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Original Research Article

Determinants of medical termination of pregnancy with special reference to contraceptive practices among women in a tertiary care hospital in Central India

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ABSTRACT

Background: A safe and efficient way to end pregnancies in their early stages is by medical termination of pregnancy (MTP), commonly referred to as medical abortion. Considering the increasing MTP rates in our country and their consequences on women's health, it is important to understand the underlying determinants of women choosing MTP in India. Hence this study was carried out is to assess contraceptive practices, the antenatal and socio-demographic determinants among women undergoing MTP in a tertiary care hospital.
Methods: This was a hospital based cross-sectional study conducted in Obstetrics and Gynaecology ward of a tertiary care hospital in Nagpur, Maharashtra from July 2025 to October 2025 among 185 women undergoing MTP. Association between categorical variables was analyzed using Chi-square test and Fisher's exact test.
Results: The most common reason for undergoing MTP was completed family while most common indication found was non usage of contraceptives. Age, socioeconomic status, gestational age, previous abortion, and spacing between pregnancies showed significant associations with indication for MTP.
Conclusions: The findings highlight the need for strengthening contraceptive services and addressing behavioural and social barriers to reduce unintended pregnancies. Based on the above research findings, we recommend that a comprehensive counseling should be provided at all contact points, especially during antenatal visits, postnatal care, and post-abortion services to promote informed contraceptive choices including awareness programs for husbands.

Key words: Abortion, Contraceptive, Indications, MTP, Medical reasons

INTRODUCTION

Abortion, also referred to as medical termination of pregnancy (MTP), is the process of ending a developing fetus by medicine or surgery.[1] A safe and efficient way to end pregnancies in their early stages is by MTP, commonly referred to as medical abortion.[2] Abortion was frequently performed but controlled by religious and cultural conventions in the past. However, as modern medicine developed and moral views changed, governments started passing legislation that more clearly governed abortion.[3]

Data from a study showed that 3,90,928 MTP were reported in India (April 2018-March 2019), giving an estimated abortion (spontaneous + MTP) rate of 2.84 per 1000 women of reproductive years (15-49 years).[4]

More recent data showed that in July 2025, as per Health Ministry medical terminations recorded in India had risen from 5.34 lakh in 2020-21 to 8.93 lakh in 2024-25-a 67 percent increase in five years, logged in the health management information system from government and registered private facilities.[5]

Pregnancy termination in India is governed by the MTP Act. The MTP Act is necessary for a number of reasons, including safeguarding women's health, addressing reproductive rights, preventing sex-selection abortions, protecting women in vulnerable situations, preventing fetal abnormalities and malformations, facilitating access to safe abortion services, regulating abortion procedures, and lessening discrimination and social stigma. The MTP Act of 1971 provided access to safe and legal abortion services based on eugenic, therapeutic, social, and humanitarian factors.[6]

A person may choose to have an abortion for a number of reasons. There are 5 conditions under MTP Act 1971, in which termination of pregnancy can be done. They are:[7] Medical-pregnancy endangering mother's life or causing grave injury to the physical or mental health of the mother. Eugenic-substantial risk of child being born with serious handicaps due to physical/mental abnormalities. Humanitarian-pregnancy is result of rape. Socio-economic-actual/ reasonably foreseeable environments (whether social or economic) could lead to risk of injury to health of mother and failure of contraceptives.

Despite strict laws for medical termination, while some women undergo abortion following proper hospital protocols, many also self-administer drugs from MTP kit. In both scenarios, abortion does have some consequences on women's life and her overall health which include physical complications like heavy bleeding, future fertility, impact on emotional and mental health.

The decision to have an abortion is very individualized and may be influenced by a number of situation-specific factors. As per a data by World Health Organization (WHO), around 73 million induced abortions take place worldwide each year.[8] Many other studies have observed unplanned pregnancy, followed by medical and social causes to be the most common reasons for undergoing MTP in India. Considering the increasing MTP rates in our country and their consequences on women's health, it is important to understand the underlying determinants of women choosing MTP in India. The objective of study were to assess contraceptive practices, the antenatal and socio-demographic determinants among women undergoing MTP in a tertiary care hospital.

METHODS

Study design and setting

The current cross-sectional study was conducted in Obstetrics and Gynaecology ward of a tertiary care hospital in Nagpur, Maharashtra for a duration of 4 months from July 2025 to October 2025.

Study participants

Study participants constituted were women aged 19-49 years undergoing MTP in the hospital and willing to participate in the study. We excluded women who were not in a state to participate in the study e.g. women with haemorrhage, shock, sepsis, etc.

Sampling and sample size estimation

We referred to a study by Karale et al where proportion of women undergoing MTP due to non-use of contraceptives was 86%.[9] Using the formula $n=z^2pq/e^2$, where n was the total sample size, z=1.96 (level of significance at 95% CI), p was the proportion, i.e. 86%, q was 100-P%, and e was the absolute error of 5%, the total sample size derived was 185. Hence, we included a total 185 women through consecutive sampling.

Ethical considerations

Permission was taken from Department of Obstetrics and Gynaecology. Ethical approval was obtained from institutional ethics committee (IEC) before commencing the study. Written informed consent was taken from all participants before starting the interview and confidentiality was maintained.

Methodology

Data was collected using pre-tested structured and validated questionnaire through personal interviews with patients. It took an average of 10 minutes to interview each patient. A detailed history regarding sociodemographic data, obstetric history, history of contraceptive use was collected. Sociodemographic data included age, residence, education and occupation as per Modified Kuppuswamy scale, socioeconomic status as per modified BG Prasad scale).[11] Obstetric factors included gravida status, previous abortions, gestational age of MTP and spacing between pregnancies. Reason for undergoing MTP was asked as well and further categorized under Indications for MTP.

Statistical analysis

Data were entered in MS excel and statistical analysis was done using Jamovi 2.3.28. Data was presented in the form of tables and necessary graphs. Qualitative data was expressed as number and percentage while quantitative data was expressed in mean and standard deviation. Association between categorical variables was analysed using Chi-square test and Fisher's exact test, with a $p<0.05$ being considered statistically significant.

RESULTS

The most common reason for undergoing MTP was completed family 102 (55.14%), followed by previous child being too young 45 (24.32%). Financial constraints 16 (8.65%) and marital problems 10 (5.41%) were also notable contributors. A smaller proportion of women underwent MTP due to medical indications such as congenital anomaly on scan 4 (2.16%), severe anaemia 2

(1.08%), and anencephaly 2 (1.08%). Additionally, 4 (2.16%) women reported not being ready for motherhood soon after marriage. Overall, family completion and spacing-related reasons accounted for the majority of MTP cases.

Table 1: Reasons for undergoing MTP.

Reasons for undergoing MTP	N (%)
Completed family	102 (55.14)
Previous child young	45 (24.32)
Financial problem	16 (8.65)
Marital problem	10 (5.41)
Congenital anomaly on scan	4 (2.16)
Not ready for motherhood soon after marriage	4 (2.16)
Severe anaemia	2 (1.08)
Anencephaly	2 (1.08)

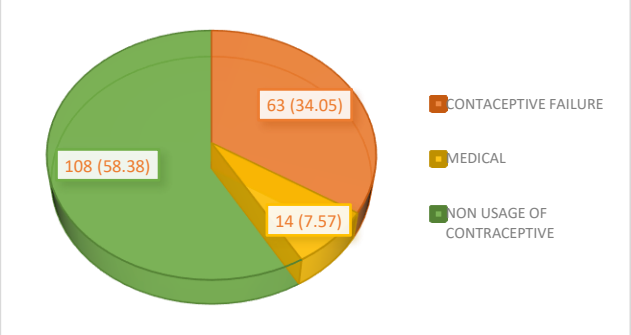

Figure 1: Indication for MTP.

From the reasons of undergoing MTP and after evaluating contraceptive usage, the most common indication for MTP among study participants as seen in Figure 1 was non-usage of contraceptives 108 (58.38%), followed by contraceptive failure 63 (34.05%). Medical and other reasons accounted for 14 (7.57%).

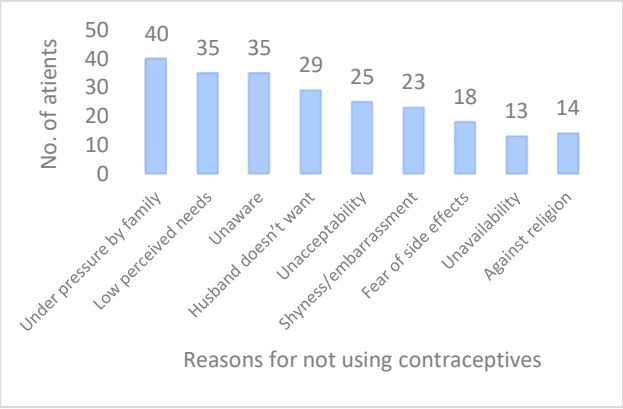

Figure 2: Reasons for not using contraceptives, (n=108).

Among women who did not use contraceptives, the most common reason was being under some form of pressure 40 (37.04%), followed by low perceived need 35 (32.41%) and lack of awareness 35 (32.41%). Husband's unwillingness was reported by 29 (26.85%) women. Other reasons included unacceptability 25 (23.15%), shyness or embarrassment 23 (21.30%), and fear of side effects 18 (16.67%).

As seen in Table 2, a statistically significant association was observed between age and indication for MTP ($p<0.001$) with non-usage of contraceptives being the more common factor among younger ages and medical causes among older women.

In rural women, 79 (57.66%) were due to non-use, 47 (34.31%) due to failure, and 11 (8.03) due to medical reasons. Residence was not significantly associated with MTP ($p=0.903$).

Among graduates, MTP by 24 (63.16%) were due to non-use, 12 (31.58%) due to failure, 2 (5.26%) due to medical reasons. Among high school educated women, 44 (59.46%) due to non-use, 22 (29.73%) due to failure, and 8 (10.81%) due to medical reasons. Similar trends were observed across other educational levels. Our study found no significant association between indication for MTP with education ($p=0.728$)/with occupation (0.784).

Regarding socioeconomic status, in class I, 11 (50%) underwent MTP due to non-use and 10 (45.45%) due to failure. In class II, 15 (33.33%) were due to non-use and 25 (55.56%) due to failure. In class IV, 32 (84.21%) and in class V, 11 (78.57%) cases were due to non-use, indicating higher non-use in lower socioeconomic groups. Socioeconomic status showed a statistically significant association with indication for MTP ($p<0.001$).

Table 3 shows association between obstetric history and indication for MTP. Among women with <12 weeks of gestation, MTP among 108 (59.67%) due to non-use, 60 (33.15%) due to failure, and 13 (7.18%) due to medical reasons. Among those with >12 weeks, 3 (75%) were due to failure and 1 (25%) due to medical reasons. While gestational age showed significant association ($p=0.028$) with MTP indication, there was no significant association between MTP indication and gravida status ($p=0.871$).

Among women with no previous abortion, 77 (53.10%) MTPs were due to non-use, 57 (39.31%) due to failure, and 11 (7.59%) due to medical reasons. Among those with previous abortion, 31 (77.5%) were due to non-use, 6 (15%) due to failure, and 3 (7.5%) due to medical reasons. Among women with spacing <3 years, 48 (56.47%) were due to non-use, 35 (41.18%) due to failure, and 2 (2.35%) due to medical reasons. Among those with spacing >3 years, 56 (58.95%) were due to non-use, 27 (28.42%) due to failure, and 12 (12.63%) due to medical reasons. Indication for MTP was found to be significantly associated with both, history of previous abortion ($p=0.013$) and spacing ($p=0.016$).

Table 2: Association between sociodemographic profile and indication for MTP.

Sociodemographic profile	Non-usage of contraceptive, (n=108) (%)	Contraceptive failure, (n=63) (%)	Medical and other reasons, (n=14) (%)	Total, (n=185)	X^2, df, p value
Age (in years)					
≤20	20 (68.97)	9 (31.03)	0 (0.00)	29	<0.001*
21-25	46 (67.65)	22 (32.35)	0 (0.00)	68	
26-30	23 (56.10)	18 (43.90)	0 (0.00)	41	
31-35	19 (48.72)	14 (35.90)	6 (15.38)	39	
36-40	0 (0.00)	0 (0.00)	8 (100.00)	8	
Residence					
Urban	29 (60.42)	16 (33.33)	3 (6.25)	48	0.204, 2, 0.903
Rural	79 (57.66)	47 (34.31)	11 (8.03)	137	
Education					
Graduate	24 (63.16)	12 (31.58)	2 (5.26)	38	0.728*
Intermediate	2 (28.57)	4 (57.14)	1 (14.29)	7	
High school	44 (59.46)	22 (29.73)	8 (10.81)	74	
Middle school	23 (54.76)	17 (40.48)	2 (4.76)	42	
Primary school	13 (65.00)	6 (30.00)	1 (5.00)	20	
Illiterate	2 (50.00)	2 (50.00)	0 (0.00)	4	
Occupation					
Elementary occupation	11 (73.33)	4 (26.67)	0 (0.00)	15	0.784
Craft workers	6 (54.55)	3 (27.27)	2 (18.18)	11	
Skilled agricultural worker	4 (80.00)	1 (20.00)	0 (0.00)	5	
Skilled work and shop worker	6 (60.00)	4 (40.00)	0 (0.00)	10	
Homemaker	81 (56.25)	51 (35.42)	12 (8.33)	144	
Socioeconomic status					
I	11 (50.00)	10 (45.45)	1 (4.55)	22	<0.001*
II	15 (33.33)	25 (55.56)	5 (11.11)	45	
III	39 (59.09)	26 (39.39)	1 (1.52)	66	
IV	32 (84.21)	1 (2.63)	5 (13.16)	38	
V	11 (78.57)	1 (7.14)	2 (14.29)	14	

* Fisher's exact test

Table 3: Association between obstetric history and indication for MTP.

Obstetric history	Non-usage of contraceptive, (n=108) (%)	Contraceptive failure, (n=63) (%)	Medical and other reasons, (n=14) (%)	Total, (n=185)	X^2, df, p value
Gravida					
Upto 2	36 (61.02)	19 (32.20)	4 (6.78)	59	0.261, 2, 0.871
≥3	72 (57.14)	44 (34.92)	10 (7.94)	126	
Gestational age					
≤12 weeks	108 (59.67)	60 (33.15)	13 (7.18)	181	0.028*
>12 weeks	0 (0.00)	3 (75.00)	1 (25.00)	4	
Previous abortion					
No	77 (53.10)	57 (39.31)	11 (7.59)	145	8.63, 2, 0.013
Yes	31 (77.50)	6 (15.00)	3 (7.50)	40	
Spacing between pregnancies (n=180)					
<3 years	48 (56.47)	35 (41.18)	2 (2.35)	85	8.26, 2, 0.016
≥3 years	56 (58.95)	27 (28.42)	12 (12.63)	95	

* Fisher's exact test

DISCUSSION

The present study highlights that non-usage of contraceptives 108 (58.38%) was the predominant indication for MTP, followed by contraceptive failure 63 (34.05%) and medical reasons 14 (7.57%). Similar trend was also observed by Mohapatra et al and Katke et al where most common reason for MTP was no use of contraceptives.[12,13] In the current study, most common

reason for undergoing MTP was completed family 102 (55.14%), which aligned with findings of the Habung et al.[14]

The analysis of reasons for non-use of contraception revealed that being under pressure 40 (37.04%), was the most common factor. Partner-related barriers such as husband's unwillingness 29 (26.85%) further emphasize the influence of gender dynamics in reproductive decision-making. Additionally, psychosocial factors like shyness or embarrassment 23 (21.30%) and fear of side effects 18 (16.67%) indicate the need for improved counselling and communication as was found by Patel et al and Sheng et al in their respective studies as well.[15,16] These findings suggest that contraceptive behaviour is influenced not only by availability but also by socio-cultural and interpersonal factors.

Among sociodemographic variables, younger women predominantly underwent MTP due to non-use of contraception, whereas medical indications were more common among older women. This may reflect lower awareness, limited autonomy, and inconsistent contraceptive practices among younger age groups, while older women may have more pregnancy-related complications. Rural areas also showed higher cases of MTP in our study, as also found by Kapiskar et al but contrasting observation was made by Pallikadavath et al.[17,18]

Socioeconomic status showed a significant association ($p<0.001$), with higher contraceptive failure observed in upper classes and higher non-use in lower socioeconomic groups. This suggests that while access to contraception may be better among higher socioeconomic groups, correct and consistent use remains a concern, whereas lower socioeconomic groups face barriers related to access, awareness, and affordability.

With respect to obstetric factors, gestational age was significantly associated with indication for MTP ($p=0.028$), with late MTPs more commonly resulting from contraceptive failure and medical reasons. These results were supported by findings of Uma Maheswari et al.[19] This highlights delays in recognition of pregnancy or access to services. Previous abortion also showed a significant association ($p=0.013$), with higher non-use of contraception among women with prior abortions, indicating missed opportunities for post-abortion contraceptive counseling. This was in line with observation by Kolhe et al.[20] Similarly, spacing between pregnancies was significantly associated ($p=0.016$), suggesting inadequate adoption of spacing methods.

Overall, the study emphasizes that unintended pregnancies leading to MTP are largely preventable. The findings point towards gaps in contraceptive awareness, accessibility, proper usage, and the socio-cultural acceptance.

CONCLUSION

Completed family 102 (55.14%) and closely spaced pregnancies 45 (24.32%) were the leading reasons for MTP, indicating a high unmet need for effective family planning and spacing methods. Non-usage of contraception 108 (58.38%) remains the leading indication of MTP, followed by contraceptive failure 63 (34.05%). Socio-cultural factors, lack of awareness, and partner influence play a major role in contraceptive non-use. While most sociodemographic variables were not significantly associated, age and socioeconomic status were important determinants. Among obstetric factors, gestational age, previous abortion, and spacing between pregnancies showed significant associations with indication for MTP. The findings highlight the need for strengthening contraceptive services and addressing behavioural and social barriers to reduce unintended pregnancies.

Recommendations

Based on the above research findings, we recommend that a comprehensive counselling should be provided at all contact points, especially during antenatal visits, postnatal care, and post-abortion services to promote informed contraceptive choices. Awareness programs should actively involve male partners to address issues such as husband's unwillingness and shared decision-making in family planning. All women undergoing MTP should receive counselling and immediate access to suitable contraceptive methods to prevent repeat unintended pregnancies.

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