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Original Research Article

Population study for awareness about medical termination of pregnancy pills in population in India

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ABSTRACT

Background: The present study was conducted as a home-based survey of 505 females in reproductive age group mainly in rural, semi urban and urban areas around Ahmedabad to identify the awareness about medical termination of pregnancy (MTP) pills in the population.
Methods: A home-based survey of 505 females in reproductive age group mainly in rural, semi urban and urban areas around Ahmedabad was done. Home visit was carried out by MBBS interns accompanied by ASHA workers.
Results: Among the population studied it was observed that termination of pregnancy by MTP pills was most commonly seen among women with previous 2 live children. Most of the women confirmed their pregnancy with a home based urine pregnancy kit. Majority of women have taken the pills as self-medication without any consultation with a qualified obstetrician, increasing not only the risk of complications like incomplete abortion and haemorrhage but also showing the poor status of drug regulations in the country.
Conclusions: Majority of women, have taken the pills as self-medication without any consultation with a qualified obstetrician. Out of the women who had taken the pills after prescription, most of them had gotten the prescription from a doctor while others women got the pills prescribed from a known medical professional. The study shows the easy availability of MTP pills in the market, however the knowledge about the use and side effects of these pills is not well understood.

Keywords: Medical termination of pregnancy, MTP pills, Abortion pills, Self-medication, Abortion India, Unsafe abortion, Unsupervised MTP pill

INTRODUCTION

Mifepristone (RU-486), as anti-progesterone was developed by French company named Roussel Uclaf. Later on, it was used mainly for medical abortion along with prostaglandin derivative misoprostol.

Medical termination of pregnancy (MTP) pills created as a combination pack of mifepristone (200 mg) and misoprostol (4 tablets 200 mcg) were approved by the Food and Drug Administration (FDA) in 2002 in India. Mechanism of action of mifepristone is by selective antagonism of progesterone. It does so by binding to the cellular progesterone receptor - which lead to loss of support for the pregnancy by rise in levels of prostaglandins and termination of pregnancy. Misoprostol leads to stimulation of the uterus to expel productions of conception by uterine contractions.

As per the MTP act, use of MTP pills (medical abortion) is to be administered by a gynaecologist or an allopathic MBBS doctor who has taken training for MTP and certified by competent authority.

It has been certified to be used upto 63 days of pregnancy from date of last menstrual period. Medical abortion carries a very high success rate of 93–98% but it is to be used after proper understanding for the gestational age of the patient and profile of patient. Also, the patient should be under observation (not to be admitted) and back up facility for intervention in the form of emergency D&E is mandatory for the practitioner prescribing the pills.

Despite 30 years of liberal legislation, the majority of women in India still lack access to safe abortion care.[1] We estimate that 15·6 million abortions (14.1 million–17.3 million) occurred in India in 2015. The abortion rate was 47.0 abortions (42.2–52.1) per 1000 women aged 15–49 years. 3.4 million abortions (22%) were obtained in health facilities, 11.5 million (73%) abortions were medication abortions done outside of health facilities, and 0.8 million (5%) abortions were done outside of health facilities using methods other than medication abortion.[2]

Of late there is a demand by social activist for the availability of MTP pills in the form of over-the-counter drugs. Whether this should be amended by the competent authorities had to be extensively researched in the interest of the community.

Objectives

Keeping in mind all these things, this study intends to find out knowledge of availability of medical abortion, where to avail the facility of MTP, prevalence of self-medication and availability from unauthorised personal (chemist, Ayurvedic and homeopathic practitioner), and knowledge about the complications of incomplete abortion and failure rate of MTP pills in the community.

To understand the prevalence of life-threatening complications like incomplete abortion, excessive haemorrhage and emergency D&E, cases of complete versus incomplete abortion following use of MTP pills, percentage of self-medication in MTP pills, and knowledge about congenital malformations in continuation of pregnancy.

METHODS

Study type

It was a retrospective population study.

Study place

The study was conducted at Smt. S. M. S. Multispecialty Hospital, Chandkheda, Ahmedabad.

Period

The duration of the study was from March 2024 to May 2024.

Selection criteria

Women living in rural and semi urban areas around Chandkheda, Ahmedabad who were married and in reproductive age group were included in the study.

Procedure

Keeping all the objectives in mind, home based survey of 505 females in reproductive age living in rural and semi urban areas around Chandkheda, Ahmedabad was done by a home visit-based survey. The survey was carried out by MBBS interns of Smt. S. M. S. Multispecialty Hospital, Chandkheda, Ahmedabad accompanied by ASHA workers from. They were given fixed questions for the survey.

Table 1: The questionnaire.

S. no.	Question
1	Name of participant
2	Address of participant
3	Age of participant
4	Occupation of the participant
5	Obstetric history (gravida - para - live - abortions)
6	Do you have a history of any abortion?
7	What is the first step you take at the time of missed periods?
8	What are the methods of pregnancy termination that you are aware about?
9	Are you aware about the availability of pills as a method of medical termination?
10	What is the major reason for you to choose termination of pregnancy?
11	Do you have a history of delivery via caesarean section?
12	Do you have any knowledge about the MTP Act in India?
13	Do you know the maximum gestational age for taking MTP pills in India?
14	How did you acquire the MTP pills?
15	Have you considered other options of contraception for the future?

RESULTS

A total of 505 cases were studied. Majority 56% of women were in their 20's while about 40% of females were in their 30's while the rest 4% were between 40-43 years age as the peak reproductive age group in our country is from 20 to 30 years (Table 2).

Table 2: Age wise distribution of population.

Age (years)	Number of women	Percentage
20-30	283	56
30-40	202	40
More than 40	20	4

Majority of women about, 81% have taken the pills as self-medication without any consultation with a qualified obstetrician.

Out of the 19% women who had taken the pills after prescription, most of them had gotten the prescription from a doctor while only 2% women got the pills prescribed from a known medical professional who is not a doctor, such as nurse or staff working in the hospital.

Further in our study we compare the cases of self-medication with women who took the pills by doctors' prescription on the basis of their awareness and how they sourced the pills (Table 3).

Table 3: Source of MTP pills for women.

How did you acquire the MTP pills?	Prescription of doctor	Self-medication
Number of women	98	407
Percentage of population	19	81

Cases of self-medication are maximum among women who are well educated and hold either a graduate level degree (75%) or have had some type of vocational training (88.8%). As the educational and socio-economic status of the women increases, there is increased awareness about the availability of MTP pills in the market thus increasing the cases of self-medication too.

Based on the data collected it is observed that, 62% women are housewives and have never worked outside their homes and about 10% women are currently housewives but have had previous jobs in the past. About 9% women run home based businesses and are self-employed and remaining 19% women are working professionals.

Cases of self-medication are maximum among women who are housewives, about 91% as they seem to have little to no awareness about availability and side effects of these pills. While cases of self-medication were least among women working in professional settings, possibly due to the higher levels of general awareness in those women (25% of total working population) (Table 4).

In our study, 74.4% women who took self-medication have had no previous history of any medical or surgical abortion while the rest (25.6%) had no history of abortion. Among the women who took the pills after doctor prescriptions 89.8% have had previous history of abortions (Table 5).

From the total of 505 women surveyed, cases of self-medication are maximum among women with 2 live children (43.2%), followed by women with 1 live child.

Cases of MTP pills usage is less among women with 2 live children as the women may be using other form of contraception like Cu-T or tubal ligation.

The cases of self-medication are least amongst women with no living children. It is seen as there are cultural and social beliefs regarding termination of first pregnancy.

Similar pattern is seen in cases where the pills are used after proper prescription by a registered medical practitioner.

Irrespective of number of children the number of cases of self-medication are higher in women in the population (Table 6).

In our study, among the women who took self-medication 60.1% women confirmed their pregnancy by a simple home-based Urine pregnancy test without any follow-up with a doctor and only 38.5% of the women then consulted a doctor after a positive urine pregnancy test. Also, about 1.4% of the women took the MTP pills without any kind of confirmatory test for pregnancy simply after missing their monthly menstrual period.

Among the women who took the MTP pills after the doctor's prescription, 89.8% consulted the doctor to confirm their pregnancy while 10.2% confirmed their pregnancy by home based UPT which was then followed by doctors' consultation. Thus, 100% women took medication only after confirming the pregnancy with a doctor. This is important to rule out ectopic pregnancy before MTP pills consumption (Table 7).

Table 4: Distribution of data based on educational level and working status of population.

Category	Number of women in population	Number of women who took self-medication (%)	Number of women who took MTP pills after doctors' prescription (%)
Educational status			
Graduate level degree	237	178 (75)	59 (25)
Vocational training	177	157 (88.8)	20 (11.2)
Studied till class 12	66	54 (82)	12 (18)
Studied less than class 12	25	18 (72)	7 (28)
Working status			
Housewives	313	298 (91)	15 (9)
Previously working	51	45 (88)	5 (12)
Self employed	45	40 (90)	5 (10)
Working professionals	96	24 (25)	72 (75)

Table 5: History of abortion in participant.

History of abortion previously	Yes, N (%)	No, N (%)
Total number of women	192	313
Number of women who took self-medication (n=407)	104 (25.6)	303 (74.4)
Number of women who took MTP pills after doctor's prescription (n=98)	88 (89.8)	10 (10.2)

Table 6: Distribution of population based on number of previous live children.

Number of previous live children.	0, N (%)	1, N (%)	2, N (%)	More than 2, N (%)
Number of women who took self-medication (n=407)	26 (6.3)	139 (34.1)	176 (43.2)	66 (16.4)
Number of women who took MTP pills after doctor's prescription (n=98)	3 (3.1)	38 (39.6)	43 (43.8)	14 (13.5)
Total number of women	29	177	219	80

Table 7: Methods of confirmation of pregnancy in population before use of MTP pills.

Method used	Urine pregnancy test, N (%)	Consultation with doctor, N (%)	No confirmation done, N (%)
Total number of women	245	254	6
Number of women who took self-medication (n=407)	244 (60.1)	157 (38.5)	6 (1.4)
Number of women who took MTP pills after doctor's prescription (n=98)	10 (10.2)	88 (89.8)	0

Table 8: Knowledge about MTP pills in the market and MTP Act in the population.

Are you aware about the availability and usage of MTP pills available in the market?	Yes, N (%)	No, N (%)
Number of women who took self-medication (n=407)	236 (82)	171 (18)
Number of women who took MTP pills after doctor's prescription (n=98)	98 (100)	00
Do you have any knowledge about MTP act in India?		
Number of women who took self-medication (n=407)	185 (45.5)	222 (54.5)
Number of women who took MTP pills after doctor's prescription (n=98)	76 (77.5)	22 (22.5)

Table 9: Awareness about the maximum duration on MTP pills usage.

Do you know about the maximum time up to which MTP pills can be used to terminate pregnancy?	Don't know about the limit, N (%)	9 weeks, N (%)	8 weeks, N (%)	7 weeks, N (%)
Number of women who took self-medication (n=407)	326 (80)	72 (17.6)	01 (0.2)	08 (2)
Number of women who took MTP pills after doctor's prescription (n=98)	53 (54.2)	35 (35.7)	03 (3)	07 (7.1)
Total number of women	379	107	04	15

Based on the data collected, 65% women in a tier 2 Indian city have knowledge about the availability of MTP Pills in the market. Among the women who had taken self-medication about 82% understood the effects of the pills in the body while about 18% of women had not idea about the use and effect of the pills, this shows the level of generalized lack of awareness in the female population about their own personal health.

Among the women who took the MTP pills after the doctor's prescription, 100% of the women knew about the effect and use of the pills.

Knowledge about the existence of a well-established MTP act in our country is only about 45.5% in the women who took self-medication while 77.5% of women who took the pills after the doctor's prescription know about the existence of a well-established MTP act in the country. This however is much less compared to the number of women who know about the availability of MTP pills in the market showing us the poor status of law awareness in our country.

Women with history of self-medication have lesser knowledge about MTP act in the country compared to women who went to the doctor (Table 8).

When asked about the maximum gestational age till which MTP pills can be used as a method of termination of pregnancy, it has been observed that 68.3% women did not even know about the existence of a certain maximum gestational age till which the use of medical termination of pregnancy is done with the help of MTP pills in the first trimester.

About 21% of the study population, considered 9 weeks to be the maximum limit if gestational age till which MTP pills can be used. While 2% population thought it to be 1.5 months of amenorrhea.

In conclusion none of the patients have complete knowledge about the proper use and duration till which MTP pills can be used (Table 9).

Table 10: Source of MTP pills in cases of self-medication.

Who brought the MTP pills?	Hus-band	Close relative	Non-family member
Number of women	268	131	8
Percentage of population	65.75	32.25	2

In our study population the majority of women (65.75%) husbands got them the MTP pills. Out of the remaining, 32.25% of women sourced the MTP pills from a close relative, while 2% of the population acquired the pills from non-family member (Table 10).

DISCUSSION

A total of 505 cases were analysed. The majority, around 56%, were women in their twenties, approximately 40% were in their thirties, and the remaining 4% were in the age group of 40–43 years. This distribution reflects the peak reproductive age group in India, typically between 20 to 30 years.

These observations are consistent with the findings of Sarojini et al, where 63.4% of the participants were below the age of 30.[10]

A significant proportion of women, approximately 81%, consumed medical abortion pills without prior consultation with a qualified obstetrician. Among the remaining 19% who took the pills following a prescription, most had consulted a registered medical practitioner, while a small fraction (2%) reported taking the pills based on advice from healthcare personnel such as nurses or hospital staff.

Our study also compared self-medication cases with those where the pills were used under medical supervision, focusing on awareness and the source of medication. Notably, self-medication was most prevalent among women with higher education—75% of whom were graduates and 88.8% had vocational training. It was also common among housewives (91%), potentially due to limited awareness about the safe use and side effects of abortion pills. Conversely, women employed in professional settings had the lowest rates of self-medication (25%), likely due to greater health literacy and access to information.

Among the women who self-medicated, 74.4% had no prior history of medical or surgical abortion, while 25.6% had experienced at least one previous abortion. Self-medication was most common among women with two living children (43.2%), followed by those with one child. The reduced usage among women with two children may indicate increased reliance on other contraceptive methods such as intrauterine devices (IUDs) or sterilization. Usage was lowest among women without any living children, possibly due to cultural and emotional sensitivity surrounding first pregnancies.[11]

Regarding pregnancy confirmation, 60.1% of the self-medicating women relied solely on a home-based urine pregnancy test without further medical evaluation. Only 38.5% consulted a healthcare provider after a positive test result, while 1.4% took abortion pills solely based on a missed menstrual cycle.

These results are comparable to a study by Anjum et al, where 59 women confirmed their pregnancy through ultrasonography (USG), 26% used both USG and urine testing, and 11% took pills without any confirmation of pregnancy.[6]

Similarly, Sarojini et al reported that 70.2% of women confirmed pregnancy via a urine pregnancy test, 22.1% with pelvic ultrasound, and 7.7% used no diagnostic method before consuming the pills.[10]

Although 65% of the participants were aware of the availability of medical abortion pills in the Indian market, only 51% were aware of the existence of the MTP Act. This gap in awareness contributes to unsupervised and potentially unsafe use of MTP pills, increasing the risk of incomplete abortions and related complications.

These findings are supported by a 2023 study conducted by the Foundation for Reproductive Health Services (FRHS), which found that 95% of women were unaware of the recent amendments to the MTP Act.[7]

The widespread practice of self-medication, observed in 81% of our study population, highlights not only the lack of awareness but also the inadequate enforcement of drug regulation policies. This significantly raises the risk of adverse outcomes such as hemorrhage and incomplete abortion.[14]

In terms of how the pills were sourced, in our study 65.75% of cases, it was the husband who procured the medication.

Of the remaining participants, 32.25% received the pills from a close relative, while 2% acquired them through a non-family member.

Limitations

A key limitation of this study is the reliance on self-reported data, which may be subject to recall or informant bias.

Additionally, the study sample was drawn mainly from semi-urban and rural populations, which may not accurately reflect the awareness and practices of urban women.

CONCLUSION

It is crucial for laws to be enacted effectively to regulate the sale of over-the-counter abortifacients.

Comprehensive information about contraceptive options and their benefits should be widely shared with the public to reduce the unmet need for contraception.

Maternal and adolescent health clinics should be properly utilized to disseminate information about safe sex practices, contraceptive methods, and emergency contraception in modern healthcare. Media campaigns should be employed to raise awareness, specifically targeting reproductive-age individuals, about the risks, side effects, and complications associated with the unsupervised use of MTP pills and lack of awareness about the existence of a MTP Act.

Also, strict regulations should be imposed on local pharmacies that dispense medical abortion pills.

In addition to government legislation, several other aspects must be re-evaluated to ensure comprehensive abortion care (CAC) for women. Information, education, and communication (IEC) strategies can play a vital role in raising awareness about the MTP Act, available contraceptive methods, proper use of medical termination pills, and the importance of post-abortion follow-up care.

Health education and awareness regarding life-threatening consequences after self-medication of abortion pills can help to prevent maternal morbidity and mortality.

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