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# Are obstetrician-gynecologists in India aware of and providing medical abortion ?

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**OBJECTIVE(S) :** To assess the knowledge, attitudes, and practices related to mifepristone-misoprostol medical abortion among Indian obstetrician-gynecologists.

**METHOD(S) :** A self-administered questionnaire documenting provider and facility characteristics, familiarity with mifepristone-misoprostol abortion, and opinions about medical abortion practice patterns was mailed to a nationally representative sample of 1000 members of the Federation of Obstetric and Gynecological Societies of India (FOGSI). When possible, nonresponders were followed up and interviewed by phone. A total of 440 completed questionnaires were received.

**RESULTS :** Nearly all (90%) respondents, including 79% of those not providing the method, reported at least some familiarity with mifepristone-misoprostol. Use of medical abortion was significant (69%) and generally entailed 200 mg mifepristone (50%) and 400 µg misoprostol (73%) administerd orally (75%). Thirty percent of current providers prescribed both mifepristone and misoprostol for home use. Medical abortion nonproviders had concerns about compliance (77%), and safety and efficacy (70%).

**CONCLUSION(S) :** Medical abortion is beginning to enter mainstream abortion practice of FOGSI members.

**Key words :** medical abortion, mifepristone-misoprostol, awareness of medical abortion.

## Introduction

Mifepristone-misoprostol abortion, a safe, effective, and acceptable noninvasivpe alternative for early pregnancy termination, holds great promise to increase access to safe abortion in countries such as India, where abortion has been legal for over 30 years. Yet up to 90% of the estimated annual six million induced abortions are conducted in uncertified settings and/or by uncertified providers, and abortion-related mortality and morbidity remain significant [1-4]. In April 2002, the Drug Controller of India (DCI) approved 600 mg mifepristone coupled with 400 µg oral misoprostol for pregnancy termination in gestations of 49 days or less, making India one of the handful of developing countries to introduce medical abortion. A year later, the legislation governing the provision of abortion services was modified to allow certified abortion providers to offer medical abortion at uncertified facilities, as long as they have access to a certified facility for back-up, further paving the way for increased access to safe abortion services nationwide [5]. By July 2003, shortly after one year of approval, five Indian pharmaceutical companies were marketing the drugs and an estimated 700,000 mifepristone tablets had been sold across the country (Personal communication from Zydus Alidac; data from Intercontinental Medical Services 2003).

Despite these important regulatory changes and the documented large volume of mifepristone sales in India, very little is known about the awareness, attitudes, and use of medical abortion by Indian obstetrician-gynecologists who account for the majority of legal abortion providers. In order to find out whether medical abortion has entered mainstream reproductive healthcare in India, we conducted a survey of

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the members of the Federation of Obstetric and Gynecological Societies of India (FOGSI).

## Methods

In March 2003, a self administered questionnaire was mailed to 1000 FOGSI members selected from a complete list of over 15,000 members nationwide using stratified simple random sampling technics (with strata proportionate to regional FOGSI membership). An incentive was offered to motivate participation – 25 individuals randomly selected from the first 100 respondents received a leading abortion textbook. Envelopes returned with incorrect addresses were replaced by randomly selected members from the same region. Non-responders were mailed three reminders before being contacted by telephone. The English language questionnaire comprised of 28 close-ended questions. It collected information on providers and on facility characteristics, and documented respondents' familiarity with mifepristone-misoprostol abortion, opinions about the method and medical abortion practice patterns.

Of the 1000 members who were sent questionnaires, 440 responded (315 by mail and 125 by telephone). Our analysis was descriptive, consisting primarily of frequencies. As we suspected that individuals who were providing medical abortion at the time of our survey (and thus had intimate knowledge about medical abortion) selectively responded to our questionnaire, we also examined a few key outcome measures – familiarity with medical abortion and assessment of the method's safety and efficacy – by medical abortion use status. In such cases, we assumed that the responses given by obstetrician-gynecologists who were not using medical abortion at the time of the survey were more indicative of medical abortion knowledge levels among FOGSI members nationwide. As is common in mail surveys, we encountered high item nonresponse, leading to differences in sample sizes across variables, and thus providing varying sample sizes for different analyses. Analysis was conducted using standard statistical software.

## Results

As indicated in Table 1, the regional distribution of respondents was similar to that of FOGSI membership, with the majority (38.6%) from the western region of India and the minority (10%) from the eastern region. Approximately four-fifths (81%) of respondents were female. Most practiced in urban areas (77.9) and exclusively in the private sector (69.6%). Over four-fifths (87.5%) of the respondents worked in facilities legally certified to provide abortion and virtually all (98.6) provided abortions.

Familiarity with mifepristone-misoprostol early medical abortion was significant, with over 93.6 of respondents reporting at least some familiarity with the method and 65% stating that they were very familiar with it. Only 6.4% of respondents indicated that they were completely unfamiliar with mifepristone-misoprostol (Table 2). Even among respondents who were not providing medical abortion at the time of the survey and were arguably more representative of FOGSI members nationwide, familiarity with medical abortion was high; 79% of such respondents reported at least some familiarity with medical abortion and 42.6 were very familiar with it. Among the 403 providers with at least some familiarity with medical abortion, the majority considered it very safe (74.4) and very effective (79.2). Lower but still significant levels of endorsements of the safety and efficacy of mifepristone abortion were observed among respondents not providing medical abortion at the time of the survey, with 56.8% and 66.3% reporting the method to be very safe and very effective, respectively.

**Tabel 1. Participants characteristics.**

| Characteristics | Percent |
|---|---|
| **Sex (n=438)** | |
| Female | 81.0 |
| Male | 19.0 |
| **Age (years) (n=438)** | |
| 25-44 | 49.3 |
| ≥ 45 | 50.7 |
| **Region (n=440)** | |
| North | 23.0 |
| Sourth | 28.4 |
| East | 10.0 |
| West | 38.6 |
| **Location of primary practice (n=434)** | |
| Urban | 77.9 |
| Semi-urban | 16.8 |
| Rural | 5.3 |
| **Sector of primary practice (n=431)** | |
| Private sector | 69.6 |
| Public sector | 21.3 |
| Both private and public sector | 9.0 |
| **Primary practice certified to provide abortion (n=408)** | |
| Yes | 87.5 |
| No | 12.5 |
| **Abortion provision (n=423)** | |
| Provide abortion routinely | 60.8 |
| Provide abortion, but not routinely | 37.8 |
| Never provide abortion | 1.4 |
| **Gestation period of the abortion performed in the month preceding survey (n=390)** | |
| ≤ 7 weeks | 7.8 |
| 8-12 weeks | 7.2 |
| 13-20 weeks | 1.3 |
| > 20 weeks | 0.2 |
| Total | 16.5 |

**Table 2. Familiarity with mifepristone-misoprostol early abortion.**

| | Providers of medical abortion | Nonproviders of medical abortion | Total |
|---|---|---|---|
| **Familiary with method (n=434)** | | | |
| Very familiar | 74.4 | 42.6 | 65.0 |
| Somewhat familiar | 25.6 | 36.4 | 28.6 |
| Not familiar | 0.0 | 21.0 | 6.4 |
| **Assessment of method's safety (n=403)** [a] | | | |
| Very safe | 79.9 | 56.8 | 74.4 |
| Somewhat safe | 19.1 | 41.1 | 24.4 |
| Not safe | 1.0 | 2.1 | 1.2 |
| **Assessment of method's effectiveness (n=403)** [a] | | | |
| Very effective | 83.2 | 66.3 | 79.2 |
| Somewhat effective | 15.8 | 31.5 | 19.5 |
| Not effective | 1.0 | 2.2 | 1.3 |

[a] Among those "very" or "somewhat" familiar with mifepristone-misoprostol abortion.
Figures indicate percentages.

As shown in Figure 1, use of mifepristone-misoprostol for early abortion was also high among the respondents; 74% had used mifepristone-misoprostol for early abortion since its approval in 2002 and 69% were using it at the time of he survey. An additional 69% of providers not using the method at the time of the survey reported that they were either very likely or somewhat likely to provide the method in the coming year.

Respondents providing mifepristone-misoprostol for early abortion at the time of the survey were queried about their practice patterns (Table 3). In the month preceding the survey, such obstetrician-gynecologists provided a mean of 4.2 early medical abortions. While 57.6% offered medical abortion only on demand from their clients, many 42.4% had incorporated the method into their routine clinical practice.

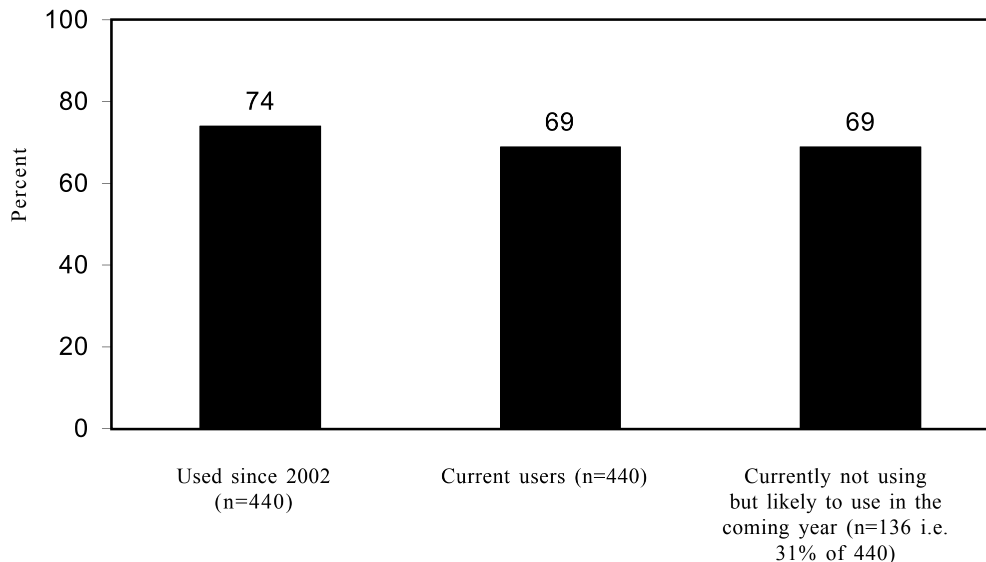


**Figure 1.** Use of mifepristone-misorostol for early abortion.

**Table 3. Prescribing patterns of mifepristone-misoprostol early abortion providers.**

| | Percent |
|---|---|
| **Mean number of medical abortions provided** in the month preceding the survey ( n=291) | 4.2 |
| **Medical abortion provision (n=290)** | |
| Routine part of service | 42.4 |
| On demand from patients but not routine part of service | 57.6 |
| **Mifepristone dose in mg (n=288)** | |
| 100 | 4.9 |
| 200 | 50.4 |
| 600 | 41.0 |
| Other | 5.2 |
| **Initial misoprostol dose in µg (n=292)** | |
| 200 | 8.9 |
| 400 | 72.6 |
| 600 | 9.2 |
| 800 | 9.2 |
| **Route of misoprostol administration (n=293)** | |
| Oral | 75.1 |
| Vaginal | 28.0 |
| Sublingual | 0.3 |
| **Place of administration of mifepristone and misoprostol (n=258)** | |
| Both in health facility | 58.9 |
| Mifepristone in health facility and misoprostol at home | 10.8 |
| Both at home | 30.2 |

While 41% of early medical abortion providers prescribed the DCI approved dose of 600 mg mifepristone 50.4 used the evidence-based dose of 200 mg common in the United States and other countries. Providers overwhelmingly prescribed 400 µg misoprostol (72.6%) for oral administration (75%) as dictated by the DCI. While 58.9 of providers administered both mifepristone and misoprostol in their healthcare facility as per the DCI requirements, nearly one-third (30.2%) reported that their clients take both drugs at home.

When asked about the importance of a variety of factors in their decision to offer mifepristone-misoprostol for early abortion (Table 4), 94% of current providers indicated that its noninvasive nature played a very important role. Providers of early medical abortion also rated the method's safety and efficacy (79.6%), relative ease of provision as compared to surgical abortion (60.5%), decreased stigma (53.5%), and demand from patients (53%) as very important factors in deciding to offer the method.

Conversely, the obstetrician-gynecologists who were not providing early medical abortion indicated that concerns about patient compliance with the method (77.6%) and its safety and/or efficacy (70.2%), and the price of mifepristone (61.1%) played a very important role in their decision not to offer the method. About one-quarter (27.3%) reported that difficulties in accessing surgical back-up weighed similarly in their decision, as did their lack of knowledge about the method (27.1%), and the perceived complicated government guidelines for its use (24.4%).

**Table 4. Very important reasons for providing or not providing mifepristone-misoprostol for early abortion.**

| Reason | Percentage |
|---|---|
| **Providers of early medical abortion (n=291-301)** | |
| Non-invasive | 94.0 |
| Safe and effective | 79.6 |
| Easier to provide than surgical abortion | 60.5 |
| Associated with less stigma than surgical abortion | 53.5 |
| Demand from patients | 53.0 |
| Offers women greater control than surgical abortion | 39.2 |
| More profitable than surgical abortion | 15.1 |
| **Nonproviders of early medical abortion (n=95-109)** | |
| Concern about patient compliance | 77.6 |
| Concern about safety and/or efficacy | 70.2 |
| Prohibitive cost of mifepristone | 61.1 |
| Lack of demand | 48.9 |
| No surgical back-up nearby | 27.3 |
| Lack of knowledge about method | 27.1 |
| Complicated guidelines | 24.4 |
| Use misoprostol alone | 23.8 |
| Less profitable than surgical abortion | 16.3 |

While 58.6% of respondents had received some training in medical abortion 84.1% of them were interested in additional training in the future (Table 5). A significant minority of respondents (39.2%) felt that midlevel providers could be trained to offer medical abortion, representing a significant endorsement for use of noninvasive abortion among lowerlevel providers. But a mere 7.6 respondents believed that midlevel providers could be trained to perform surgical abortions.

**Table 5. Medical abortion training–experiences, needs and opinons.**

| | Percentage |
|---|---|
| Attended training in the year preceding survey (n=420) | 58.6 |
| Interested in attending further training (n=416) | 84.1 |
| Believe midlevel providers can be trained to provide medical abortion (n=413) | 39.2 |
| Believe midlevel providers can be trained to provide surgical abortion (n=395) | 7.6 |

## Discussion

We conducted a medical abortion knowledge, attitudes and practice survey of 440 obstetrician-gynecologists. Just one year following the introduction of mifepristone-misoprostol medical abortion in India, familiarity with the method among members of FOGSI is widespread. Nearly 90% of all respondents and 79% of respondents not currently using medical abortion reported at least some familiarity with early medical abortion.

Use of medical abortion was also significant among the obstetrician-gynecologists who responded to our survey; about 69% were providing it at the time of the survey and an additional 69% of current nonusers expressed interest in providing it in the future (Figure 1). Medical abortion providers reported a mean case load of 4.2 mifepristone-misoprostol abortions in the month preceding the survey accounting for approximately one-quarter and one-half respectively of all abortions and of abortions within the DCI approved gestational limit that they provided. As experiences in Europe suggest that the proportion of early abortions involving mifepristone increases steadily over time [6], medical abortion could potentially account for a great proportion of all early abortions in India in the coming years.

Obstetrician-gynecologist providers of medical abortion most commonly reported using a regimen of 200 mg mifepristone followed by 400 µg oral misoprostol. While the DCI approved a 600 mg dose of mifepristone, numerous studies have confirmed that a substantially reduced 200 mg mifepristone dose is as effective as the 600 mg dose for early abortion [7-10], and both national medical professional organizations and the World Health Organization have endorsed reduced-dose regimens [11-14]. As cost concerns were cited by nearly two-thirds of respondents not offering medical abortion, reducing the approved mifepristone dose would not only bring the Indian regimen in line with national and international practice patterns and guidelines, but is also likely to increase the number of medical abortion providers in India.

While use of medical abortion was high among our sample of FOGSI members, several programmatic issues must be addressed if the method is to truly enter mainstream abortion practice in India. Many of the respondents who were not using medical abortion at the time of the survey cited concerns with patient compliance and complicated guidelines, suggesting the need for simpler regimens with fewer visits. Additionally, over one-quarter of respondents not offering medical abortion indicated that poor access to surgical back-up prevented them from providing the method. As access to surgical services remains poor in many parts of India, providers should be informed by concerned authorities that the technics employed to treat women who experience medical abortion complications or failure are similar to those used to manage spontaneous abortion and thus that access to established surgical service are not a prerequisite for the provision of medical abortion.

Despite high levels of knowledge and use of medical abortion among our sample of obstetrician-gynecologists, further training is imperative to guarantee safe, effective and acceptable provision. While many respondents had received some training in medical abortion, 84% were interested in further training. Indeed, for over one-quarter of respondents who were not providing medical abortion at the time of the survey, a lack of knowledge about the method prevented them from offering the method. Our data suggest that medical abortion is beginning to enter mainstream abortion practice among FOGSI members in India.

## Conclusion

Although medical abortion is entering abortion practices of FOGSI members they are concerned about cost, safety, efficacy, patient compliance and complicated guidelines. Many members desire further training.

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*Vested interest*

Population Council, the employer of serveral of the authors at the time of data collection and article preparation, holds the rights to mifepristone in the United States. For this reason, the Council could potentially earn royalties from sales of the drug. As the Council is a nonprofit organization, however, these funds would go toward the organization's general mission of supporting additional research on reproductive health.

### References

1. Chhabra R, Nuna SC. *Abortion in India: An Overview*. New Delhi: Veerendra Printers. *1994;45-8 and 63-5.*
2. Registrar General of India. *Sample Registration System Bulletin*. New Delhi: Registrar General of India. *2000:8.*

3. Malhotra A, Nyblade L, Parasuraman S et al. *Realizing reproductive choice and rights: Abortion and contraception in India.* New Delhi: International Center for Research on Women *2003: 8 and 24-6*.

4. Elul B, Barge S, Verma S et al. Unwanted pregnancy and induced abortion: Data from men and women in Rajasthan, India. New Delhi: *Population Council 2004:26-7.*

5. Government of India. The Medical Termination of Pregnancy Rules, 2003. vide G.S.R. 485 (E), *The Gazette of India, Extra, Pt. II, Sec. 3 (i).2003.*

6. Johnes RK, Henshaw SK. Mifepristone for early medical abortion: experiences in France, Great Britain and Sweden. *Perspect Sex Reprod Health 2002;34:154-61.*

7. Termiation of pregnancy with reduced doses of mifepristone.World Heatlh Organisation Task Force on Post-ovulatory Methods of Fertility Regulation. *BMJ 1993;307:532-7.*

8. Comparison of two doses of mifepristone in combination with misoprostol for early medical abortion: a randomized trial. World Health organisation Tank Force on Post-ovulatory methods of Fertility Regulation. *BJOG 2000;107:524-30.*

9. Elul B, Hajri S, Ngoc NN et al. Can women in less developed countries use a simplified medical abortion regimen? *Lancet 2001;357:1402-5*.

10. L' Agence Nationale d'Accreditation et d' Evaluation en Sante (ANAES). Prise en charge de l' interruption volontaire de grossesse jusqu'a 14 semaines. *Paris: ANAES . 2001:9.*

11. Paterson K. Outline of medical practice in the UK. In:Hobden J (ed). *Medical Abortion: Meeting Women's Needs*. London: Family Planning Association and Population Council. *2000:4.*

12. World Health Organisation. *Safe Abortion: Technical and Policy Guidance for Health Systems*. Geneva: World Heatlh Organisation *2003*.

13. Paul M, Creinin MD. *Early Options – A Provider's Guide to Medical Abortion.* Washington: National Abortion Federation. *2001.*

14. Federation of Obstetric and Gynecological Societies of India (FOGSI). Consensus Statement on Medical Termination of Pregnancy. *2004.*