

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20262540>

Original Research Article

An observational study to evaluate the clinical outcomes and complications among women presenting with unsupervised MTP pill intake at a tertiary healthcare centre in South Gujarat

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Received: 27 May 2026

Revised: 20 July 2026

Accepted: 21 July 2026

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ABSTRACT

Background: Unsupervised use of medical termination of pregnancy (MTP) pills is increasingly common in developing countries like India due to easy over-the-counter availability. Although safe under medical supervision, inappropriate use may lead to serious complications. Objectives of this study was to evaluate clinical outcomes and complications among women presenting with unsupervised MTP pill intake at a tertiary healthcare centre.

Methods: This prospective observational study included 200 women who came with a history of unsupervised MTP pill intake at our hospital for one year, from March 2025 to March 2026, after obtaining official approval from the Institutional Ethical Committee. Data regarding demographic profile, gestational age, source of pills, clinical presentation, outcomes, complications, and treatment modalities were collected and analysed. Statistical associations were evaluated using appropriate tests, with $p < 0.05$ considered significant.

Results: The majority of subjects were aged 21–25 years (38%), with a predominance of multigravida, rural (73%), and lower socioeconomic status (67%). Only 29% had prior ultrasound, while most obtained MTP pills from medical stores (60%). Half of the subjects (50%) consumed pills at 7–9 weeks, and most presented within 8–14 days (38%). The most common complaint was bleeding with passage of clots (48.5%). Incomplete abortion (63%) was the predominant outcome, followed by missed abortion (17%). Anaemia (55%) was the most common complication, with 17% requiring blood transfusion. Most subjects required intervention, with 62% undergoing dilatation and evacuation. Adverse outcomes were significantly associated with lack of prior ultrasound and higher gestational age.

Conclusions: Unsupervised use of MTP pills is a significant public health concern leading to preventable complications. Easy over-the-counter availability promotes misuse without proper medical evaluation. Therefore, strict regulation of MTP pill distribution and dispensing only through authorized centers under medical supervision is essential.

Keywords: Unsupervised MTP, Medical abortion, Complications, Incomplete abortion, India

INTRODUCTION

Abortion remains a major global reproductive health concern, with approximately 73 million induced abortions annually, of which nearly 45% are unsafe, predominantly occurring in low- and middle-income countries. Unsafe abortion contributes significantly to maternal morbidity and mortality, accounting for up to 13% of maternal deaths worldwide.^{1,10,17}

In recent years, there has been a shift from surgical to medical abortion using mifepristone and misoprostol, driven by increased accessibility, affordability, and privacy. While medical abortion is safe and effective when used under proper medical supervision, its unsupervised use has emerged as a growing public health issue, particularly in countries like India where these drugs are easily available over the counter.²

Unsupervised intake without prior ultrasound, correct dosing, or gestational age assessment increases the risk of complications such as incomplete abortion, hemorrhage, sepsis, and undiagnosed ectopic pregnancy, often requiring emergency intervention. Delayed healthcare-seeking behaviour further worsens outcomes.³

Despite the increasing burden, there is limited structured data on the clinical profile and outcomes of such cases. Therefore, this study was undertaken to evaluate the clinical outcomes and complications among women presenting with unsupervised MTP pill intake at a tertiary care center in South Gujarat.⁴

METHODS

This prospective observational study was conducted in the Department of Obstetrics and Gynaecology at New civil hospital, Surat, Gujarat over a period of one year, from March 2025 to March 2026, after obtaining official approval from the Institutional Ethical Committee. The study included subjects presenting to the outpatient department, emergency department, and labour room of the Department of Obstetrics and Gynaecology with a history of unsupervised intake of medical termination of pregnancy (MTP) pills during the study period. All consecutive and consenting subjects fulfilling the inclusion criteria were enrolled. After enrolment, subjects were evaluated through detailed history taking, clinical examination, and relevant investigations as per institutional protocol. Subsequently, subjects were managed according to the standard departmental treatment protocol. subjects were followed till discharge. The clinical outcomes assessed in the study included complete abortion, incomplete abortion, missed abortion, continuation of pregnancy. The complications evaluated during the study period included anemia, which was classified as mild, moderate, and severe based on hemoglobin levels, shock, sepsis, ruptured ectopic pregnancy, haemorrhage, maternal death. All observations were recorded in a predesigned proforma, and the collected data were compiled for further analysis.

Subject and method

200 consecutive and consenting patients presenting to our institute with a history of unsupervised medical termination of pregnancy (MTP) pill intake during the study period.

Inclusion criteria

All consenting patients with the history of unsupervised MTP pill intake.

Exclusion criteria

Non consenting patient. Patients with the history of supervised MTP pill intake.

Sample technique

A total of 200 consecutive and consenting subjects who presented to our institute with a history of unsupervised medical termination of pregnancy (MTP) pill intake during the study period were enrolled in the study.

RESULTS

The demographic profile of the study population shows that the majority of subjects belonged to the 21–25 years age group (38%), followed by 26–30 years (21.5%), indicating that most subjects were in the peak reproductive age group. A smaller proportion was observed in the extremes of age, with only 1.5% above 40 years.

Table 1: Demographic profile of subjects in study population (n=200).

Parameter studied	No. of cases	Percentage (%)
Age (in years)		
18-20	22	11.0
21-25	76	38.0
26-30	43	21.5
31-35	32	16.0
36-40	24	12.0
>40	3	1.5
Residence		
Rural	146	73.0
Urban	54	27.0
Socioeconomic status		
Lower	134	67.0
Middle	50	25.0
Upper	16	8.0
Gravida status		
Primigravida	65	32.5
Second gravida	40	20
Third gravida	70	35
≥ Fourth gravida	25	12.5

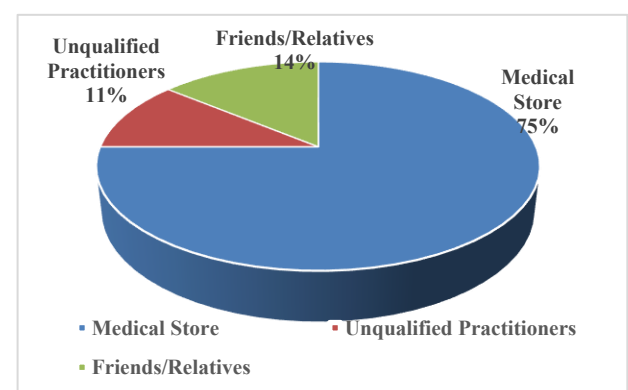


Figure 1: Distribution of subjects according to source of MTP pills.

A significant majority of subjects were from rural areas (73%), suggesting that unsupervised MTP pill intake is

more prevalent in regions with limited access to healthcare services and lower awareness levels. Similarly, most subjects belonged to the lower socioeconomic class (67%), highlighting the influence of economic constraints, lack of education, and limited healthcare accessibility on unsafe abortion practices.

With respect to gravida status, the majority of subjects were multigravida, with third gravida (35%) being the most common, followed by primigravida (32.5%). This indicates that women with previous pregnancies, as well as a considerable proportion of first-time pregnancies, are opting for unsupervised abortion methods. Overall, the findings suggest that young, rural, and socioeconomically disadvantaged women, particularly those with increasing parity, constitute the most affected group in the study population.

In the present study, the majority of subjects procured MTP pills from medical stores (75%), while a smaller proportion obtained them from friends/relatives (14%) and unqualified practitioners (11%), indicating easy over-the-counter availability and unsupervised access.

Table 2: Distribution of subjects according to gestational age at pill intake, time interval to hospital presentation, reasons for abortion, and pre-abortion USG status.

Parameter studied (in weeks)	No. of cases	Percentage (%)
Gestational age at pill intake (weeks)		
<7	52	26.0
7-9	100	50.0
9-12	38	19.0
>12	10	5.0
Time interval (between pill intake and visit to hospital in days)		
0-7	50	25.0
8-14	76	38.0
15-21	53	26.5
22-28	11	5.5
>28	10	5.0
Reasons cited for abortion		
Unintended pregnancy	90	45.0
Limiting family size	78	39.0
Failure of contraception	32	16.0
USG before pill intake		
Done	58	29.0
Not done	142	71.0

The majority of subjects consumed MTP pills between 7-9 weeks of gestation (50%), followed by <7 weeks (26%) and 9-12 weeks (19%), while only 5% took pills beyond 12 weeks. Most subjects presented to the hospital within 8-14 days of pill intake (38%), followed by 15-21 days

(26.5%) and within 7 days (25%), while a smaller proportion presented after more than three weeks.

The most common reason cited for abortion was unintended pregnancy (45%), followed by limiting family size (39%) and failure of contraception (16%). Notably, a majority of subjects (71%) had not undergone ultrasound prior to MTP pill intake, whereas only 29% had a prior USG.

Table 3: Distribution of subjects according to chief complaints.

Chief complaints	No. of cases	Percentage (%)
Bleeding with passage of clots	97	48.5
Irregular bleeding per vaginum	61	30.5
Pain abdomen	40	20.0
Pain abdomen and foul-smelling discharge per vaginum	3	1.5
Fever	10	5.0

Most subjects presented with complaints of bleeding per vaginum, with 48.5% (97/200) reporting bleeding with passage of clots and 30.5% (61/200) having irregular bleeding. Pain abdomen was reported in 20% (40/200) of cases, and a few subjects presented with fever (5%) and pain abdomen with foul-smelling discharge (1.5%), suggesting infective complications. Many subjects had more than one presenting complaint.

Table 4: Distribution of subjects according to clinical outcomes.

Outcome	No. of cases	Percentage (%)
Incomplete abortion	126	63.00
Complete abortion	25	12.50
Continuation of pregnancy	15	7.50
Missed abortion	34	17.00
Total	200	100.00

The most common outcome following unsupervised MTP pill intake was incomplete abortion (63%), followed by missed abortion (17%). Complete abortion was observed in only 12.5% of cases, while continuation of pregnancy occurred in 7.5% of subjects. The category "continuation of pregnancy" (n=15) includes both ongoing intrauterine pregnancies and ectopic pregnancies detected after unsupervised MTP pill intake.

These findings indicate that unsupervised use of MTP pills is associated with a high rate of incomplete abortion, which may require further medical or surgical intervention. The relatively low rate of complete abortion and the presence of ongoing pregnancies highlight the risks of improper usage, incorrect dosage, or intake beyond

the recommended gestational age without medical guidance.

Table 5: Distribution of subjects according to complications observed.

Complications	No. of cases	Percentage (%)
Anaemia	110	55.0
Mild anaemia	52	26.0
Moderate anaemia	33	16.5
Severe anaemia	25	12.5
Shock	2	1.0
Sepsis	3	1.50
Ectopic pregnancy	2	1.0
Haemorrhage	2	1.0
Maternal death	0	0.00

In the present study, anaemia was the most common complication (55%; 110/200). Among these, mild anaemia was seen in 26% (52/200), moderate anaemia in 16.5% (33/200), and severe anaemia in 12.5% (25/200) of subjects. Other complications included shock in 1% (2/200), sepsis in 1.5% (3/200), ectopic pregnancy in 1% (2/200), and haemorrhage in 1% (2/200) cases. No maternal mortality was observed in the present study.

These findings indicate that anaemia is the predominant complication associated with unsupervised MTP pill intake, while serious complications such as shock, sepsis, and ectopic pregnancy, though less frequent, remain clinically significant and potentially life-threatening.

Table 6: Distribution of subjects according to treatment modalities.

Treatment received	No. of cases	Percentage (%)
Medical management	44	22.0
Dilation and evacuation	124	62.0
IV antibiotics	150	75.0
Blood transfusion	34	17.0
Oral iron therapy	200	100.0
Intravenous iron therapy	60	30.0
Exploratory laparotomy	2	1.0

In the present study, a significant proportion of subjects required active intervention following unsupervised MTP pill intake. Dilatation and evacuation was the most commonly performed procedure (62%; 124/200), indicating a high incidence of incomplete abortion. Medical management was carried out in 22% (44/200) of cases, mainly in hemodynamically stable subjects.

A large number of subjects required supportive treatment, with intravenous antibiotics administered in 75% (150/200) of cases, suggesting a considerable risk of infection. Blood transfusion was required in 17% (34/200)

of subjects, reflecting the high prevalence of anaemia. All subjects received oral iron therapy (100%), while 30% (60/200) required intravenous iron supplementation. A small proportion of subjects (1%; 2/200) underwent exploratory laparotomy, indicating the presence of severe complications such as ruptured ectopic pregnancy.

These findings highlight that unsupervised MTP pill intake frequently necessitates both medical and surgical interventions, with a significant burden on healthcare resources.

DISCUSSION

In a country like India, awareness regarding the safe use of abortion pills remains inadequate due to factors such as illiteracy, poverty, social stigma, cultural beliefs, and the desire for family limitation and spacing of pregnancies. The easy over-the-counter availability of MTP pills further promotes their unsupervised and inappropriate use without proper medical guidance. As a result, many women consume these medications without prior confirmation of gestational age or pregnancy location, leading to complications such as incomplete abortion, failed abortion, excessive bleeding, anaemia, sepsis, and even shock. Despite abortion being legal in India under the MTP Act, a large proportion of women are still unaware of their legal rights and the availability of safe abortion services in government healthcare facilities.¹¹ Consequently, unsafe abortion continues to contribute significantly to maternal morbidity and mortality, highlighting the urgent need for improved awareness, regulation, and access to safe reproductive healthcare services.

In the present study, the majority of subjects were in the 21–25 years age group (38%), representing the peak reproductive age group. Similar findings were reported previously.^{4,5} A previous study observed a higher proportion of women in the 30–39 years age group.³ This variation may be attributed to differences in demographic characteristics and healthcare access across study populations.

A significant proportion of subjects in the present study belonged to rural areas (73%) and lower socioeconomic status (67%), which is consistent with previous findings.³ This highlights the influence of socioeconomic factors, poor awareness, and limited access to healthcare services on the decision to use MTP pills without supervision.

With respect to gravida status, the present study showed that third gravida (35%) constituted the largest group, followed by primigravida (32.5%). In comparison, a previous study reported a significantly higher proportion of third gravida (60%), while another study showed relatively fewer higher-order gravida cases.^{3,6} This suggests that although multigravida women remain a high-risk group, a considerable proportion of first-time pregnancies are also opting for unsupervised abortion.

In the present study, 71% of women consumed MTP pills without prior ultrasound, similar to previous studies where lack of pre-abortion evaluation was common. This lack of ultrasonographic confirmation contributes significantly to complications such as incomplete abortion and missed diagnosis of ectopic pregnancy. The majority of subjects in the present study consumed pills between 7-9 weeks (50%), which is comparable to previous studies.^{4,5} Another study reported higher intake at advanced gestational ages, especially beyond 12 weeks.⁶

The most common outcome in the present study was incomplete abortion (63%), which is comparable to previous studies, but lower than a previous study.^{4,6,8} The rate of complete abortion (12.5%) was lower than previous study (19%) but higher than another study (5.6%), indicating moderate effectiveness of unsupervised pill intake.^{3,5} The proportion of continuation of pregnancy (7.5%) was lower compared to other studies, while missed abortion (17%) was relatively higher, possibly due to delayed presentation and incorrect usage.

Anaemia was the most common complication in the present study (55%), similar to other studies, although lower than previous study (80%).^{3,12,18} Severe complications such as shock (1%), sepsis (1.5%), and ectopic pregnancy (1%) were observed in fewer cases compared to previous studies, which may reflect earlier healthcare access and improved management in the present setting. No maternal mortality was reported.

A significant association was observed between gestational age and outcomes, with higher complete abortion rates in early gestation (<7 weeks: 28.8%) and increased incomplete and missed abortions at later gestational ages. Similarly, lack of prior ultrasound was strongly associated with poor outcomes, with incomplete abortion rates as high as 73.2% among those without USG. Complications were also more common among multigravida women (64.4%) and those with increasing gestational age.

The findings of the present study emphasize that unsupervised use of MTP pills is driven by factors such as easy over-the-counter availability, lack of awareness, social stigma, and limited access to healthcare.^{14,19} Despite medical abortion being a safe and effective method when used appropriately, its unsupervised use significantly increases the risk of complications and need for surgical intervention.¹⁵

Overall, the present study is consistent with existing literature and highlights the urgent need for increasing awareness, ensuring proper counselling, regulating drug distribution, and promoting early medical consultation to improve outcomes and reduce preventable maternal morbidity.²⁰

CONCLUSION

Unsupervised use of MTP pills is a significant public health concern leading to preventable complications. Easy over-the-counter availability promotes misuse without proper medical evaluation. Therefore, strict regulation of MTP pill distribution and dispensing only through authorized centers under medical supervision is essential. Increasing awareness about risks of self-medication and promoting contraceptive use can help reduce unintended pregnancies and unsafe practices. Medical abortion should always be performed under trained supervision to ensure safety and reduce maternal morbidity.

ACKNOWLEDGEMENTS

Authors would like to acknowledge obstetrics and gynaecology department staff, all participants for their support during study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Bearak J, Popinchalk A, Ganatra B, Moller AB, Tunçalp Ö, Beavin C, et al. Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990–2019. *The Lancet Global Health.* 2020;8(9):e1152-61.
2. World Health Organization. Medical management of abortion. World Health Organization; 2019. Available at: <https://apps.who.int/iris/handle/10665/329284>. Accessed on 3 May 2026.
3. Bhalla S, Goyal LD, Bhalla S, Kaur B. Self-administered medical abortion pills: evaluation of the clinical outcome and complications among women presenting with unsupervised pill intake to a tertiary care hospital in Malwa region of Punjab, India. *Int J Reprod Contracept Obstet Gynecol.* 2018;7(4):1537-42.
4. Singh P, Dhurwey N, Patel J. Demography, clinical profile and outcomes of self-prescribed abortion pills among women, experience from a tertiary care teaching hospital in central India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 2023;12(10):2949-54.
5. Shalini S, Mehrotra A, Singh P. Unsupervised use of abortion pills and its impact on woman's health. *Int J Pharm Clin Res.* 2024;16(6):2248-51.
6. Thakur N, Verma RS, Nagaria T. Self-administration of Abortion Pills and its Maternal Outcome in Tertiary Care Center. *Journal of South Asian Federation of Obstetrics and Gynaecology.* 2023;15(2):144-8.
7. World Health Organization. Abortion care guideline. Geneva: WHO; 2022. Available at:

- <https://www.who.int/publications/i/item/9789240039483>. Accessed on 3 May 2026.
8. Sehgal S, Sahu B, Gupta D, Mehta S, Dhakar JS. Clinical Study of First Trimester Abortions in a Tertiary Care Centre. *Life Sci.* 2025;11(2):7139-45.
9. Cunningham FG, Leveno KJ, Bloom SL, Spong CY, Dashe JS, Hoffman BL, et al. *Williams Obstetrics*. 26th ed. New York: McGraw-Hill Education; 2022.
10. The Medical Termination of Pregnancy (Amendment) Act, 2021. Ministry of Law and Justice, Government of India. *The Gazette of India*. 2021. Available at: <https://books.google.com/books?id=0fkvEQAAQBAJ>. Accessed on 3 May 2026.
11. Nivedita K, Fatima S, Desai RM. Evaluation of unsupervised medical abortion and its complications. *Journal of Obstetrics and Gynecology of India*. 2015;65(3):174-9.
12. De Meyer F, Beernaert K, Van de Velde S, Sterckx S, Van Assche K. Obstetricians' views on extending the 12-week abortion limit in Belgium: A qualitative study. *PLoS One*. 2025;20(6):e0325434.
13. Elshahawi NA, Mashaly AM, El-Zayadi AA. Suction Evacuation versus Surgical Evacuation in Management of First Trimesteric Abortion: Prospective Study. *The Egyptian Journal of Hospital Medicine*. 2025;98:556-62.
14. Park K. *Park's Textbook of Preventive and Social Medicine*. 27th ed. Jabalpur: Banarsidas Bhanot Publishers; 2023.
15. Calvert C, Owolabi O, Yeung F, Pittrof R, Ganatra B, Tunçalp Ö, et al. The magnitude and severity of abortion-related morbidity in settings with limited access to abortion services: a systematic review and meta-regression. *BMJ Global Health*. 2018;3(3):e000692.
16. Pandey S, Sapre S, Shrivastava R, Vaishnav SB. Complications necessitating hospitalization after MTP pill use: A 1-year retrospective study at a Tertiary Care Teaching Institute in Gujarat. *Journal of South Asian Federation of Obstetrics and Gynaecology*. 2024;16(6):644-9.
17. Pamnani N, Shah S. Population study for awareness about medical termination of pregnancy pills in population in India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2025;14(6):1760-7.
18. Varadarajan R, BT V. The Impact of Self-Administered Abortion Pills: An Observational Study in a Tertiary Care Hospital. *European Journal of Cardiovascular Medicine*. 2025;15(5):1.

Cite this article as: Munjani DR, Prajapati N, Uddhanawala PJ, Chaudhary BS, Pipalava PM, Vinayagamoorthi KE, et al. An observational study to evaluate the clinical outcomes and complications among women presenting with unsupervised MTP pill intake at a tertiary healthcare centre in South Gujarat. *Int J Reprod Contracept Obstet Gynecol* 2026;15:3096-101.