

# **Brazilian Obstetrician-Gynecologists and Abortion: A Survey of Knowledge, Opinions and Practices**

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# **Abstract**

## **Background**

Little is known about Brazilian obstetrician-gynecologists' knowledge and opinions of abortion laws or their practices regarding abortion.

## **Methods**

We conducted a mail-in survey with a 10% random sample of obstetrician-gynecologists affiliated with the Brazilian Federation of Obstetricians and Gynecologists. We used chi-square tests and multivariate regression to determine the characteristics of physicians in support of a more liberal abortion law.

## **Results**

Less than half (48%) of respondents had accurate knowledge about abortion law and 77% thought that the law should be more liberal. One-third of respondents had ever performed an abortion, and very few of these physicians reported having experience with manual vacuum aspiration (MVA) or with misoprostol with either mifepristone or methotrexate. Physicians that favored liberalization of the law were more likely to have correct knowledge about abortion law, be in favor of public funding for abortion services, and to be Catholic.

## **Conclusions**

Brazilian obstetrician-gynecologists need more information on abortion laws and on safe, effective abortion procedures.

## Background

In Brazil, as in most of the Latin America and Caribbean (LAC) region, abortion is highly legally restricted. The Brazilian Penal Code dating back to 1940 states that abortion is illegal except when performed to save a woman's life or in the case of rape. Although not explicitly permitted by law, abortions in the case of severe fetal malformation can be approved on a case by case basis by judicial discretion, a process that requires a lawyer's petition and statements by three physicians and a mental health professional. The law does not establish a legal gestational age limit; however, Ministry of Health guidelines recommend that abortions be conducted before 12 weeks gestation. Despite legal limitations, each year an estimated 1.4 million clandestine abortions are performed in Brazil resulting in some 300,000 hospitalizations for complications.[1, 2] Deaths from unsafe abortion in Brazil contribute to about 12% of the maternal mortality rate.[1] Brazil's abortion rate is high at 40.8 per 1,000 women, with approximately 31% of all pregnancies ending with an induced abortion.[3, 4]

In July 2004, a lone Brazilian federal judge issued a preliminary ruling that waived the requirement for court authorization for abortions in cases of fetuses with anencephaly (a fatal congenital defect that prevents formation of the brain), unleashing a fervent national debate that received substantial international media coverage. The Brazilian National Bishops' Conference lobbied hard for reversal of the ruling, whereas the National Confederation of Healthcare Workers (the governmental health sector union) pushed for its permanent acceptance. In October 2004, the full Brazilian Supreme Court convened and voted 7-4 to suspend the judge's solitary ruling until the full tribunal had the opportunity to deliberate and rule on the matter. As of April 2005, the issue still had not been settled and advocates continued

to debate the moral, religious, and public health implications of liberalizing Brazilian abortion laws.[5-7]

As the opinions of Brazilian judges and interest groups make headlines in this latest chapter of the country's ongoing abortion debate, little is known about the knowledge, opinions, and experiences of the physicians whose practices would actually be regulated by a change in the abortion law. Physicians play a crucial role in the accessibility and availability of safe and legal abortion. Their opinions of abortion, their willingness to perform an abortion, and their knowledge of abortion procedures directly affect whether their patients will be able to access a safe and legal abortion. For this reason, it is important to understand their opinions and knowledge of abortion law, their knowledge of abortion procedures, and their practices related to abortion.

In Mexico, we carried out one of the few recent national abortion opinion studies on providers in the LAC region in 2002. Mexican physicians that participated in this national survey were generally knowledgeable about abortion laws, and most thought that public hospitals should offer legal abortion services. The large majority of Mexican physicians surveyed agreed that abortion should be legal in the cases of rape (86%), when the woman's life is at risk (93%), and when the woman's health is at risk (87%). However, in each of these three cases, a lesser percentage of physicians reported that they would actually perform an abortion. In terms of abortion procedures, 72% knew of the dilation and curettage (D&C) procedure and 61% knew that misoprostol and other prostaglandins could be used for an induced abortion.[8]

No published study has surveyed a nationally representative sample of Brazilian obstetricians-gynecologists (OB-GYNs) about abortion. A small study of 57 emergency room physicians in two São Paulo hospitals found that 31.5%

demonstrated low knowledge of Brazilian abortion laws, and the vast majority were in favor of abortion in cases of rape (84%), risk to the mother's life (86%), and fetal malformation incompatible with life (82%).[9]

Although research on Brazilian provider opinion is scarce, several studies have documented general public opinion of abortion in the country. A 1989 study by Meira and Ferraz examined medical and law student opinions of abortion law and found that almost half of the students surveyed thought that the law should allow for a legal abortion in more circumstances than currently permitted by Brazilian law. The majority of medical students thought that abortion should be legal in cases of rape (96%), risk to the woman's life or health (91%), congenital anomalies (86%), and mental incapacities (63%). A smaller percentage agreed with legalizing abortion in cases where the pregnant girl was less than 14 years old (36%).[10] A survey of 1,456 women in a Southern county in Brazil revealed that 30% were in favor of legalizing abortion regardless of the circumstance, and those with higher education, higher family income, and who had previously had an induced abortion were all more likely to support legalization of abortion.[11] In contrast to these women, a qualitative study of 71 Catholic, male college students in Brazil found that they generally had a negative opinion of abortion. When asked what they would do if a woman asked their advice regarding an induced abortion, 83% said they would counsel her not to abort.[12]

A 2003 study in Brazil on attitudes towards abortion compared opinions over one year of teenage women who had aborted, women who had considered abortion but ultimately did not abort, and women who did not abort. Initially, teens who had aborted and who had considered abortion were more tolerant of abortion than those who did not abort; however, their acceptance level decreased over time. Over the

one-year follow-up period, the teens that did not consider abortion became more accepting of abortion. On average, across the three groups, 66% thought that an abortion was justified when the woman's life or health was in danger, 63% thought it was justified in the case of rape, and 47% felt that it was justified in the case of congenital anomalies.[13]

The relevance of Brazilian physicians' abortion knowledge, attitudes, and practices extends far beyond the current legal limbo regarding abortion of anencephalic fetuses. Due to the importance of physicians' roles in the provision of safe abortions, coupled with the lack of information regarding their opinions, current practices, and knowledge, we conducted a national survey to examine OB-GYNs' knowledge of Brazilian abortion law, their attitudes towards abortion under specific circumstances, and their current practices related to induced abortion.

## **Methods**

From December 2001 through September 2002, we mailed questionnaires to a 10% random sample of OB-GYNs affiliated with the Brazilian Federation of Obstetricians and Gynecologists (FEBRASGO). In collaboration with FEBRASGO, we attempted to increase the response rate by using FEBRASGO stationery, publishing an advertisement in the FEBRASGO journal, sending reminder faxes, and offering a raffle. Out of 1,500 questionnaires mailed, we received 572 completed questionnaires (38% response rate).

The questionnaire contained 18 questions to assess respondents' knowledge of abortion law (specifically in cases of rape and life-threatening congenital malformations), their opinions of current abortion law in Brazil, their familiarity with various abortion procedures, and their experiences providing abortions. We also

collected sociodemographic information, including sex, age, religion, and region of residence.

The primary outcome measure was opinion of abortion law. On the questionnaire, each respondent was asked to choose one or more of the following circumstances in which he or she thought abortion should be legal in Brazil: life-threatening congenital malformation, rape, risk to a woman's life, risk to a woman's physical health, socioeconomic reasons, elective, never legal, or under other circumstances. We classified respondents as conservative or liberal on abortion law based on their opinions of abortion law under the different circumstances.

Conservative physicians were those who felt that abortion should only be legal under the circumstances codified in the current law (*i.e.*, in rape cases or when the woman's life is in danger), or those physicians who thought the law should be more restrictive. Liberal physicians were those who felt that the current abortion law should be liberalized to allow for legal abortion under at least one other circumstance in addition to the two already permitted.

Using chi-square tests, we determined which sociodemographic, knowledge-related, or practice-related variables were associated with physician opinion. Following the univariate analysis, we conducted a multivariate analysis of physicians' opinions of abortion law. In the initial multivariate analysis, we included variables that were associated with physician opinion of abortion law in the univariate analysis at a  $p$ -value  $\leq 0.01$ . We also included those variables that did not have a statistically significant relationship with opinion in the univariate analysis, but were hypothesized to be associated with opinion based on the literature. For the final multivariate model, we used the likelihood ratio technique to determine which variables most accurately predicted physician opinion of abortion law.

All analyses were conducted using SPSS statistical software version 10.0.6.

## Results

As shown in Table 1, the majority of the respondents were women (56%), between 26 and 45 years old (56%), and Catholic (72%). About 52% of the respondents lived in the Southeast Region of Brazil, which includes Rio de Janeiro, Minas Gerais, São Paulo, and Espírito Santo.

Two hundred seventy-six physicians (48%) correctly identified that abortion is legal in Brazil to save the life of a woman and in the case of rape. Also, the large majority (70%) reported awareness that the Brazilian judicial system can grant court authorization of an abortion in cases of severe fetal malformations (Table 2).

Considerable confusion existed over the legal gestational age limit for abortion. A quarter of physicians did not know of a legal gestational age limit while 40% thought it was 12 weeks and 30% thought it was 20 weeks. In terms of abortion procedures, 86% and 90% of physicians reported knowledge of manual vacuum aspiration (MVA) and dilation and curettage (D&C), respectively. A large majority (86%) also reported knowledge of misoprostol or other prostaglandins for abortion, while few physicians knew of the mifepristone and misoprostol regimen (37%) or the methotrexate and misoprostol regimen (27%).

Table 3 contrasts the percentage of physicians who believed that abortion is currently legal in Brazil, according to different circumstances, with the percentage of physicians who believed abortion should be legal. In every circumstance except for rape, more physicians believed that abortion should be legal than believed abortion is currently legal. In the case of rape, almost all (93%) correctly identified that abortion is legal and a lesser percentage (85%) thought that it should be legal. A sizeable difference emerged in the case of severe fetal malformations, where 36% of

physicians incorrectly believed that it was a legal case for abortion, while 89% thought that abortion should be legal in this case. We observed a similarly large difference when the woman's health is at risk; 7% incorrectly thought that the law currently allowed for an abortion in this case, whereas 30% of physicians thought that abortion should be legal in this case.

Overall, we found that only 3% of physicians agreed with the current law that allows for abortion only in cases of rape or to save the woman's life. Most physicians (77%) thought the law should be liberalized to allow for a legal abortion under more circumstances and 17% thought the law should be more restrictive (Table 4).

Although a significant number of physicians reported that abortion should be more restrictive, the overwhelming majority (95%) expressed their support for public funding of abortion services.

In addition to sharing their knowledge and opinions regarding abortion law, physicians also reported on their abortion-related practices (Table 5). A third of respondents (33%) reported ever having performed an abortion, whether legal or illegal. Among the group of respondents that had ever performed an abortion, the most common procedures were D&C (95%) and misoprostol or other prostaglandins (68%). While most of the respondents (73%) had performed an abortion within the first 12 gestational weeks, there was also a significant number (44%) that had performed an abortion between 13 to 20 gestational weeks. Fifty-three percent had performed an abortion in the case of severe fetal malformations, 25% had performed an abortion to save a woman's life, and 19% had performed one in a case of rape.

We encountered several statistically significant relationships between physicians' sociodemographic characteristics and abortion-related practices with their opinion of abortion law (Table 6). In a univariate analysis, physicians who felt the

law should be more liberal were more likely to be Catholic as opposed to any other religion, to have correct knowledge of abortion law, to be familiar with the abortion law regarding severe fetal malformations, and to support public funding for abortion services (p-value < 0.10). These variables were all included in an initial multivariate analysis of physician opinion, in addition to region of residence and whether or not they had ever preformed an abortion. The former two variables were included due to their hypothesized association with physician opinion and their importance in the literature. In the final model, we found that Catholic physicians were 1.63 times (95% CI 1.04, 2.54) more likely than non-Catholic physicians to feel that the abortion law should be more liberal. Physicians who had correct knowledge regarding the status of abortion law in Brazil were 1.54 times (95% CI 1.01, 2.34) more likely to favor a more liberal abortion law than those who did not have correct knowledge. Finally, physicians who were in favor of public funding for legal abortion services were 6.62 times (95% CI 2.79, 15.69) more likely to favor a more liberal abortion law than those who were opposed to public funding of legal abortions. Region of residence, correct knowledge of the law regarding abortions in cases of severe fetal malformations, and experience performing an abortion were not significantly related to physician opinion in the multivariate analysis and thus not included in the final model.

## **Discussion**

### **Knowledge**

Although abortion is legal in Brazil to save a woman's life and in cases of rape, Brazilian women have limited access to safe abortion services. Two recent articles ascribed a portion of this limited access to legal abortion in Brazil to a lack of knowledge of abortion law in the general population.[14, 15] Indeed, in our survey of

Brazilian OB-GYNs, about half of the physician respondents could not correctly identify the Brazilian abortion law. Additionally, a significant number of physicians thought that abortion was legal in the case of severe fetal malformations when in fact, at the time of data collection, women were required to solicit permission from the judicial system for an abortion in these cases. The large number of physicians who were not familiar with Brazilian abortion law is alarming because these OB-GYNs will be unable to give accurate information to their patients.

The majority of OB-GYNs surveyed reported familiarity with manual vacuum aspiration (MVA) and the dilation and curettage (D&C) procedures, which is not surprising due to their medical specialty. Additionally, a large majority of physicians knew of the possibility of using misoprostol or other prostaglandins for an induced abortion. Misoprostol, which is marketed under the name Cytotec, has received significant press coverage in Brazil as the drug's worldwide notoriety as an abortifacient first began in Brazil in 1988.[16] However, fewer OB-GYNs surveyed knew of the use of misoprostol in combination with either mifepristone or methotrexate, which are more successful regimens for induced abortion.[17-19]

## **Practices**

About a third of OB-GYN respondents reported ever having performed an abortion, which is approximately three times higher than the proportion of Mexican physicians who reported ever having performed an abortion (11%). This difference could be due in part to differences in the wording of the question. In Brazil we asked if physicians had ever performed an induced abortion without specifying if the abortion was legal, whereas in Mexico, we specifically inquired if they had ever performed a legal abortion. Additionally, the Mexican sample also included general

and family practitioners; however, the percentage of physicians who reported having performed an abortion rose only slightly (13%) when the sample was restricted to OB-GYNs.

Thirty-six (19%) of those respondents who had ever performed an abortion reported doing so in the case of a rape, and 47 (25%) had performed an abortion in the case of risk to the woman's life, both of which were circumstances under which abortions were legally permitted. Nevertheless, while not specifically allowed by the law at the time of data collection, 100 (53%) of the physicians who reported ever having performed an abortion said that the abortion was a case of severe fetal malformation. It is striking that, among those respondents who had ever performed an abortion, the greatest percentage had done so under a circumstance not explicitly permitted by law at the time of data collection.

D&C and misoprostol alone (or other prostaglandins) were the two most commonly used procedures for inducing abortion among the OB-GYNs surveyed. Very few physicians reported using MVA, despite wide recognition of its effectiveness and its increased safety and cost effectiveness over D&C.[20, 21] Similarly, few physicians reported using misoprostol in combination with either mifepristone or methotrexate, even though these are more effective regimens than using misoprostol alone.[17-19]

## **Opinion**

In terms of opinions of abortion law, very few physicians agreed with the current law, mostly due to the fact that an overwhelming majority thought that abortion should be legal in the case of severe fetal malformations (i.e., they felt abortion should be legal without needing judicial authorization). As an illustration of

this support, out of the 188 physicians that reported having performed an abortion, over half of them said they had performed an abortion because of severe fetal malformations. In addition, there was some support for abortion being legal when the woman's health is at risk, for socioeconomic reasons, and when a woman chooses.

Overall, OB-GYNs who had correct knowledge of abortion law, who identified as Catholic as opposed to some other religion, and who supported public funding of legal abortion services were more likely to be in favor of a more liberal abortion law. Contrary to a priori hypotheses, physicians who had experience conducting abortions were not more likely to support abortion being legal under additional circumstances than those who had not performed an abortion. Unexpectedly, Catholic physicians were among those who favored liberalizing abortion, which is most likely due to more zealous religious convictions held by physicians in the comparison group.

## **Conclusions**

Villela and Araújo highlighted the importance of working with the medical community to increase access to legal abortion in Brazil.[15] If doctors are not aware of abortion law, disapprove of abortion in most circumstances, or are not trained to perform abortions, their patients will most likely not have access to safe and legal abortions. In this study we found that confusion exists over abortion's legality under Brazilian law, a confusion that may be exacerbated in the recent turmoil surrounding abortion of anencephalic fetuses. Despite this, the majority of physicians agreed that abortion should be legal when the pregnancy endangers the life of the woman or is a result of a rape (the two cases already permitted under Brazilian law).

This study also demonstrates the need for training in surgical and medical abortion techniques for Brazilian OB-GYNs. MVA is not as well known as D&C,

even though the former is both more effective and less expensive than the latter. Likewise, training on medical abortion is needed to educate physicians on the benefits of using misoprostol in conjunction with mifepristone or methotrexate. In conclusion, we hope this study can inform educational campaigns for Brazilian OB-GYNs in order to clarify misperceptions of abortion law and increase their technical capacity to provide safe, legal abortions.

## Competing interests

The authors declare that they have no competing interests.

## Authors' contributions

JD and SGG conceived of the study and participated in its design and coordination. LAG, SGG, and EAY performed data analysis and helped draft the manuscript. All authors read and approved the final manuscript.

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## Tables

**Table 1. Sociodemographic characteristics of OB-GYNs (n = 572)**

| Characteristic | OB-GYNs |      |
|----------------|---------|------|
|                | n       | %    |
| Gender         |         |      |
| Male           | 252     | 44.1 |
| Female         | 320     | 55.9 |
| Age            |         |      |
| 26-45          | 318     | 55.6 |
| Over 45        | 236     | 41.3 |
| Religion       |         |      |
| Catholic       | 414     | 72.4 |
| Other          | 153     | 26.7 |
| Region         |         |      |
| South          | 97      | 17.0 |
| Southeast      | 300     | 52.4 |
| Northeast      | 87      | 15.2 |
| North          | 17      | 3.0  |
| Central        | 54      | 9.4  |

**Table 2. OB-GYN knowledge related to abortion (n = 572)**

| Knowledge  | OB-GYNs |       |
|--|---------|-------|
|  | n       | %     |
| <hr/>  |         |       |
| Correct knowledge about abortion law   |         |       |
| Yes  | 276     | 48.3  |
| No   | 296     | 51.7  |
| Familiar with MOH standards regarding rape   |         |       |
| Yes  | 404     | 70.6  |
| No   | 160     | 28.0  |
| Aware that Brazilian judiciary system may authorize abortion in cases of serious fetal anomalies |         |       |
| Yes  | 404     | 70.6  |
| No   | 144     | 25.2  |
| Knowledge of gestational age limit for abortion according to law                                 |         |       |
| 12 weeks   | 227     | 39.7  |
| 20 weeks   | 174     | 30.4  |
| More than 20 weeks   | 5       | < 1.0 |
| Never legal  | 12      | 2.1   |
| Do not know  | 142     | 24.8  |
| Knowledge of procedures  |         |       |
| Manual vacuum aspiration   | 493     | 86.2  |
| Dilation and curettage   | 514     | 89.9  |
| Hypertonic solutions (saline or urea)  | 140     | 24.5  |
| Misoprostol* or other prostaglandins   | 493     | 86.2  |
| Mifepristone + misoprostol   | 210     | 36.7  |
| Methotrexate + misoprotol  | 153     | 26.7  |
| Other  | 4       | 0.70  |

\*Otherwise known as Cytotec

**Table 3. OB-GYN knowledge and opinion of Brazilian abortion law by circumstance (n = 572)**

| Circumstance                   | Believe abortion is currently legal |       | Believe abortion should be legal |      |
|--------------------------------|-------------------------------------|-------|----------------------------------|------|
|                                | n                                   | %     | n                                | %    |
| Pregnancy as a result of rape* | 529                                 | 92.5  | 488                              | 85.3 |
| Risk to the woman's life*      | 453                                 | 79.2  | 493                              | 86.2 |
| Severe fetal malformation      | 205                                 | 35.8  | 506                              | 88.5 |
| Risk to the woman's health     | 38                                  | 6.6   | 180                              | 31.5 |
| Socioeconomic reasons          | 3                                   | < 1.0 | 74                               | 12.9 |
| When the woman chooses         | 1                                   | < 1.0 | 76                               | 13.3 |
| Never                          | 12                                  | 2.1   | 23                               | 4.0  |

\* At the time of data collection, abortion was legal under this circumstance

**Table 4. OB-GYN opinion about abortion (n = 572)**

| Opinion   | OB-GYNs |      |
|---|---------|------|
|   | n       | %    |
| Believe abortion should only be legal in cases that are currently allowed by law* |         |      |
| Yes   | 16      | 2.8  |
| No  | 556     | 97.2 |
| Believe abortion law should be more restrictive than the current law*             |         |      |
| Yes   | 99      | 17.3 |
| No  | 473     | 82.7 |
| Believe abortion law should be more liberal than the current law*                 |         |      |
| Yes   | 443     | 77.4 |
| No  | 126     | 22.0 |
| Support public funding for abortion services                                      |         |      |
| Yes   | 545     | 95.3 |
| No  | 24      | 4.2  |

\* At the time of data collection, abortion was legal in cases of rape or to save the life of the mother

**Table 5. Practices related to abortion among OB-GYNs (n = 572)**

| Practice  | OB-GYNs<br>(n = 572) |      |
|---|----------------------|------|
|   | n                    | %    |
| Ever received training                              |                      |      |
| Yes   | 176                  | 30.8 |
| No  | 393                  | 68.7 |
| Ever performed an abortion                          |                      |      |
| Yes   | 188                  | 32.9 |
| No  | 380                  | 66.4 |
| Number of abortions performed in the last year*     |                      |      |
| 1-5   | 90                   | 47.9 |
| 6-20  | 10                   | 5.3  |
| More than 20  | 5                    | 2.7  |
| None in the last year                               | 83                   | 44.1 |
| Circumstances under which abortions were performed* |                      |      |
| Rape  | 36                   | 19.1 |
| Risk to the mother's life                           | 47                   | 25.0 |
| Severe fetal malformation                           | 100                  | 53.2 |
| Risk to the mother's health                         | 9                    | 4.8  |
| Socioeconomic reasons                               | 3                    | 1.6  |
| Elective  | 18                   | 9.6  |
| Other   | 38                   | 20.2 |
| Procedures used*                                    |                      |      |
| Manual vacuum aspiration                            | 18                   | 9.6  |
| Dilation and curettage                              | 112                  | 59.6 |
| Hypertonic solutions (saline or urea)               | 6                    | 3.2  |
| Misoprostol* or other prostaglandins                | 129                  | 68.6 |
| Mifepristone + misoprostol                          | 4                    | 2.1  |
| Methotrexate + misoprotol                           | 5                    | 2.6  |
| Other   | 11                   | 5.9  |
| Gestational age when performed abortion*            |                      |      |
| Before 12 weeks                                     | 137                  | 72.9 |
| Between 13-20 weeks                                 | 83                   | 44.1 |

\* Only physicians who reported having performed an abortion answered this question (n = 188); participants could choose more than one option

**Table 6. OB-GYN opinions of abortion law in Brazil according to selected demographic characteristics, knowledge, and practices (n = 572)**

| Characteristic   | Law should not be more liberal |      | Law should be more liberal |      | Test Result    |         |
|--|--------------------------------|------|----------------------------|------|----------------|---------|
|  | n                              | %    | n                          | %    | X <sup>2</sup> | p-value |
|  | 126                            | 22.1 | 443                        | 77.9 |                |         |
| Gender   |                                |      |                            |      |                |         |
| Female   | 73                             | 23.0 | 245                        | 77.0 | 0.28           | 0.60    |
| Male   | 53                             | 21.1 | 198                        | 78.9 |                |         |
| Age  |                                |      |                            |      |                |         |
| 26-45  | 62                             | 19.5 | 256                        | 80.5 | 1.10           | 0.30    |
| Over 45  | 54                             | 23.2 | 179                        | 76.8 |                |         |
| Religion   |                                |      |                            |      |                |         |
| Catholic   | 84                             | 20.4 | 328                        | 79.6 | 2.66           | 0.10    |
| Other  | 41                             | 26.8 | 112                        | 73.2 |                |         |
| Region   |                                |      |                            |      |                |         |
| South  | 21                             | 21.6 | 76                         | 78.4 | 3.87           | 0.42    |
| Southeast  | 64                             | 21.5 | 234                        | 78.5 |                |         |
| Central  | 9                              | 16.7 | 45                         | 83.3 |                |         |
| North  | 5                              | 29.4 | 12                         | 70.6 |                |         |
| Northeast  | 25                             | 29.1 | 61                         | 70.9 |                |         |
| Knowledge of abortion law  |                                |      |                            |      |                |         |
| Yes  | 76                             | 25.9 | 217                        | 74.1 | 5.05           | 0.03    |
| No   | 50                             | 18.1 | 226                        | 81.9 |                |         |
| Familiar with MOH standards on sexual violence and abortion      |                                |      |                            |      |                |         |
| Yes  | 86                             | 21.3 | 317                        | 78.7 | 0.39           | 0.53    |
| No   | 38                             | 23.8 | 122                        | 76.3 |                |         |
| Knowledge of gestational age limits on abortion in cases of rape |                                |      |                            |      |                |         |
| Yes  | 67                             | 20.2 | 264                        | 79.8 | 1.85           | 0.17    |
| No   | 57                             | 25.1 | 170                        | 74.9 |                |         |
| Surgical methods known   |                                |      |                            |      |                |         |
| Yes  | 117                            | 21.4 | 431                        | 78.6 | 1.66           | 0.20    |
| No   | 5                              | 35.7 | 9                          | 64.3 |                |         |
| Medical methods known  |                                |      |                            |      |                |         |
| Yes  | 108                            | 21.2 | 402                        | 78.8 | 0.92           | 0.34    |
| No   | 14                             | 26.9 | 38                         | 73.1 |                |         |
| Knowledge of law regarding fetal malformation                    |                                |      |                            |      |                |         |
| Yes  | 78                             | 19.4 | 325                        | 80.6 | 5.38           | 0.02    |
| No   | 41                             | 28.7 | 102                        | 71.3 |                |         |
| Received training  |                                |      |                            |      |                |         |
| Yes  | 39                             | 22.2 | 137                        | 77.8 | >0.01          | 0.97    |
| No   | 86                             | 22.0 | 305                        | 78.0 |                |         |
| Support public funding for abortion services                     |                                |      |                            |      |                |         |
| Yes  | 109                            | 20.1 | 434                        | 79.9 | 24.21          | >0.01   |
| No   | 15                             | 62.5 | 9                          | 37.5 |                |         |
| Ever performed an abortion                                       |                                |      |                            |      |                |         |
| Yes  | 37                             | 19.8 | 150                        | 80.2 | 0.74           | 0.39    |
| No   | 87                             | 23.0 | 292                        | 77.0 |                |         |

**Table 7. Adjusted odds ratios of the likelihood of thinking that the abortion law should be more liberal (n = 572)**

| Characteristic                    | Odds Ratio | 95%CI       | p-value |
|-----------------------------------|------------|-------------|---------|
| Religion                          |            |             |         |
| Catholic                          | 1.63       | 1.04, 2.54  | 0.033   |
| Other                             | Referent   |             |         |
| Correct knowledge of abortion law |            |             |         |
| Yes                               | 1.54       | 1.01, 2.34  | 0.043   |
| No                                | Referent   |             |         |
| Support public funding            |            |             |         |
| Yes                               | 6.62       | 2.79, 15.69 | <0.001  |
| No                                | Referent   |             |         |