cent of the villages were within 5 km of a functioning government facility providing abortion services, while one third of the villages (33.1 per cent) were within a 5-km radius of a private practitioner offering abortion services.

An elaborate community network (health and other workers, community men and women, women's groups) and providers of abortion services were used to identify and enrol women who underwent an induced abortion during

an 18-month reference period in 1996-1998. Both types of information sources served as an initial link between the researchers and the abortion-seekers both in seeking permission from the women concerned and in setting up interview logistics. Information from providers was used only if both the client and the provider agreed.

Married women who were known to have had an abortion were approached by field workers with a structured questionnaire on general pregnancy and health issues. Women were never confronted with the prior knowledge of their abortion and, if this fact was got spontaneously acknowledged by the women during the interviews, the matter was not pursued. Diffuser (dummy) interviews using the same questionnaire were held with other married women from the same village who were not known to have had an induced abortion in the study period. This helped to prevent women who had undergone an induced abortion from becoming a focus of undue attention from the community.

Interviews were conducted in clinics, homes or elsewhere depending on circumstances. The interview questions were framed within a broader context of questions on past pregnancy outcomes and health complications. However, if, during the course of a detailed pregnancy history, the woman acknowledged her induced abortion, further questions about the entire episode were canvassed using a combination of a structured questionnaire, open-ended probes and a qualitative timeline of sequence of events. Women were free to discontinue the interview at any point. Back-up medical services were made available, where required, to all participants through the outreach programme and tertiary care facilities of the KEM Hospital as well as through other referral and teaching hospitals providing services in the study area.

Additionally, 178 providers known to offer abortion services in and around the study area and nearby towns were interviewed for their perspective on induced abortions.

## **Results**

A total of 1,717 married women from the study area were found to have undergone an induced abortion during the reference period. Of these, 19 (1.1 per cent) refused to be interviewed and a further 177 (10.3 per cent) could not be interviewed as they subsequently migrated out of the study area, or were deliberately not interviewed because the research team perceived them to be at social risk. A further 112 women (6.5 per cent) agreed to be interviewed, but

**Table 1. Reasons for induced abortion among 1,409 women who acknowledged their abortion in Maharashtra study area**

<b>Reason for abortion</b>	<b>Number of abortions</b>	<b>Percentage</b>
<b>Sex selection</b>		
Because foetus was thought to be female	263	17.6
Because foetus was thought to be male	2	0.1
<b>Unrelated to sex selection</b>		
Birth spacing	472	31.6
Desired family size reached	599	40.1
Failure of contraception	41	2.7
Other	40	2.5
<b>Subtotal</b>	<b>1,152</b>	
For medical reasons such as serious maternal illness	75	5.2
<b>Total</b>	<b>1,492</b>	<b>100</b>

labelled their abortion episode as spontaneous or denied having had an abortion.

A final total of 1,409 women who acknowledged an induced abortion during the reference period were interviewed. Of these, 252 women reported that the main reason for the abortion was to avert the birth of a girl child ( $n = 263$  abortions), accounting for 17.6 per cent of all identified abortions among married women. Two women had a sex-selective abortion to abort a male foetus. Non-sex-selective reasons, including spacing, limiting family size and contraceptive failure, were cited by 1,085 women ( $n = 1,152$  abortions) (table 1).

Further analysis examines the characteristics of the 252 women who had an abortion to avert the birth of a daughter, and compares this group with the 1,085 women who had abortions for other reasons. Second and third abortions that occurred during the reference period in the same women were excluded in the comparative analysis, as were the abortions that occurred for medical reasons ( $n = 75$ ), and two cases where the foetus was aborted because it was male.

### **General profile**

The mean age of women undergoing a sex-selective abortion was 24.8 years, which is similar to that of other abortion-seekers. Their mean level of education was 5.7 years, which was marginally but not significantly lower than that of other abortion-seekers (mean education = 6.3 years). The husbands of

**Table 2. Socio-economic profile of women who underwent a sex-selective abortion in Maharashtra study area compared with women who underwent abortions for other reasons**

Socio-economic factors	Odds ratio (unadjusted)	95 per cent C.I.
<b>Family characteristics</b>		
Living in a joint family	1.84	1.36-2.49
Cohabiting mother-in-law	1.86	1.41-2.47
Farming is primary occupation	1.89	1.42-2.51
Own a house with separate kitchen	1.53	1.03-2.28
Own irrigated land	1.74	1.06-2.89
<b>Role in decision-making</b>		
Buying groceries	0.63	0.44-0.9
Making household purchases	0.51	0.34-0.76
Seeking care for child illness	0.69	0.5-0.95
<b>Autonomy</b>		
Independent income source	0.67	0.46-0.9
Family permission needed to go to the market	1.44	1.01-2.13
<b>Spousal communication</b>		
Ever discuss contraception/family size with husband	0.47	0.33-0.68

the women undergoing a sex-selective abortion were as well educated as the husbands of other abortion-seekers (9.2 years compared with 9.4 years). The proportion of Muslim women was significantly lower among the sex-selective abortion seekers (3.4 per cent) than among non-sex-selective abortion-seekers (9.3 per cent).

Sex-selective abortion-seekers were significantly more likely to come from joint families and were better off economically (as measured by owning a house with a separate kitchen and irrigated land) than women who had an abortion for other reasons (table 2). However, they had less autonomy and mobility, and were less likely to play a major role in family decision-making. They were also less likely to have an independent source of personal income and even when they did earn money, a significantly lower proportion of these women were able to keep or spend their earned income (12.5 versus 38.4 per cent).

### **Family size and sex composition of living children**

None of these 263 sex-selective abortions took place during the woman's first pregnancy and only one woman had no living children; however, nearly

**Table 3. Sex composition of living children belonging to women who underwent sex-selective abortions in Maharashtra study area**

Number of living children	Number of women	Percentage
<b>No living children</b>	1	0.4
1 living child	49	19.8
1 son	3	1.2
No son	46	18.6
2 living children	81	32.7
1+ sons	13	5.2
No sons	68	27.5
3 living children	75	30.4
1+ sons	34	13.8
No sons	41	16.6
4+ living children	41	16.6
1+ sons	13	5.3
No sons	28	11.3
<b>Total</b>	<b>247</b>	<b>100</b>
1+ sons	63	25.5
No sons	184	74.5

one fifth (19.9 per cent) took place among women who had only one living child, usually a daughter (table 3). While the majority of these women did not have living sons, over a quarter (25.5 per cent) already had one or more living sons at the time they had a sex-selective abortion. The youngest living child at the time of the sex-selective abortion was usually a daughter (86 per cent).

### Previous abortions

The index abortion was not necessarily the respondent's first abortion. Thirty-nine (15.5 per cent) of the 252 women who underwent a sex-selective abortion, and 201 (18.5 per cent) of the 1,085 women who had an abortion for other reasons had a history of an induced abortion before the study period. Among women whose current abortion was sex-selective, nearly all past abortions (97.4 per cent) were also for sex selection. Among other abortion-seekers, only 1.5 per cent cited sex selection as the reason for previous abortions.

### Pathways to decision-making

The majority of women in both groups reported that they, together with their husband, were the primary decision makers in deciding to terminate the pregnancy. Other family members were significantly more likely to know of

and be involved in the decision in the case of a sex-selective abortion. Among women living in joint families, mothers-in-law were more likely to know of the woman's intention to undergo a sex determination test or sex-selective abortion (96 per cent) than they were to know of an abortion for another reason (77 per cent). The same was true of fathers-in-law (94 versus 68 per cent) and sisters-in-law (91 versus 72 per cent).

In-depth interviews with 12 of the women who underwent a sex-selective abortion revealed the complex nature of the decision-making process with two prominent patterns emerging. In the first pattern although no overt demand to undergo a sex determination test was made by the family, women "decided" on the sex-selective abortion as a response to the intense pressure to produce male heirs, at times through implicit threats of the husband's remarriage. These women did not want to suffer the burden of frequent and repeated childbirths in order to fulfil their obligation of producing the required number of sons:

"You know how it is. Once you have decided that you don't want to increase your family size, then there is no alternative other than going for it (sex determination test and abortion)". **(20-year-old woman with two daughters, educated to ninth standard)**

"My mother-in-law used to say: 'I won't say anything, but tomorrow if my son starts feeling that he should have a son and if he thinks about remarrying, then don't blame me at that time. You manage with that'. After all such things, I am having fear in my mind, so I thought let's try and go for checking (the sex)". **(21-year-old woman with two daughters, educated to third standard)**

In the second pattern, the demand for a sex determination test came directly from family elders, often against the wishes of the woman herself. The husband usually agreed with the elders or remained indifferent:

"This time my mother-in-law wanted a boy. So she decided we should check it (the sex of the foetus). My husband did not say anything. What can I say? I do whatever elderly people in the family say". **(21-year-old housewife, who had had two sex-selective abortions)**

Twenty women (7.9 per cent) who ultimately underwent a sex-selective abortion reported that the pregnancy was unwanted for additional reasons (spacing or limiting family size), but family and other community members

opposed their wish to go for an early abortion and influenced them to wait for a sex determination test before making a decision to abort. Eighteen sex-selective aborters (7.1 per cent) reported that they initially went to a doctor seeking an early pregnancy termination, but were advised by the medical practitioner to defer the abortion until they had confirmed the sex of the baby through sonography:

“We have two daughters. We had already decided to do curetting and have an operation. I had gone to the hospital. The doctor there said: ‘You check it (the sex) first. Why should you go for it (the abortion) if it is a boy!’” **(20-year-old housewife with two daughters)**

Eleven women (4.4 per cent) said they had intended to abort in early pregnancy but circumstances (farming season, family illness) delayed their ability to act on the decision. Since they were already advanced in pregnancy, they decided to wait for a sex determination test before making a final decision. All of these women said they would have continued with the pregnancy if the sonography had indicated a male foetus.

While the decision to abort was taken within the marital family, women undergoing sex-selective abortion were more likely to be sent to their natal homes for the actual abortion than were other abortion-seekers (13.9 versus 4.9 per cent), mainly because of the high expenses involved in the procedure.

### **Provider choice**

Sex-selective abortions were preceded by a sex determination test. Nearly all of these (97.2 per cent) took place in the private sector, and most (95 per cent) were done by sonography. Amniocentesis was used in only six cases and seven women diagnosed the sex of the foetus as female based on ethno-diagnostic methods (such as advice from a faith healer and excessive nausea in early pregnancy).

In-depth interviews indicated that providers did not supply their diagnoses in writing because this could have been used as proof of their involvement in sex-selection practices.

The insistence of the medical provider or the fear of a misdiagnosis of the sex of the foetus led 50 (19.8 per cent) women to have a second, and sometimes third ultrasound sex determination prior to the abortion. The following remark was typical:



**Table 4. Providers used for second-trimester abortions in Maharashtra study area<sup>a</sup>**

Providers	Sex-selective abortions	Other abortions	P values
<b>Abortion</b>	<b>(n = 235)</b>	<b>(n = 127)</b>	
Traditional	1.2	1.6	0.81
Private sector	85.1	51.2	<0.01
Non-allopathic	14.9	10.2	0.25
Bachelor of Medicine and Bachelor of Surgery	16.2	10.2	0.06
Diploma/degree in obstetrics and gynaecology	49.8	22.0	<0.01
Specialists in other areas	4.3	8.7	0.08
Public sector	13.6	47.2	<0.01
<b>Median distance travelled to abortion provider</b>	15 km	9 km	<0.01
	(range =1-70 km)	(range =1-80 km)	

<sup>a</sup> Only second trimester abortions are considered in order to control for gestational age.

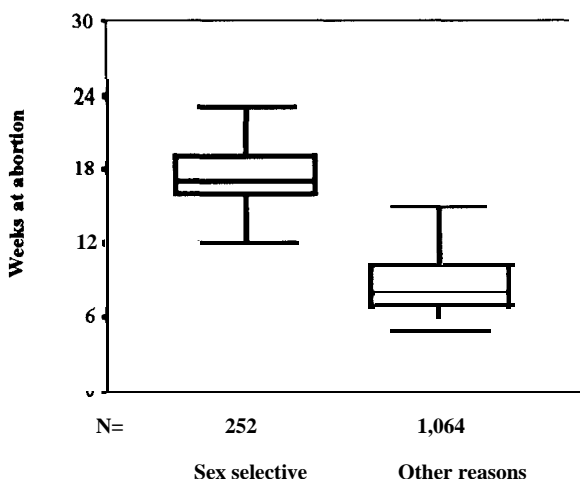
“We checked twice. To confirm it, we went to (the provider). It (the foetus) was far (in a late stage of development) and we had to spend a little more, but my husband said: ‘That is not the problem, but whatever is to be done should be done properly’”. **(22-year-old mother of three daughters)**

The subsequent sex-selective abortions were also significantly more likely to take place in the private sector than were abortions for other reasons. The comparison in table 4 is restricted to second trimester abortions to eliminate the confounding effect of gestational age on the choice of a provider. A higher proportion of these women went to more qualified providers and travelled significantly farther to obtain services. Several women (13.6 per cent) had a sex determination test in the private sector and the subsequent abortion in a public hospital, primarily for financial reasons. Even though the public sector does not provide sex-selective abortions, these women were able to obtain pregnancy terminations easily by not revealing the sex determination test and citing reasons other than sex selection for seeking an abortion. Interestingly, even when both the sex determination test and the abortion were done in the private sector, the majority of women (84 per cent) used different providers for the two events. This was true even when facilities for both were available at the same place.

### Timing

The determination of foetal sex on sonographic examination is usually not done before 13-14 weeks of pregnancy. Consequently, both the decision to

**Figure 1. Comparison of the timing of actual abortion between sex-selective abortions and abortions for other reasons in Maharashtra study area\***



\* *Note:* The figure compares the distribution of gestational age at abortion (graphically presented as box and whisker plots) of women with sex-selective abortions and women with abortions for other reasons. The lower and upper borders of the box represent the 25th and 75th percentile of the gestational age values, and thus the depth of the box represents the interquartile range, within which 50 per cent of the values fall. The horizontal line inside the box represents the median (50th percentile) gestation age at abortion. The whiskers are lines that extend from the lower and upper end of the box to the lowest and highest values respectively, excluding the outliers. They represent the distribution from the 25th or 75th percentile to the lowest or highest value, which falls within 1.5 times the interquartile range. These are the tails of the distribution. As shown above, the distributions are slightly skewed towards the upper or higher end.

abort as well as the actual sex-selective abortion took place significantly later than did other abortions (mean gestation 17.2 versus 9.2 weeks) (figure 1). The mean lag between the decision to abort and the actual abortion was, however, significantly lower among women seeking abortion for sex-selective reasons than it was among women seeking abortion for other reasons (1.2 versus 2.4 weeks). Sex-selective abortions accounted for over two thirds (68 per cent) of all second trimester abortions among married women in the study. Fifty-one (12 per cent) of the sex selective abortions were performed after the legally permissible limit of 20 weeks gestation.

**Table 5. Comparison of abortion experience among women who underwent sex-selective abortion with those who had abortions for other reasons in Maharashtra study area**

Experience	Percentage of sex-selective abortion-seekers (n = 252)	Percentage of other abortion-seekers (n = 1,085)	P value
Husband's signature/consent required	26.5	20.6	0.03
Abortion procedure explained to woman	58.0	27.2	<0.01
Post-abortion contraceptive counselling given	35.7	62.8	<0.01
Post-abortion contraceptive adopted	32.6	61.5	<0.01
Mean cost of second trimester abortion <sup>a</sup>	Rs.1,594	Rs.967	<0.01
Self-reported post-abortion morbidity	74.5	65.0	<0.01

<sup>a</sup> US\$1 = 46.7 Indian rupees (Rs.).

### The experience of sex determination and abortion

The lateness of sex-selective abortions as well as their illegality contributed to the mean cost for abortion being higher for these abortion-seekers than for other women undergoing second trimester abortions. Providers were also more likely to insist on written consent from the husband (not a legal requirement under Indian abortion law) for women seeking abortion for sex-selective reasons (table 5). Most women were satisfied and spoke well of the providers but several recounted exploitative situations:

“He checked the sex on a TV; we cannot see it. He saw it and then sat on his chair. We asked him, ‘Tell us, what is it?’ He said: ‘First you give me my money and then I will tell.’ We got angry. It is not that we did not have money, my husband never says ‘no’ for money; but we did not like the way the doctor talked to us. I said to him ‘Did you feel that we will not pay your fees if it is a girl child?’” (21-year-old housewife, who had had two induced abortions)

Women undergoing a sex-selective abortion were less likely to be counselled on post-abortion contraceptive use and were also less likely to adopt post-abortion contraception. They were also more likely to be shown the aborted foetus than other women having second trimester abortions and to be given the foetal remains for disposal. Of the 185 women who were shown the aborted foetuses, five said the aborted foetus was male and not female as

expected. In-depth interviews revealed the mixed feelings that ranged from relief that the aborted foetus was female, to intense guilt coupled with attempts to rationalize their actions:

“I got admitted. The medicine was put inside and I started worrying. I felt that if that was a son, everyone in the family will blame me. I was praying to God that it should be a girl. When I actually saw a girl, I felt relieved”. **(27-year-old second wife and mother of two daughters)**

“Yes, I saw it. She was like a small doll (showing with her hands). How will I feel? Of course I felt bad. After all it is infanticide; five months were over. I cried a lot, but what to do! Now I have decided; I will not do it again”. **(21-year-old housewife, who had had two sex-selective abortions)**

“The hope for a son was so much that I didn’t have any other feeling. I felt sad, but what to do? One has to burn one’s mind. There are two daughters, what to do with a third daughter? Nothing else, a son is wanted. Only that is in my mind.” **(23-year-old with two daughters, after having a second sex-selective abortion)**

Overall, about 7 per cent of the women who had undergone sex-selective abortion complained of sleep disturbances while about 12 per cent of the women experienced mood changes (persistent sadness, crying episodes) that persisted for at least a month following the abortion. While the trauma of the experience made some decide not to repeat it, 63 per cent of the women who had had a sex-selective abortion said that they would consider sex determination tests and abortion in future pregnancies:

“If now this time, I get pregnant, will I do the same again? How can we say whether at that time we will have the money in hand or not! Last time we could manage to spend, so we did it. Now let’s see if we have the money”. **(Mother of two daughters)**

### **Post-abortion morbidity**

Post-abortion morbidity among women who underwent a sex-selective abortion was high. Three quarters of the women reported one or more problems that they felt were severe enough to have disrupted their daily work routine. About 45 per cent of the women complained of prolonged and severe bleeding, 13 per cent had persistent menstrual irregularities and 64 per cent attributed

weakness to the abortion event. While all these morbidities were significantly higher than among other abortion-seekers, the differences between the two groups did not persist after controlling for the trimester in which the abortion took place.

### **Perceptions of legality**

The fact that sex-selective abortions are illegal was widely known by the women in the study. However, nearly all those who had undergone a sex-selective abortion (99.5 per cent) and the majority of other abortion-seekers (97.7 per cent) approved of abortion for sex selection:

“No, it should not be banned. What will people like us (who do not have sons) do? Already females are more than males in the population”. (**Mother of five daughters, who had a sex-selective abortion**)

“Yes, it should be considered legal. After all . . .what to do? A male child is a must in the family. Otherwise where will people like us go?” (**Mother of two daughters**)

Of the 178 abortion-providers interviewed, 73.3 per cent said that sex selection was unjustified. While they were not directly asked whether they provided services, at least 28 of the providers were known to be performing sex determination tests. Of these, 18 were among those who said that sex-selective abortions were unjustified. However, most providers agreed that the proportion of sex-selective abortions was on the increase as a result of increased awareness about ultrasound screening. Those who talked openly about their own involvement justified their actions by saying that they were only meeting a felt need for such services from the community. One provider went as far as to say: “I use my ultrasound more than my stethoscope”

### **Discussion**

This analysis of sex-selective abortions is a subset of a larger study of induced abortions. Given the multiple sources of information used to identify cases, acceptance of the practice as normative and the willingness of women to talk about the issue, it is unlikely that a significant number of sex-selective abortions that occurred in the study area in the reference period were missed. A limitation of this study design, however, is that the data are restricted to women who underwent a sex-selective abortion; and no information is available on women who had sex determination tests but not subsequent abortions.

Despite the fact that prenatal sex determination and sex-selective abortion are banned and the knowledge of their illegality is widespread, sex selection was a common reason for pregnancy termination among married women in this study. Equally noteworthy is the fact that the study area was in Maharashtra, which is relatively less patriarchal than the northern states, where the practice is assumed to be the most widespread.

Most countries in the South and South-East Asian region, with the possible exceptions of Thailand, Indonesia, the Philippines and Sri Lanka, exhibit a strong son preference (Wongboonsin and Prachuabmoh, 1995). In high fertility settings, this modifies contraceptive use and becomes manifest as increased family size. But as increasing economic pressures and family planning programme successes move families towards a two-child norm, sex-selective abortion becomes a means to meet the conflicting demands of a small family and the desire for sons. In this study, the majority of the sex-selective abortions took place where there were only one or two living children.

Women who seek abortions for sex-selective reasons appear to be distinct from other abortion-seekers: they have less autonomy and weaker decision-making powers within the house and are more likely to be living in larger joint families and therefore more vulnerable to the pressure to produce male heirs. As the decision-making pathways suggest, overt and covert pressures from family, community and even medical practitioners strongly underlie the decision to abort a female child. These women are also at higher medical risk for post-abortion complications because of the lateness of their abortions.

Service providers appear to share the community perception that sex-selective abortion is justified or, at least, to accept it as a pragmatic response to a felt need. Commercial considerations also seem to play an important role: most sex determination tests in this study were done in the private sector, as were the majority of subsequent abortions. A self-protective mechanism seemed to be operating, in that both families and providers encouraged women to use a different provider for the sex determination test and the abortion, making it difficult to link the two events. This also made it possible for some women to have a sex-selective abortion in the public sector, which otherwise does not provide these services.

Interventions which focus on increasing contraceptive acceptance will have little effect in reducing these abortions since it is not the pregnancy but the child that is unwanted. Only far-reaching social changes that aim at increasing female autonomy, female economic power and the value of the girl

child are likely to make a significant impact on the demand for sex-selective abortion. Legal sanctions are also difficult to enforce as a result of the widespread acceptance of sex selection as normative, despite awareness of its illegality, and the difficulty in establishing a direct link between an ultrasound examination and sex determination, or in linking the test to the subsequent abortion. The fact that most providers work in the ever-growing but largely unregulated private sector presents a further obstacle in the path of enforcing the law. Nevertheless, efforts by the medical community to self-regulate its own members and to comply with existing laws banning prenatal sex selection should also receive high priority.

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