Volume-5, Issue-3, March - 2016 • ISSN No 2277 - 8160 IF : 3.62 | IC Value 70.36

Research Paper Medical Science

Medical Termination of Pregnancy in a Tertiary Care Center

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ABSTRACT

Introduction: To avoid the misuse of induced abortions, most countries have enacted laws. The Medical Termination of Pregnancy Act (MTP Act) was enacted by the Indian Parliament in 1971. This study was conducted to see various impacts of MTP Act and Pre-Conception and Pre-Natal Diagnostic Techniques Act (PCPNDT Act) in present era.

Aim and objectives: To study methods, various indications & complications due to Medical Termination of Pregnancy performed in the institution.

Material method: After thorough history including reasons for MTP, detailed examination, investigations & consent, 649 women underwent MTP using various methods in study period of two yrs. Women were observed for any complications & then discharged.

Results: In the study, 649 women fulfilling inclusion criteria underwent MTP. MTPs performed during 1st trimester were 378 (58.2%) and in mid-trimester were 271 (41.8%). From urban area (n=394, 60.7%) about 263 (40.5%) reported earlier i.e. in 1st trimester for MTP & 140 (21.6%) women from rural area reported late in mid-trimester. Common indications of MTPs were contraceptive failure (n=434, 66.8 %) followed by 'to prevent grave injury to the physical and mental health of the pregnant women' (n=101, 15.6%). 307 (47.3%) women underwent manual vacuum aspiration (MVA). Mid-trimester MTPs were done by extra-ovular instillation of ethacridine lactate (EOI) in 19.9% of cases. Complication rate was 19.6%. Most of them were minor side effects like thermoregulatory changes (n=30, 4.8%) and gastrointestinal (n=72, 11.1%).

Conclusions: Due to impact of MTP Act & PCPNDT Act women are denied for mid trimester MTP in periphery & in private clinics. Rural women reported late. Still there is a need to focus on unmet need for family planning services including medical termination of pregnancy (MTP) services at periphery.

KEYWORDS : Abortion, MTP, MTP Act, PCPNDT Act, Medical abortion.

INTRODUCTION:

From historical times termination of pregnancy was practiced with or without legal & social sanctions. Because of greater safety nowadays abortion has gained tremendous popularity in the last few years to get rid of unwanted child[1]. According to Census of India 2011, the sex ratio has shown some improvement in the last 10 years. It has gone up from 933 in 2001 census to 940 in 2011 census. The Sex Ratio in Maharashtra (925) is lower than the national average[2]. To avoid the misuse of induced abortions, The Medical Termination of Pregnancy Act (MTP Act) was enacted by the Indian Parliament in 1971 and came into force from 01 April, 1972. The MTP Act was again revised in 1975[2].

This study is important for health planners concerned with maternal health, demographers, and family planning program specialists. This study is being conducted to see various impacts of Medical Termination of Pregnancy Act (MTP Act) and Pre-Conception and Pre-Natal Diagnostic Techniques Act (PCPNDT Act) in present era & also to find out changing trends in indications of Medical Termination of Pregnancy.

AIMS & OBJECTIVES:

- To study the number of Medical Termination of Pregnancy performed in the institution.
- To study methods of Medical Termination of Pregnancy performed in the institution.
- To study indications for Medical Termination of Pregnancy performed in 1st trimester & mid-trimester of pregnancy.
- To find out complications due to Medical Termination of Pregnancy.

MATERIAL AND METHOD:

Study design : Retrospective and observational type

Study place : Department of Obstetrics and Gynaecology of Tertiary Care Hospital.

Study Population : All women fulfilling inclusion criteria underwent Medical Termination of pregnancy (MTP) in tertiary hospital according to MTP Act, 1971 from October 2012 to September 2014.

Sample Size : 649.

Inclusion Criteria:

All women who were medically fit & undergone medical termination of pregnancy according to Medical Termination of Pregnancy (MTP) act 1971 in Department of Obstetrics and Gynaecology of Tertiary Hospital in study period.

Patients undergone Medical Termination Of Pregnancy (MTP) due to following reasons

1. In order to save the life of the pregnant women,
2. In order to prevent grave injury to the physical and mental health of the pregnant women,
3. In view of the substantial risk that if the child was born, it would suffer from such physical or mental abnormalities as to be seriously handicapped,
4. Pregnancy caused by rape,
5. Pregnancy as result of contraceptive failure,

All patients who has undergone 1st & mid trimester Medical Termination of Pregnancy (MTP) with different methods.

Exclusion criteria:

1. Patients of medical abortion lost to follow up.
2. Missed abortion, blighted ovum, vesicular mole, incomplete abortion & septic abortion.
3. Patient undergone MTP at other center & then referred.
4. Termination of pregnancy above 20 weeks for therapeutic purpose.

Methodology:

Women included in this study came to Department of Obstetrics and Gynaecology either admitted through Family Planning Outpatient Department (OPD) or came to emergency department willing for MTP on valid grounds. Structured questionnaires were administered to

these patients pertaining to socio-demographic status, obstetric history & reasons for the abortion. All records, registers in study period maintained in tertiary hospital were used for this purpose.

About 649 women underwent Medical Termination of Pregnancy were studied. The internal examination was done to confirm the position & size of the uterus. Pelvic examination was carried out & any pathology ruled out and treated adequately before undergoing procedure. Blood investigations were done for these procedures according to requirements. An obstetric ultrasound examination was performed to localize the placenta. All patients who were detected of having a low-lying placenta on ultrasound prior to Medical Termination of Pregnancy especially with extra-ovular instillation (EOI) of ethacridine lactate were excluded. After through preoperative evaluation by anesthetist, consent on 'C Form obtained. Depending on period of gestation, type of method of Medical Termination of Pregnancy (MTP) was selected. Those undergoing medical abortion received mifepristone 200 mg orally followed 48 hours later by misoprostol 400 µg per vaginum. Both the drugs were given in the hospital under supervision and the women remained under observation for at least 4 hours after receiving misoprostol. At follow up 2 weeks after initiating treatment, transvaginal ultrasonography was performed, when required, and the abortion was considered complete if no gestational sac was revealed. In case of failure or if ultrasonography demonstrated continuing pregnancy, suction evacuation was done.

MVA was done by 60 ml manual vacuum aspiration double valved syringe. The uterine contents aspirated were taken on a gauze piece and examined to identify gestational sac. In ethacridine lactate group; a Foley's catheter No. 16 was introduced inside the cervix in the extra amniotic space. About 10 ml/wk of gestational age maximum upto 150 ml of ethacridine lactate instilled. Patient was transferred to labour room after 24 hours, or earlier if patient had onset of uterine contractions. The uterine contractions were augmented using intravenous oxytocin drip. If the abortion process was incomplete, then D & E was performed in either group. All patients were monitored clinically with two hourly assessments of maternal temperature, pulse, blood pressure and respiratory rate. In case of failure in 72 hours, re-installation of ethacridine or repeated misoprostol tablet per vaginal or hysterotomy as a last resort was tried. Hysterotomy as a mini caesarean section was performed in women with mid-trimester willing for concurrent sterilization or in some cases of failure in the induction of abortion.

Those patients undergo Hysterotomy and willing for permanent contraception, tubal ligation was done and those willing for I.U.D.s Cu-T were inserted just after procedure. For other people willing for pills and other contraceptive methods, all were explained to them. Those patients undergo surgical management; postoperatively they are observed in the ward. Patients having excessive bleeding, severe abdominal pain, pyrexia and other complication were hospitalized, observed & treated accordingly. The patient undergo tubal ligation were hospitalized & observed for required period.

At discharge they were advised to come to fallow up visits if any PV bleeding, abdominal pain, fever, vaginal discharge etc. Those who did not come for fallow up visits were presumed to be without any complication.

Statistical analysis : Qualitative data was presented as percentages; quantitative was expressed as mean, standard deviation, median and range. The chi-square test or Fisher's exact test, were used as appropriate. The data were analyzed using the statistical software SPSS Version 21.

OBSERVATIONS:

Table No. 1: Sociodemographic Characteristics

		First Trimester	Mid-Trimester	Total MTPs (n=649)
Trimester		378 (58.2%)	271 (41.8%)	649 (100%)
Mean age		27.3±4.7 years	27.2±5.35 years	27.3±4.98 years
Residence	Rural	115 (17.7 %)	140 (21.6 %)	255 (39.3 %)
	Urban	263 (40.5 %)	131 (20.2 %)	394 (60.7 %)
Religion	Hindu	305 (47 %)	230 (35.4 %)	535 (82.4 %)
	Muslim	71 (10.9 %)	39 (6 %)	110 (16.9 %)
	Christians	2 (0.3 %)	1 (0.2 %)	3 (0.5 %)
	Sikh	0	1 (0.2 %)	1 (0.2 %)
Marital Status	Married	375 (57.7%)	264 (40.7%)	639 (98.4%)
	Unmarried	2 (0.3%)	4 (0.6%)	6 (0.9%)
	Widow	1 (0.2%)	2 (0.3%)	3 (0.5%)
	Divorcee	0	1 (0.2%)	1 (0.2%)
Kuppuswami's Socio-economic Status	Upper (I)	20 (3.1%)	14 (2.2%)	34 (5.3 %)
	Middle upper (II)	12 (1.8%)	14 (2.2%)	26 (4 %)
	Middle (III)	144 (22.2%)	101 (15.5%)	245 (37.7 %)
	Lower upper (IV)	137 (21.1 %)	98 (15.1 %)	235 (36.2 %)
	Lower (V)	65 (10 %)	44 (6.8 %)	109 (16.8 %)
Gravida Status	Primigravida	18 (2.8%)	42 (6.5%)	60 (9.3%)
	Gravida 2	85(13.1%)	47 (7.2%)	132 (20.3%)
	Gravida 3	134 (20.6%)	88 (13.6%)	222 (34.2%)
	4th Gravida	95 (14.6%)	61 (9.4%)	156 (24%)
	≥5th Gravida	46 (7.1%)	33 (5.1%)	79 (12.2%)

Table No. 2: Distribution of patients according to indication of MTP

Indications	First Trimester	Mid-Trimester	Total MTPs (n=649)	χ2 value	df	P Value
a. To save life	9(1.4%)	9 (1.4%)	18(2.8%)	5.35	2	0.07
b. To prevent grave injury to physical & mental Health*	64 (9.9%)	37 (5.7%)	101 (15.6%)			
c. Eugenic** (Anomalous Fetus)	0	94 (14.5%)	94 (14.5%)			
d. Humanitarian* (Rape)	0	2 (0.3%)	2 (0.3%)			
e. Contraceptive failure	305 (47%)	129 (19.8%)	434 (66.8%)			
Total	378 (58.3%)	271 (41.7%)	649 (100%)			

($\chi2_{(2)} = 5.35$, $p = 0.07$, the result is not significant at $p < 0.05$)

Note: Some cells have values < 5. Thus * row data pooled to apply Chi-Square test. ** Row data shows only mid-trimester MTPs for anomalous fetus as were detected on USG therefore not considered while calculating Chi squire.

Table No. 3: Distribution of patients according to methods of MTP

Methods	Total MTPs (n=649)
Medical Abortion	75 (11.5%)
MVA	307 (47.3%)
EOI	129 (19.9%)
Hysterotomy	138 (21.3%)

Table No. 4: Distribution of patients according to complications

Complications		Medical method (n=75)	MVA (n=307)	EOI (n=129)	Hysterotomy (n=138)	Total MTPs (n=649)
Immediate	Haemorrhage	0	4 (1.3%)	2 (1.6%)	1 (0.7%)	7 (1.1%)
	Uterine Perforation	0	1 (0.3%)	0	0	1 (0.2%)
	Injury to Cervix	0	1 (0.3%)	1 (0.8%)	0	2 (0.3%)
	Thermoregulatory changes	23(30.7%)	0	7 (5.4%)	0	30(4.8%)
	GI symptoms	25 (33.3%)	0	27 (20.9%)	20 (14.5%)	72(11.1%)
Late	Infection	0	0	0	2 (1.4%)	2 (0.3%)
	Incomplete abortion / RPOC	2 (2.7%)	4 (1.3%)	1 (0.8%)	0	7 (1.1%)
	Failure of Termination	0	0	5 (3.9%)	0	5 (0.8%)
Total		50(66.7%)	10 (3.2%)	43 (33.4%)	23 (16.7%)	126 (19.6%)

RESULTS:

MTPs performed during first trimester were 378 (58.2%) and in mid-trimester were 271 (41.8%). In present study, the mean age of women underwent MTP was 27.3±4.98 years. The youngest was 15 years (only minor observed) and eldest being 48 years old. Out of 649 MTPs performed; women from urban area were 394 (60.7%). Also it is seen that about 263 (40.5%) urban women reported earlier i.e. in first trimester for MTP. While 140 (21.6%) women from rural area reported late in mid-trimester. 535 (82.4%) were Hindus, 111 (16.9 %) were Muslims, 3 (0.5 %) were Christians and only 1 (0.2 %) was Sikh. 639 (98.4%) women were married and remaining included 6 (0.9%) unmarried, 3 widows & 1 divorced. 235 (36.2%) of Lower Upper & 245 (37.7%) of middle class women (as per modified Kuppuswami's socioeconomic status scale) underwent MTP. Out of 649 MTPs performed 60 (9.3%) were primigravida and 354 (54.5%) of women were second & third gravida. Most common indication (n=434, 66.8%) of MTPs was contraceptive failure. Out of these 305 (47%) MTPs were performed in first trimester. A total of 94 (14.5%) MTPs were performed (all in mid-trimester) on the basis Eugenic ground i.e. due to anomalous baby. Only 2 (0.3%) MTPs were performed in second trimester as an indication of pregnancy caused by rape. Though various methods are described, only four methods were used in our setup. In first trimester most common (n=307, 47.3%) method employed was manual vacuum aspiration (MVA) followed by medical method (n=71, 10.9%). 138 (21.3%) mid-trimester MTPs were performed by Hysterotomy & 129 (19.9%) mid-trimester MTPs were performed by EOI. Hysterotomy was done in cases of concurrent sterilization (n=137) & for failure of induction of abortion (n=3). Least 4 (0.6%) MTPs were done by mid-trimester medical method (mife+miso). Overall complication rate was 19.6% (n=126); most commonly seen after medical method (n=50, 66.7%) but were minor & acceptable by women. Most common complication (n=72, 11.1%) found amongst the women who underwent MTP was Gastrointestinal related like nausea, vomiting, diarrhea & abdominal pain. Gastrointestinal side effects were found after medical method (n=25, 33.3%), EOI (n=27, 20.9%) & hysterotomy (n=20, 14.5%). Thermoregulatory changes like fever, chills, feeling of warmth were found in 23 (30.7%) after medical method of MTP & in 7 (5.4%) after EOI. Women with incomplete abortion / RPOC (n=7, 1.1%) required evacuation. One woman with MVA had uterine perforation managed conservatively.

DISCUSSION:

Ours hospital being Government Tertiary Care setup provides free of cost service; most of the patients attending this hospital belong to the low socio-economic group. In the present study, about 378 (58.2%) MTPs were performed in first trimester of pregnancy & 271 (41.8%) in mid-trimester. Approved facilities for abortion are concentrated in urban areas, resulting in limited access from a vast majority of women in rural areas therefore report late in their midtrimester for MTP. **B. C. Shivkumar et al[4]** recorded 84.7% & 15.3% incidence of 1st & mid-trimester MTP respectively. The mean age of women was 27.3±4.98 which is similar to the study carried out by **A. K. Sing et al[3]** & **Ramesh Holla et al[5]** that showed 27.96±5.41 years & 27.59±4.91 years of mean age respectively.

There was significant association found between locality of women & trimester of MTP. Majority of the women (n=394, 60.7%) were from urban area & reported in first trimester. This is because of urban locality of this tertiary care centre. 255 (39.3%) women were from rural area & reported late in mid trimester for MTP. This indicates women from rural area have poor access to MTP services at periphery. **Mehra et al[6]** in their study at Chandigarh found that 70% (n=70) of the women seeking abortion were of urban and 30 (30%) were from rural set up which is comparable. Similar observation was seen in the study of **Shipra Gupta et al[7]** where 37 (24.34%) women were from rural & remaining 115 (75.66%) women were from urban area.

As observed in the study, abortion seeking women were mostly Hindu (n=535, 82.4%) by religion. Although catchments area was predominately Muslim populated, only 16.9% (n=110) of Muslim women underwent MTP, followed by Christians (n=6, 0.5%) and only 1 (0.2%) of Sikh religion. A similar observation was noted by **B. C. Shivkumar et al[4]**, in which Hindus were 117 (78%), Muslims were 31 (20.7%), Sikhs were 2 (1.3%) & no Christians. Muslim & Christians because of their religious beliefs precludes the use of abortion.

Out of 649 women underwent MTPs; 639 (98.4%) were married, 6 (0.9%) women were unmarried, 3 were widows & 1 was divorced. Comparable incidences were noted in the studies by **Ramesh Holla et al[5]** & **Dr. Priyanka Sahu et al[8]**. This skewed distribution towards married status may reflect hidden social stigma and underprivileged status of Un-married, widow and divorcee related to illegitimate children and single motherhood.

As observed in the study women from middle (III) & lower upper (IV) Kuppuswami's socioeconomic status scale contributes 73.9% (n=344) of MTPs. This is comparable with the study of **Shipra Gupta et al[7]**. It is more likely that those women who are rich have a preference for private nursing homes or clinics. Lower educational and lower social status of the women are the reasons for their repeated and unwanted conceptions.

Primigravidas (n=60, 9.3%) opted for MTP mostly in second trimester (n=42, 6.5%); for anomalous baby. While the second gravida (n=132, 20.3%), third gravida (n=222, 34.2%) & fourth gravida (n=156, 24%) constitutes most of the MTPs preferably in their first trimester. This indicates now most of women are adopting two child norms & relied on MTP than temporary contraceptive measures. These observations are consistent with the studies of **B. C. Shivkumar et al[4] & Shipra Gupta et al[7]**

In this study, most common indication of MTP was contraceptive failure (n=434, 66.8%). Out of these 307 (47%) were from first trimester & 129 (19.8%) were from mid trimester. This could be because of the fact that women were counseled well in urban area by most of the private practitioners & in rural areas by Government health care authorities about contraception & after failure they opted for ours setup. Out of these 8 were abdominal sterilization failure referred here from other institutes. 101 (15.6%) MTP were done to prevent grave injury to physical & mental health of a pregnant woman. 94 (14.5 %) MTP were performed on eugenic ground as anomalous fetus exclusively in mid-trimester; due to late detection of anomalies by imaging technology in mid-trimester. Only 2 (0.3%) MTPs were performed in mid trimester on humanitarian ground as pregnancy caused by rape. In the study of **B.C. Shivkumar et al[4]** only 45.3% of women directly consulted for MTP others unsuccessfully attempted to terminate pregnancies which were excluded from our study. 'in order to prevent grave injury to physical & mental health of the pregnant woman'

About 307(47.3%) MTPs were performed using first trimester surgical method i.e. MVA. 111 (%) of them underwent concurrent sterilization as they were willing for concurrent sterilization in single setup. Hysterotomy in 138 (21.3%) & EOI in 129 (19.9%) women were done as mid trimester MTP method. As we alredy discussed women in their mid-trimester reported late due to various reasons like in primigravida late dection of anomalies on USG & in women from rural area due to poor access to mid-trimester MTP services at periphery. Hysteroto-

my were done with concurrent sterilization (n=137, 99.3%) in women willing for MTP with sterilization. Only 75 (11.5%) women preferred medical method for MTP. **A.K. Sing et al[3]** showed in their study that the suction evacuation was done in maximum cases 77.43% (n=199), followed by prostaglandins 16.73%, hysterotomy 0.8%, laparotomy followed by Hysterectomy in 2.72% and exploratory laparotomy in 2.34% cases. This study is not in accordance with our results as we excluded outside attempted abortions, missed abortions & incomplete abortion, which were included in above mentioned study. This preponderance to surgical methods was due to, as surgical abortion was quick and convenient, frequent visits were avoided and concrrent use of permanent sterilization . **Siwatch S et al[9]** observed that the majority of the women were multigravida and in the second trimester of pregnancy underwent hysterotomy.

Data indicates that the overall complcation rate following MTP was 19.6% (n=126) which is consistent with the observation by the study of **A. K. Sing et al[3]** (20.62%). Minor complications like gatrointestinal (n=72, 11.1%) & thermoregulatory (n=30, 4.8%) constitutes the most; specially after medical method & EOI. Though complication rate seems to be heigher (n=50, 66.7%) after medical method, these were minor complications, managed conservatively. In the **WHO study[10]** lower abdominal pain was reported in 82.8%, nausea in 53.2%, vomiting in 20.5%, and diarrhea in 8.6% of medical abortion cases. Our findings confirm this. In our study 1.3% (n=4) of women in MVA group had incomplete abortion with overall 3.2% (n=10) of complication rate. A study by **Das Vinita et al[11]** (n=9, 4.64%) & **Balogh SA[12]** found equivalent results. In EOI overall complication rate observed was 33.3% (n=43), again mainly contributed 26.3% (n=34) by minor symptoms. 2 (1.6%) cases with haemorrhage required blood transfusion. **Nebriski[13]** reported 2 (4%) cases of cervical tears with 0.1% ethacridine. In our study, there was only one case with cervical tear giving an incidence of 0.8% which is consistent with the observation found in the study of **VN Purandare et al[14]**. 2(1.4%) of hysterotomy patients required resuturing due to wound gape secondary to wound infection.

CONCLUSION:

This study tried to explicate the scenario of the medical termination of pregnancy in our setup. The study added some empirical findings on determinants of medical termination of pregnancy (MTP). An important finding of this study is that mid trimester MTPs are common in this institute. Due to impact of MTP Act & PCPNDT Act women are denied for mid trimester MTP in periphery & in private clinics. Rural women reported late due to poor access to MTP services at periphery. Religious beliefs in certain religions compel women not to opt for MTP. Our study shows that MTP is more common among the third & fourth gravida, which reflects the influence of women's desire to limit family size.

Women delay in seeking MTP earlier due to problems in suspecting pregnancy symptoms, poor recall of menses & also due to family constraints. Anomalies are detected late in mid trimester compelling most of primigravida women for mid-trimester MTP on eugenic ground. Most common indication of MTP was contraceptive failure. Further studies are needed to enlist the causes of contraceptive failure. It can be said that still there is a need to focus on unmet need for family planning services including medical termination of pregnancy (MTP) services at periphery.

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