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Clients' perceptions of the quality of care in Mexico City's public-sector legal abortion program

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Abstract

Context—In 2007 the Mexico City legislature made the groundbreaking decision to legalize first trimester abortion. Limited research has been conducted to understand clients' perceptions of the abortion services available in public sector facilities.

Methods—We measured clients' perceptions of quality of care at three public sector sites in Mexico City in 2009 (n=402). We assessed six domains of quality of care (client-staff interaction, information provision, technical competence, post-abortion contraceptive services, accessibility, and the facility environment), and conducted ordinal logistic regression analysis to identify which domains were important to women for their overall evaluation of care. We measured the association of overall service evaluation with socio-demographic factors and abortion-visit characteristics, in addition to specific quality of care domains.

Results—Clients reported a high quality of care for abortion services with an overall mean rating of 8.8 out of 10. Multivariable analysis showed that important domains for high evaluation included client perception of doctor as technically skilled ($p<0.05$), comfort with doctor ($p<0.001$), perception of confidentiality ($p<.01$), perception that receptionist was respectful ($p<.05$) and counseling on self-care at home following the abortion and post-abortion emotions ($p<0.05$ and $p<0.01$). Other relevant domains for high evaluation were convenient site hours

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(p<0.01), waiting time (p<0.001) and clean facility (p<0.05). Nulliparous women rated their care less favorably than parous women (p<0.05).

Conclusions—Our findings highlight important domains of service quality to women's overall evaluations of abortion care in Mexico City. Strategies to improve clients' service experiences should focus on improving counseling, service accessibility and waiting time.

Introduction

Induced abortion is a common practice in Mexico, but it has historically placed women's lives and health at risk since most are performed clandestinely and often in unsafe conditions.[1] Between 1990 and 2005, abortion-related complications were the fifth leading cause of maternal mortality nationally, and the third leading cause in Mexico City specifically.[2] In 2006, a national study estimated the rate of hospitalization for the treatment of induced abortion complications at 5.7 per 1000 women aged 15 to 44, a 6% increase over the rate in 1990.[3]

Mexico's abortion laws vary by state, but in most states abortion is illegal, except in a few limited circumstances, such as when a woman's life or health is in danger, or if a fetus has serious genetic malformations. The only circumstance for which abortion is legal across all states of Mexico is when a pregnancy is the result of a rape.[4] Even when abortion is legally permitted, it can be difficult for women to access services due to a lack of knowledge about the law, bureaucratic hurdles, and provider refusals to perform a legal abortion.[1,4,5]

Recognizing the illegality of abortion as a cause of unsafe procedures that resulted in high maternal mortality and morbidity,[6] the Mexico City legislature decriminalized first trimester abortion in 2007. The legislature also took steps to ensure that abortion services would be accessible to women regardless of their ability to pay; the law stipulated that abortion services would be provided at public hospitals that are part of the Mexico City Ministry of Health free of charge for Mexico City residents and on a sliding fee scale for residents of other states.[4] Research to monitor the impact and implementation of this reform can provide essential information to the Mexico City Ministry of Health, as well as to other countries considering similar policy reforms.[a]

The World Health Organization recommends the use of special studies to learn about clients' perspectives as part of routine monitoring and evaluation of abortion services.[7] Although clients' perspectives have been widely studied in family planning care,[8] there has been much less research on clients' perceptions of abortion services. Clients' perspectives are inherently valuable to study as abortion services are intended for clients' wellbeing. In addition, clients' perspectives may be linked to several important outcomes. Low acceptability of legal services may lead women to seek care from unsafe providers or to self-induce

[a]Similar abortion policy reforms are unlikely to occur in the near future in other states of Mexico, and there has been a backlash against this law in many Mexican states. Since the reform was passed in 2007, 17 of the 31 states of Mexico have approved amendments to their state constitutions defining a fertilized egg as a person with a right to legal protection and several other states are moving in this same direction. (source: Grupo de Información en Reproducción Elegida (GIRE), Reformas constitionales que protegen la vida desde la concepción/fecundación, 2008–2011, < http://www.gire.org.mx/contenido.php?informacion=70> Accessed June 29, 2011.).

abortions, jeopardizing long term objectives of reducing abortion-related morbidity and mortality. In India, where abortion has been legal since 1971, studies indicate that informal services remain an important source of abortion care for the population, particularly in rural areas, due to the limited accessibility of formal abortion services and their poor quality.[9] As a consequence, unsafe abortions in India are estimated to contribute to between 9% and 20% of all maternal deaths.[9] Service quality may also affect factors such as clients' willingness to return to services and to utilize post-abortion contraception, and may even affect their health outcomes. If clients do not receive sufficient information during their visits, they may not know what complications to look out for or what contraceptive options are available to them. If they are treated poorly, they may not return for follow-up visits. Furthermore, they may share their negative experiences with friends and family, creating a negative reputation of services in the community. Studies of quality improvement in post-abortion care have found that interventions to improve abortion providers' contraceptive counseling can result in increases in women's uptake of contraception and reduce repeat abortion.[10,11]

Although past research has investigated women's experiences with abortion care and post-abortion care in Mexico, there have been few studies since the 2007 reform.[12,13] Previous studies in Mexico that investigated access to legal abortion in the case of a pregnancy following a rape revealed that the process to obtain a legal abortion was highly bureaucratic and time consuming. Furthermore, women were often exposed to misinformation and judgmental treatment during the process from both health care providers and public officials who were responsible for approving legal abortions, including attempts to dissuade women from having an abortion.[5,14,15]

Other studies in Mexico prior to the recent reform that have investigated women's experiences with post-abortion care have discovered problems with the accessibility of the services, the information women receive during visits, the provision of contraception, the interpersonal treatment from the staff, and the respect shown for women's privacy.[16–18] For example, a study in Mexico City comparing different models of post-abortion care among six hospitals that are part of the Mexican Institute of Social Security (IMSS) found that between 6% and 32% of women were not offered any contraceptive method. Additionally, less than half of women received information about potential complications following the procedure and how to care for themselves at home after the abortion.[17]

In our study we sought to learn about client perspectives regarding the quality of care in Mexico City's public sector legal abortion program following the legalization of first trimester abortion. Past research has found that patient satisfaction with abortion care is associated with service quality factors such as the interpersonal treatment by the staff [19–21] and the information provided,[19,22] as well as with client socio-demographic factors such as age, parity, marital status, and education.[19,22, 23–25] Aspects of the abortion-visit have also been associated with satisfaction with abortion care, specifically, the procedure type, the gestational age, the type of care site, and whether clients are able to choose the type of abortion procedure.[21,24,26,27] In our study, we hypothesized that women's overall evaluation of abortion care would be a function of the quality of care they received, socio-demographic factors, and abortion-visit features including procedure type, site of care, and client choice on type of procedure.

Methods

Study Setting and Procedures

We conducted our research at three public sector sites offering abortion services in Mexico City. The legal abortion program in Mexico City is operational only at public sector facilities run by the Mexico City Ministry of Health,[b] who provides health services to the low income and uninsured population. All of the sites are Mexico City Ministry of Health hospitals or health centers. At the time of our study, 13 public sector sites provided abortion services.[28] We selected the sites in our study to reflect the three types of public sector sites where abortion services are available. The sites included a general hospital, a maternity hospital, and a primary health center. We selected the highest volume site in each category that could participate. For one category the highest volume site was unable to participate, so we selected the second highest volume site. Service statistics from 2009 indicate that the total number of women who received legal abortions at the three sites in our study ranged from just over 1,000 women at the general hospital to nearly 2,000 women at the maternity hospital to over 7,000 women at the primary health center. The three sites in our sample together accounted for 61% of all abortions performed in the public sector in 2009. Forty-three percent of the total was performed at the primary health center, which is the highest volume site.[28] The maternity hospital and the primary health center are located in the same administrative municipality of the city, about one block from each other, while the general hospital is located in a different municipality in the southwest.

All the recruitment sites offer both surgical and medication abortion procedures. Surgical procedures are typically performed with manual vacuum aspiration or electric aspiration; relatively few procedures are done with suction curettage. Medication abortions are performed with a regimen of misoprostol-alone. Mifepristone was recently registered in Mexico in 2011 and is not yet being used to perform medication abortions in the public sector. The Ministry of Health is currently completing a feasibility study to determine whether a mifepristone protocol could be used in the future. The protocol for a medication abortion is two doses of 800 mcg buccal misoprostol taken 4 to 6 hours apart, with the first dose administered in the facility and the second taken at home.[29] Women undergoing medication abortion also receive a handout with instructions on how to take the pills at home and what to do in case of complications. Medication abortion clients are scheduled for a follow-up visit, usually 15 days after they take the first dose, to confirm the completion of the procedure. In the event of an incomplete procedure, the woman is given a repeat dose of misoprostol or a surgical abortion in the facility.

The type of abortion procedure women receive is typically based on gestational age which is determined using ultrasound. The Ministry of Health generally offers women under nine weeks gestation medication abortions and those between 9 and 12 weeks gestation surgical abortions.[30] The reason is that medication abortions tend to be more efficient and less costly, as they require less staff time and do not require the use of an operating room. Although this

[b]The program is not operational at other public sector sites in Mexico City that receive federal funding, for example, facilities of the Mexican Social Security Institute (IMSS) and the Institute for Social Security and Services for State Workers (ISSTE). These public sector providers are responsible for providing health care to public and private sector employees.

is the official protocol, there is variation in how providers determine the type of abortion procedure, and in some circumstances women are offered a choice of procedure type. All women receiving care are provided with detailed counseling, including information about the abortion procedure, potential side effects, and contraceptive options.

The protocol for delivering abortion care is similar across the three study sites, but there are some differences in the format of counseling. At the maternity hospital and the primary health center, women seeking abortion receive both group and individual-level counseling, while at the general hospital all counseling is done individually. At the sites where group counseling is offered, it is used to provide women information about the abortion procedure and family planning methods. The sites also vary with respect to how the abortion service is integrated into the site. At the primary health center, the abortion service has its own separate, dedicated space, while at the hospitals the abortion service is provided within the Ob/Gyn section of the hospital, in a space that is shared with other services.

We conducted our study with a sample of women receiving abortion care at the study sites between September and December 2009. Women were eligible to participate in the study if they were 18 and older and were seeking a first trimester abortion. All data collection took place while women were at the sites. Women receiving surgical procedures were recruited on the day of their abortion, after their appointment was over, but before they left the facility. Women receiving medication abortions were recruited on the day of their follow-up appointment after their visit. The reason for this difference is that the study questionnaire needed to be filled out after the abortion was complete, and medication abortion patients did not know if their abortion was complete until their follow-up appointment.

Three female study interviewers were responsible for recruiting participants. The interviewers were recent undergraduates in clinical psychology who were currently enrolled in graduate studies. They were hired specifically for the purposes of the study and underwent comprehensive training in interviewing techniques prior to beginning fieldwork. The interviewers visited the sites nearly every day that abortion services were offered. Interviewer hours varied by site; in the hospitals (which have clinic hours from 7am–3pm on weekdays) interviewers attended in the morning for approximately 4 hours, and at the primary health center (which has clinic hours from 7am–9pm on weekdays) the interviewer attended for approximately 6 hours from the late morning to the late afternoon. While the interviewer was on site, staff members informed all eligible women about the study. Women who were interested in learning more could meet with the study interviewer after their appointment in a private space at the site. The interviewer explained the purpose of the study, and if the woman wished to participate, obtained her verbal consent and then administered the survey, which took approximately 20 minutes to complete. Participation was anonymous. After completing the survey, each woman was provided with a gift card to a local store, worth approximately US$10. The study protocol was approved by the Mexico City Ministry of Health and by the University of California, San Francisco Committee for Human Research.

Sample size

We calculated the sample size for the survey so that we could detect an expected difference of 15 percentage points in women's overall rating of care for women seen at the primary health center versus at either of the hospitals, with 80% power. We assumed that women at the primary health center would rate the service overall more highly (85%) than women at the hospitals (70%) because the health center environment is less crowded and chaotic than at the hospitals, which serve more complex health problems and have higher patient volumes. With these assumptions, we determined we needed 134 participants per recruitment site. At each site, we attempted to recruit half the sample as medication abortion patients and half as surgical abortion patients, but this proved challenging given the dynamics at the sites. While we achieved a nearly balanced sample at the primary health center which has the highest patient volume (49% medication and 51% surgical), at the two hospitals, our sample was skewed toward one procedure or the other. At the maternity hospital, we recruited more medication abortion patients than surgical abortion patients (64% medication and 36% surgical), while at the general hospital, the opposite was true (70% surgical and 30% medication).

Questionnaire

Our conceptualization of abortion service quality was informed by two published frameworks.[31–32] We conceptualized abortion service quality as a multidimensional construct with the following six domains: 1) client-staff interaction; 2) information and counseling; 3) technical competence; 4) post-abortion contraceptive services; 5) accessibility; and 6) the facility environment. We included questions to measure each of the domains, adapting questions that had been used in previous patient experience studies, including a previous study on women's perceptions of abortion care.[20,33] We developed the survey instrument in English, and a Mexican Spanish speaker then translated it into Spanish. We pilot tested the survey and our recruitment procedures with 12 women seeking abortion care at the recruitment sites to ensure comprehension and relevance.

Measures

The outcome variable measured women's overall evaluation of the service and was based on a survey item that asked: *"Using any number from 0 to 10, where 0 is the worst care possible and 10 is the best care possible, what number would you use to rate the health care you received at this clinic or hospital?"* We recoded responses into a four category ordinal measure from low to high.

The independent variables included measures of the domains of quality of care, women's socio-demographic characteristics, and characteristics of the abortion visit. For the domains of quality of care, we measured client-staff interaction by asking women to rate whether the doctor had made them feel comfortable, whether the nurse and receptionist treated them with respect and dignity, and whether the security guard had used a rude tone or manner with them. The response options for these questions were on the four-point scale "yes, definitely," "yes, somewhat," "no," and "no, not at all."[c] We also measured perceptions of confidentiality by asking women how careful the staff had been with their personal and private information with the response options "very careful," "somewhat careful," or "not

careful.” To measure information and counseling at the visit, we asked women to rate the quality of the information they had received from the staff about the abortion procedure (“sufficient” or “insufficient”), to report whether they had received sufficient information about how to take care of themselves at home following the abortion (“yes” or “no”), and to report whether a staff member had spoken with them about how they might feel emotionally after the abortion (“yes” or “no”). To measure women’s perceptions of technical competence, we asked women to rate whether they felt confident in the technical skills of the doctor who had attended them on a four-point scale from “yes, definitely” to “no, not at all” and to report how well the staff had managed their pain during the abortion with the response options that the staff “could have done more to control pain,” “did enough to control pain,” or “I did not experience any pain.” (The one participant who reported not experiencing any pain was grouped with those who said the staff had done enough.) To measure post-abortion contraceptive services, we asked women whether a staff member had talked with them about family planning at the visit (“yes” or “no”), and whether they had been offered a method of family planning (“yes” or “no”). To measure accessibility, we asked women how easy it had been for them to obtain their appointment at the facility on a four-point scale from “very easy” to “very difficult”, how convenient they found the sites’ hours of operation on a four-point scale from “very convenient” to “very inconvenient”, and how they felt about the total time spent at the facility the day of the abortion procedure, with the response options “acceptable,” “I should have spent less time,” or “I should have spent more time.” Finally, to measure the facility environment we asked women to rate the cleanliness of the facility on a four-point scale from “very clean” to “very dirty” and to report whether they had seen anti-choice protestors outside the facility at any of their appointments (“yes” or “no”). Among participants who reported seeing anti-choice protestors, we asked a follow-up question regarding whether they had felt bothered by the protestors or not.

We recoded all variables measured on scales as dichotomous measures grouping participants who selected the most positive rating (e.g. the group who selected “yes, definitely” when asked if the doctor had made them feel comfortable) and comparing these participants to those who selected other response options. Our reason for choosing this cut-point is because we expected to encounter mostly positive ratings of the services, as is common in patient satisfaction research.[34] If we opted to compare all participants who responded positively to those who responded negatively, we would have limited variability in our data. Our decision to dichotomize our variables as we did was an attempt to identify individuals who despite feeling services were good, still felt improvements could be made.[34] We also suspected that some of the respondents may have been reluctant to express an outright negative viewpoint.

Data on socio-demographic characteristics included age, parity, marital status, education, state of residence, and previous induced abortion. Abortion visit characteristics included the type of abortion procedure received, the gestational age at the time of the abortion (based on what the doctor told the woman), the sex of the doctor who performed the abortion, the type of care site (general hospital, maternity hospital or primary health center), whether the

[c]The response choices for the question on the security guards, which was negatively worded, were as follows: “yes definitely,” “yes, somewhat,” “no,” and “no, they were nice.”

current procedure was carried out to complete an incomplete abortion (based on women's reports), and whether women reported being offered a choice regarding the type of abortion procedure.

Analysis

Client data collected from the questionnaires were entered into an Epi Info database, and double data entry was done on a 10% random sample of the questionnaires to check the accuracy of the data entry process. We transferred data to Stata, version 9.2 for statistical analysis. We first carried out a descriptive analysis by estimating proportions and means for the indicators of the six quality of care domains. We next estimated bivariate ordinal logistic regression models to determine associations between the quality of care measures, women's socio-demographic characteristics, abortion-visit features and women's overall rating of service quality. Finally, we estimated a multivariate ordinal logistic regression model which included variables from our bivariate analysis that were significant at the $p<0.10$ level. We checked for collinearity between variables and found that being offered a method of contraception was collinear with receiving counseling on contraception, so we therefore only included the measure of whether women were offered a contraceptive method in our final model. For all analyses, we considered a p-value of less than 0.05 as statistically significant. In our final model, we tested whether the assumption of proportional odds was valid using the Brant test.[35]

Results

A total of 597 eligible women were invited to participate in our study and 402 took part, for a participation rate of 67.3%. The socio-demographic characteristics of the women who participated are shown in Table 1. The mean age was 25.5 years. Forty percent of the sample had less than high school education. Most women were residents of Mexico City, but 29% lived in other states, most commonly in the state of Mexico. Over half of the sample was single, while 42% were married or in a civil union. Fifty-seven percent had children, and 9% reported a previous induced abortion.

Forty-eight percent had a medication abortion procedure, while 52% had a surgical abortion procedure. The mean gestational age at the time of the abortion was 8.4 weeks. The type of abortion procedure received varied by gestational age. Among clients who received medication abortions, the mean gestational age was 7.1 weeks, compared with 9.6 weeks among clients who received surgical abortions ($p<.001$). Thirteen percent of respondents indicated that the current abortion procedure was carried out following an incomplete medication abortion. When asked whether they had been offered a choice regarding the type of abortion procedure they could receive, 46% indicated that they had been offered a choice. The percent reporting they were offered a choice of procedure did not vary by gestational age, the type of procedure received, the site of care, or by client socio-demographic characteristics. Forty-eight percent of women were attended by a female doctor. When asked about their preference for the sex of the doctor performing abortion care, 57% reported having no preference, while 39% said they preferred a female doctor, and 3% said they

preferred a male doctor. Of those who reported a preference (n=171), 68% were seen by a doctor of their preferred sex.

Overall, women rated their care highly (Table 2). The mean overall rating of care (on a 0 to 10 scale) was 8.8, with a standard deviation of 1.1. Women also highly rated their interactions with the staff. When asked whether the doctor made them feel comfortable and whether the nurse and receptionist had treated them with respect, the percent responding "yes, definitely" ranged from 78% to 92%. Eighty-three percent rated the staff as "very careful" with their personal and private information. Ratings of the security guard were somewhat less favorable, however; 26% reported that the security guard had used a rude tone or manner with them.

In terms of the information and counseling at the visit, over 90% felt the information they had received about the abortion procedure was sufficient, while 87% felt the information they had received about how to take care of themselves at home following the abortion was sufficient. By contrast, receiving counseling about possible emotions following the abortion was less common. Less than half (48%) reported that a staff member talked with them about how they might feel emotionally after the abortion. The vast majority of women felt confident in the technical skills of the doctor who attended them. Most also felt the staff had done enough to control their pain level during the abortion. In terms of post-abortion contraception, 88% reported that a staff member talked with them about family planning at their visit, and 81% reported that they were offered a method of family planning.[d] Clients also thought that the service accessibility was good; twenty-four percent said it was "very easy" to get an appointment at the site, while 60% said it was "easy." Most considered the hours of operation to be convenient. The total time spent at the facility the day of the abortion was rated less favorably, however: just 55% found the waiting time acceptable. In terms of the facility environment, the majority rated the facility as clean, but 67% reported seeing anti-choice protestors outside the facility. Of those who saw protestors, 62% said they were bothered by them.

Factors associated with overall evaluation of the service

In bivariate analysis we found that all of the quality of care measures, except for women's rating of the security guard, were significantly associated with overall evaluation of the service. Many of the client socio-demographic characteristics and abortion-visit characteristics were also significant, including age, education, marital status, parity, site of care, gestational age, and the sex of the doctor. The type of abortion procedure received, whether women reported being offered a choice of abortion procedure, whether the current procedure was a follow-up to an incomplete medication abortion, state of residence, and a previous induced abortion were not significant.

The results of the multivariate ordinal logistic regression model are presented in Table 3. Women who rated the doctor the most favorably on whether the doctor had made her

[d]Of the group of women who reported being counseled on family planning, but not being offered any methods of family planning (n=52), 79% indicated on a subsequent survey question that they planned to use family planning after their visit. When asked which method they planned to use, all reported plans to select a modern method of family planning. This suggests that these women were interested in using family planning and the fact that they were not offered family planning is not attributable to lack of client interest.

comfortable gave higher ratings to the service overall (OR=3.25, p<.001), as did women who rated the receptionist the most highly on respect (OR=1.71, p<.05). Those who felt the staff had been “very careful” with their personal and private information gave higher ratings to the service overall (OR=2.48, p<.01). Women who felt the staff had provided sufficient information about how to care for themselves at home following the abortion also gave higher ratings to the service overall (OR=1.90, p<.05) as did those who had received counseling from the staff about how they might feel emotionally after the abortion (OR=1.96, p<.01). Those who had the most confidence in the technical skills of the doctor who attended them also rated the service more highly (OR=2.46, p<.05).

Measures of service accessibility and the facility environment were associated with women’s overall service rating. Women who rated the site hours as “very convenient”, those who felt that the waiting time the day of their abortion visit was acceptable, and those who rated the facility as “very clean” gave higher ratings to the service overall (ORs of 2.41, 2.78. and 1.89, respectively, with p <.01, <.001, and <.05).

The only socio-demographic factor associated with overall service evaluations was parity. Women who were nulliparous rated the care less highly than women who had given birth previously (OR=0.56, p<.05). No abortion visit factors were significant. The Brant test statistic to assess the assumption of proportional odds was not significant (p=.94), indicating that ordinal logistic regression was an appropriate model for the data.

Discussion

In this study, we sought to understand how women view the quality of care provided in Mexico City’s public sector legal abortion program, and the range of factors that contribute to women’s overall evaluation of the service. We found that the quality of care is generally viewed favorably. High percentages of women felt they were treated well by the staff, that the service was easy to access, that the facility was clean, and that the doctor who attended them was technically skilled. High percentages also felt they had received adequate pain management and information about the procedure and self-care at home afterwards. The percent reporting that they had been offered post-abortion contraception was also high.

These statistics are a positive sign that the service is doing a reasonably good job from the perspective of the clientele. Although the overall picture is positive, our results do point to some areas in which improvements can be made. For example, close to half of the women in our study rated the waiting time as unacceptable and only 48% reported that the staff had talked with them about emotions they might experience after the abortion.

With respect to our second objective of understanding the factors which contributed to women’s overall evaluation of care, we found that women’s evaluation of abortion care was strongly associated with ratings of the client-staff interaction.[19–21] Specifically, women valued the doctor’s efforts to help them feel comfortable, the staff showing respect for their privacy, and respectful treatment by the receptionists. Given the sensitive nature of abortion care and the fact that women may feel vulnerable to receiving judgmental treatment, it is not surprising that these factors emerged as important. Of note is that the behaviors of other staff

in addition to the doctors were associated with women's overall care evaluation, suggesting that efforts to improve quality of care should focus on how all members of the staff treat patients, not just clinical staff.

The information and counseling women received was also associated with women's overall evaluation of care, which has been found in previous studies.[19,22] Service evaluation was more positive among those who felt they received sufficient information about how to take care of themselves at home following the abortion. An additional counseling variable that was significant was staff talking with women about how they might feel emotionally after the abortion. This finding suggests that women appreciate when staff recognize and address the emotional and psychosocial aspects of the abortion experience. This most likely reflects that abortion remains highly stigmatized in Mexico, and women may feel they are violating cultural and social norms by terminating a pregnancy.[36] Staff provision of emotional and psychological information and support may be helpful, since women may lack other sources for this type of information and support, and may not have anyone besides the staff with whom they feel comfortable discussing their abortion. A practical recommendation is that abortion care staff should routinely incorporate information about post-abortion emotions into their counseling practices, but it is critical that any information provided on post-abortion mental health be evidence-based.[37]

Similar to other studies, service accessibility and features of the facility environment were also associated with women's overall evaluation of care.[19,20] One accessibility issue that we did not measure was women's perception of the length of time it took to get their appointment. This factor was found to be of high importance to patients receiving abortion care in a previous study,[38] and should be investigated further. We note, however, that the convenience of the hours, the waiting time at the care site and the facility cleanliness were all factors that were associated with women's overall service evaluation, suggesting these are important factors to women which should be targeted in quality improvement efforts. Surprisingly, women's reports about whether they saw abortion protestors at the site did not correlate with their overall views of the service. This may reflect that women differentiate between what happens outside of the facility and what happens inside, as others have suggested.[19] It also is possible that protestors may be problematic for certain groups of women, but not all women.

Despite the fact that clients may have a limited ability to evaluate the technical competence of their doctors,[34] it is interesting that their confidence in the technical skills of their doctor was associated with their overall rating of care. Given that abortion was recently a mostly illegal service in Mexico, women may have personal experiences with illegal abortions and may have heard stories of botched illegal abortions. Feeling assured of the technical competence of the abortion provider may be especially important in this context.

In contrast with other studies of abortion care satisfaction which found that age, education, and marital status are associated with abortion care satisfaction,[19,22,23] in this study parity was the only socio-demographic characteristic associated with women's overall evaluation of abortion care. Nulliparous women rated their care less favorably than parous women. Women who have given birth previously may rate their care more highly than nulliparous

women because they are more accustomed to pregnancy, gynecological procedures, and pain. A previous study on medical abortion in four countries of Latin America found nulliparous women rated their abortion experience more negatively than parous women: they considered the abortion more painful and were more worried and anxious during the procedure than parous women.[25]

It is also noteworthy that we did not find differences in overall ratings of care by the type of abortion procedure received or by the site of care. These findings differ from several previous studies that found differences by procedure type and site of care.[21,26,27] They suggest that women's evaluation of abortion care is not being driven by inherent features of the abortion method they receive or the place where the care is delivered. Our finding that care was evaluated just as favorably at the primary health center as at the hospitals is important because it indicates that expanding abortion care at the primary health level, a decision which may improve efficiency and reduce the costs of the service,[39] will not lead to reductions in patient satisfaction.

Those who had incomplete medication abortions were not found to rate the service quality more poorly than those who had complete abortions. This finding was surprising and differs from some previous research which has found women who had incomplete medication abortions were less satisfied with their care.[25] It is possible that women received sufficient counseling so that they were aware of this possibility. It was also unexpected that women who reported being offered a choice of abortion procedure did not have a significantly different overall service quality rating than those not offered a choice. Choice of abortion procedure has been identified as a dimension of patient-centered abortion care[32] and has been linked to patient satisfaction.[27] We speculate that the circumstances in Mexico City at the time of our study, shortly after abortion was legalized, may play a role in the importance of this factor. It is possible that the choice between abortion methods was less significant for women in our study than the choice to have a safe, legal abortion compared with a clandestine abortion. Furthermore, since legal abortion is a relatively new service being offered, women may not have been aware that two types of abortion procedures exist, and they also may not have expected to receive any choices regarding their care since they were receiving services in the public sector, and for most the service was free of charge. More research is needed to understand how clients view having a choice of abortion procedure.

Our study has several limitations. Since all of our data collection took place on-site at the facilities in which women received their abortion care, it is possible that social desirability bias may have occurred and women may not have felt comfortable criticizing the care. We tried to reduce this bias by conducting the surveys in private and by reassuring women that their comments would not be shared with the staff; however, this bias may have impacted our data nonetheless. Another limitation is the generalizability of our results. Our study was carried out at three of the public sector sites that were delivering care at the time; the experiences of women at these sites may be different from those at other public sector sites, particularly sites with lower client volumes. Our sample was also limited to adults; six percent of the women seeking legal abortion care are minors,[40] and the experiences of these younger women may be different from the experiences of the adults in our sample. Additionally, women who received medication abortions but who failed to return for their

follow-up appointments were excluded. Preliminary data from the Ministry of Health suggests that approximately 10% of women who seek medication abortions do not return for their follow-up visits.[30]

In conclusion, our findings contribute to the body of evidence documenting the overall quality of services provided in Mexico City's legal abortion program and constitute an important piece of the monitoring and evaluation of the policy.[41] While our study results are positive, it is important to recognize that quality of care should be evaluated from various perspectives, not only those of clients. Future studies should explore the perspectives of providers and policymakers, and should examine the constraints to providing high quality care, such as a lack of resources and staff. We also recommend that qualitative research on abortion service quality be conducted with women receiving care where the categories of quality are generated by women themselves, not by researchers. This may provide insights into issues important to women that are missing from abortion quality of care frameworks. Research on patients' experiences with private sector abortion care in Mexico City is also a priority. Limited information is available on the services provided in the private sector as data is not routinely collected on private sector abortions,[42] but a recent study with a sample of private abortion providers identified deficiencies in service quality.[42] Finally, we recommend studies to assess the cost-effectiveness of the abortion reform in Mexico City and studies to measure the impact this reform has had for women's health and well-being.

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Table 1

Selected sociodemographic and abortion-visit characteristics of women surveyed (N=402)

Characteristic	Percent or mean	N
Sociodemographic characteristics		
Mean age (years)	25.5 (6.0)	402
High school graduate		
No	40	160
Yes	60	240
Residence		
Mexico City	71	285
Other Mexican state	29	117
Current marital status		
Unmarried	58	234
Married or in civil union	42	168
Parity		
Nulliparous	43	173
Parous	57	229
Previous induced abortion reported	9	38
Abortion-visit characteristics		
Site of care		
General hospital	33	134
Maternity hospital	33	134
Primary health center	33	134
Type of abortion procedure		
Medication abortion	48	192
Surgical abortion	52	210
Current procedure was a follow-up to an incomplete medication abortion		
Yes	13	53
No	87	349
Client reported being offered a choice of abortion procedure		
Yes	46	186
No	54	216
Mean gestation age (weeks)	8.4 (2.1)	402
Sex of the doctor who peformed the abortion		
Male	52	210
Female	48	192

Note: Figures in parentheses are standard deviations.

Table 2

Percentage distribution for women's ratings of quality of care overall and for specific domains (N=402)

Quality of care domain	Percent or mean	N
Overall service quality		
Mean overall quality rating†	8.8 (1.1)	402
Client-staff interaction		
Doctor made woman feel comfortable		
Yes, definitely	85	342
Yes, somewhat	10	39
No/No, not at all	5	21
Nurse treated woman with respect and dignity		
Yes, definitely	92	364
Yes, somewhat	6	22
No/No, not at all	3	11
Receptionist treated woman with respect and dignity		
Yes, definitely	78	311
Yes, somewhat	14	58
No/No, not at all	8	32
Security guard used rude tone or manner		
Yes, definitely/Yes, somewhat	26	104
No	20	81
No, (s)he was nice	54	216
Staff care with woman's personal and private information		
Very careful	83	333
Somewhat careful	16	64
Not careful	1	4
Information and counseling		
Staff provided sufficient information about the abortion procedure		
Yes	93	375
No	7	27
Staff provided sufficient information about how to take care of oneself at home following the abortion		
Yes	87	349
No	13	53
Staff talked with woman about how she might feel emotionally after the abortion		
Yes	48	191
No	52	210
Technical competence		
Woman felt confidence in technical skills of doctor		
Yes, definitely	87	350
Yes, somewhat	11	43
No/No, not at all	2	9
Perception of staff management of pain during abortion		

Quality of care domain	Percent or mean	N
Staff could have done more to control pain	13	51
Staff did enough to control pain	87	351
Post-abortion contraceptive services		
Staff member talked with woman about family planning		
Yes	88	353
No	12	49
Staff member offered woman a method of family planning		
Yes	81	327
No	19	75
Accessibility		
Ease of getting appointment		
Very easy	24	95
Easy	60	241
Difficult/Very difficult	16	65
Convenience of site hours		
Very convenient	20	82
Convenient	66	264
Inconvenient/Very inconvienient	14	56
Perception of time spent at facility day of abortion procedure		
Acceptable	55	221
Should have spent less time	43	173
Should have spent more time	2	8
Facility environment		
Facility cleanliness		
Very clean	26	103
Clean	71	287
Dirty/Very dirty	3	12
Anti-choice protestors outside of facility		
Yes	67	269
No	33	133

† Responses were on a scale of 0 (worst care) to 10 (best care).

Note: Figures in parentheses are standard deviations.

Table 3

Odds Ratios from ordered logistic regression analysis examining association between overall ratings of service quality and quality of care measures, socio-demographic characteristics and abortion-visit characteristics (N=391)

Characteristic	OR	95% CI
Quality of care measures		
Client-staff interaction		
Doctor made woman feel comfortable		
Yes, definitely	3.25***	1.67–6.29
Yes, somewhat/No/No, not at all (ref)	1.00	
Nurse treated woman with respect and dignity		
Yes, definitely	2.15	0.94–4.93
Yes, somewhat/No/No, not at all (ref)	1.00	
Receptionist treated woman with respect and dignity		
Yes, definitely	1.71*	1.03–2.83
Yes, somewhat/No/No, not at all (ref)	1.00	
Staff carefulness with woman's personal and private information		
Very careful	2.48**	1.40–4.39
Somewhat/Not careful (ref)	1.00	
Information and counseling		
Staff provided sufficient information about the abortion procedure		
Yes	1.79	0.79–4.09
No (ref)	1.00	
Staff provided sufficient information about how to take care of oneself at home following the abortion		
Yes	1.90*	1.01–3.57
No (ref)	1.00	
Staff talked with woman about how she might feel emotionally after the abortion		
Yes	1.96**	1.27–3.05
No (ref)	1.00	
Technical competence		
Woman felt confidence in technical skills of the doctor		
Yes, definitely	2.46*	1.22–4.95
Yes, somewhat/No/No, not at all (ref)	1.00	
Perception of staff management of pain during abortion		
Staff could have done more to control pain	0.62	0.33–1.17
Staff did enough to control pain (ref)	1.00	
Post-abortion contraceptive services		
Staff member offered woman a method of family planning		
Yes	0.90	0.49–1.66
No (ref)	1.00	
Accessibility		

Characteristic	OR	95% CI
Convenience of site hours		
Very convenient	2.41**	1.43–4.05
Convenient/Inconvenient/Very inconvenient (ref)	1.00	
Ease of getting appointment		
Very easy	1.53	0.92–2.53
Easy/Difficult/Very difficult (ref)	1.00	
Perception of time spent at facility day of abortion procedure		
Acceptable	2.78***	1.80–4.28
Unacceptable (ref)	1.00	
Facility environment		
Facility cleanliness		
Very clean	1.89*	1.16–3.08
Clean/Dirty/Very dirty (ref)	1.00	
Anti-choice protestors outside of facility		
Yes	0.96	0.61–1.52
No (ref)	1.00	
Socio-demographic characteristics		
Age (years)	1.01	0.98–1.05
Current marital status		
Unmarried	1.01	0.64–1.59
Married or in civil union (ref)	1.00	
Parity		
Nulliparous	0.56*	0.33–0.95
Parous (ref)	1.00	
High school graduate		
No	1.06	0.67–1.68
Yes (ref)	1.00	
Abortion-visit characteristics		
Site of care		
General hospital (ref)	1.00	
Maternity hospital	0.63	0.30–1.34
Primary health center	1.24	0.70–2.20
Type of abortion procedure		
Medication abortion	1.16	0.67–2.04
Surgical abortion (ref)	1.00	
Gestation age (weeks)	1.05	0.93–1.18
Sex of the doctor who performed the abortion		
Male (ref)	1.00	
Female	1.49	0.82–2.68
Model Chi-square(df)=215.11(24)		

*Significant at p<0.05;

** p<0.01;

*** p<0.001

(ref)= Reference group