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Second Trimester Pregnancy Termination by Medical Method: Mifepristone and Misoprostol

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I. INTROUCTION

Second trimester abortions constitute 10-15% of all induced abortions worldwide but are responsible for two- thirds of all major abortion related complications.[3] Women choose termination later in pregnancy for a variety of medical and social reasons. Circumstances that can lead to second-trimester abortion include delays in suspecting and testing for pregnancy. In addition major anatomic or genetic anomalies may be detected in the fetus in the second trimester. Some obstetric and medical indications for second-trimester termination include preeclampsia and preterm prelabor rupture of membranes, additional indications for uterine evacuation in the second trimester are pregnancy failure before 20 weeks and fetal demise.[1] Recently with the MTP amendment act 2021 second trimester abortions are increased in India too.

Second trimester abortion can be done by surgical or medical method. Surgical abortion, mainly dilatation and evacuation is responsible for majority of complications like haemorrhage, perforation and infection. Medical abortion has the potential to reduce these complications.

PROTOCOL

All patients included in study were explained about the procedure. Informed and written consent was taken. According to ACOG - tablet mifepristone 200mg administered orally followed in 24-48 hours by tablet misoprostol 800 microgram administered vaginally followed by 400 microgram administered vaginally every 3 hours for up to maximum of five doses.

If abortion is not complete after five doses, the woman may be allow to rest for 12 hours before starting the cycle again. [2]

AIMS AND OBJECTIVES

1. To evaluate clinical effectiveness of 2nd trimester terminations using Mifepristone and Misoprostol.
2. To note any side effects of drugs used for second trimester abortion.

PHARMACOLOGY OF MIFEPRISTONE AND MISOPROSTOL

The combination of mifepristone and misoprostol has synergistic effects and stimulates expulsion of the pregnancy. Mifepristone is an artificial steroid drug with anti-progesterone and anti- glucocorticoid actions. Given its pharmacology, it most likely affects the cervix and uterus favourably for termination and increases uterine sensitivity to prostaglandin analogue. Misoprostol is the prostaglandin E_1 analogue-induces cervical softening and dilation and enhance uterine contractions, which aids in expelling the product of conception.

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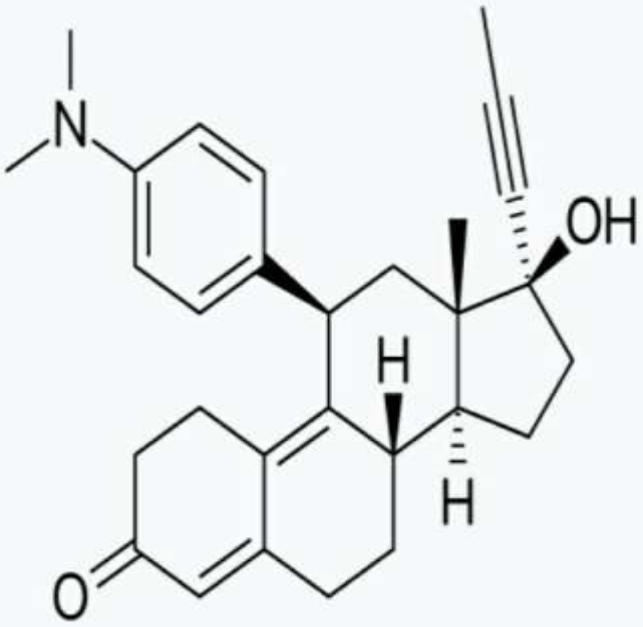
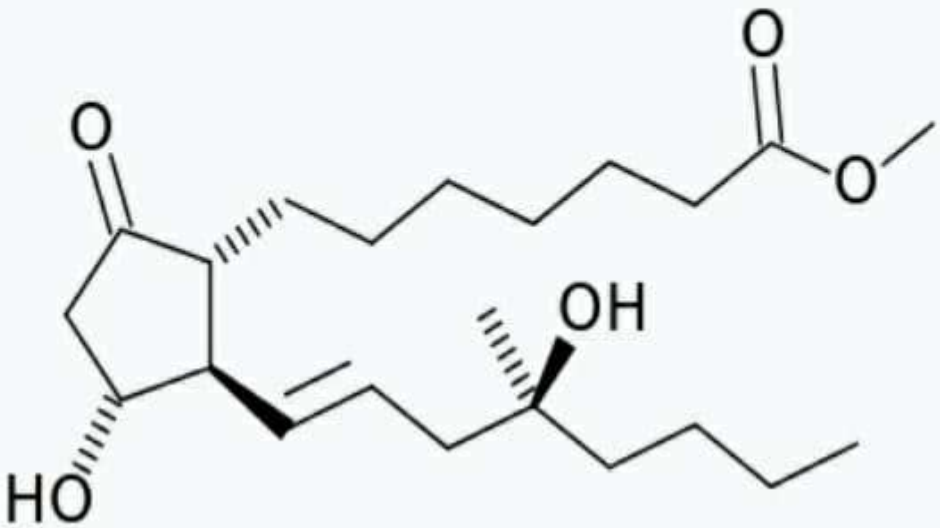
Mifepristone



Misoprostol



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II. MATERIAL AND METHOD

Study is prospective observational study conducted in B.J medical college and civil hospital ahmedabad. Total 42 patients were included who had pregnancies with gestational age between 12 to 24 weeks. in study group, 29 patients had live pregnancies with various indications of termination and 13 patients presented with early foetal death. In these patients prostaglandin dose requirement and time interval for complete expulsion of product of conception after induction with misoprostol was recorded and any adverse effect due to Mifepristone and Misoprostol used for termination was also recorded.

Inclusion criteria:

1. Gestational age between 12^{+0}weeks to 24^{+0} weeks
2. Singleton pregnancy
3. No regular uterine contraction

Exclusion criteria:

1. Scarred uterus
2. Multiple pregnancy
3. Known contraindication of mifepristone and misoprostol
4. Hypersensetivity to mifepristone and misoprostol

OBSERVATIONS

Distribution of patients according to reason of termination of pregnancy

Reason	No. Of patient
Congenital anomaly in foetus	11
Severe oligohydraminos with no other USG identified congenital anomaly	05
Medical condition of mother	02
Unwanted pregnancy with late presentation	11
Early foetal death	13

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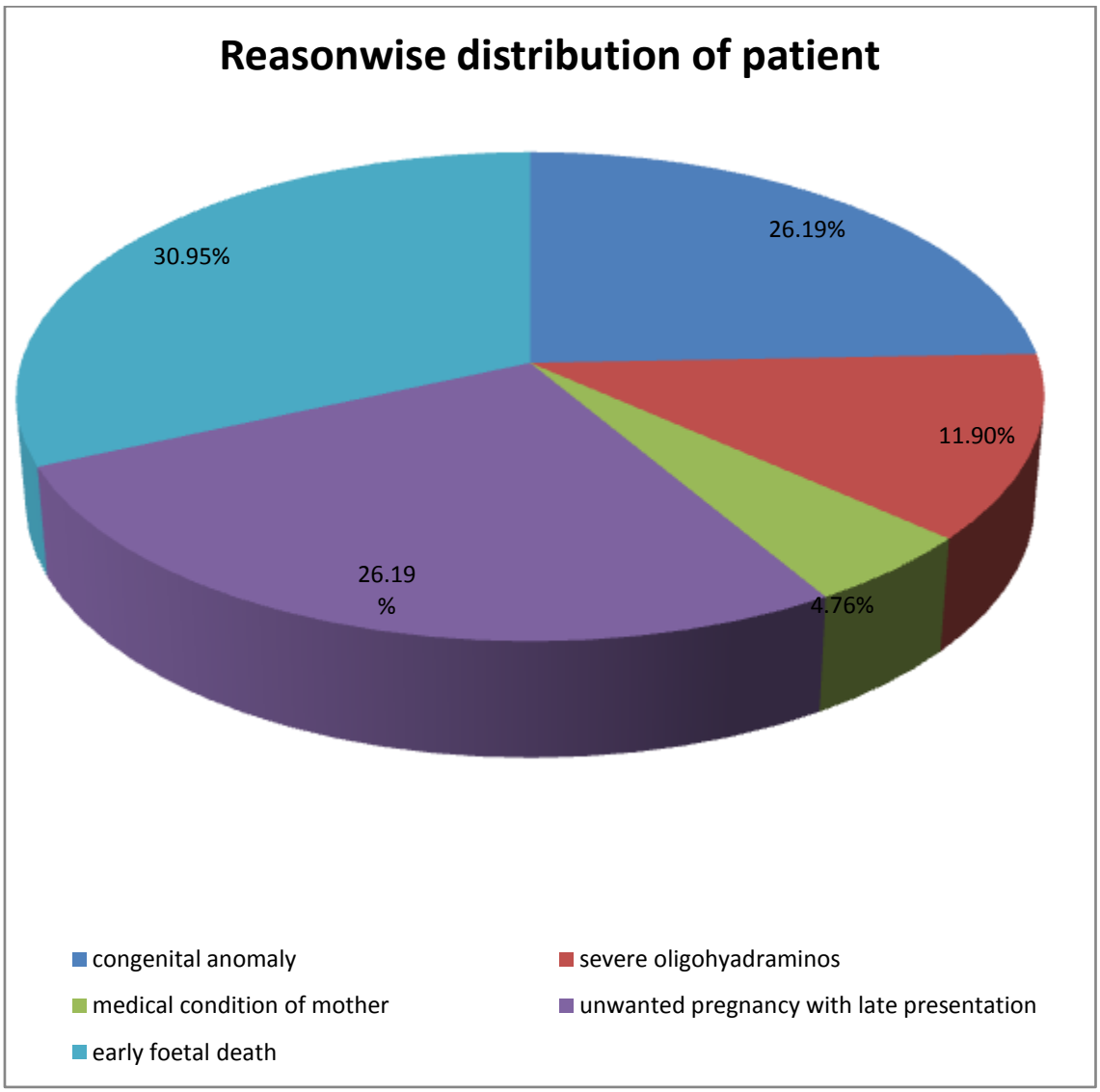

No. Of misoprostol doses	Nulliparous (n=13)	M	Total (n=42)

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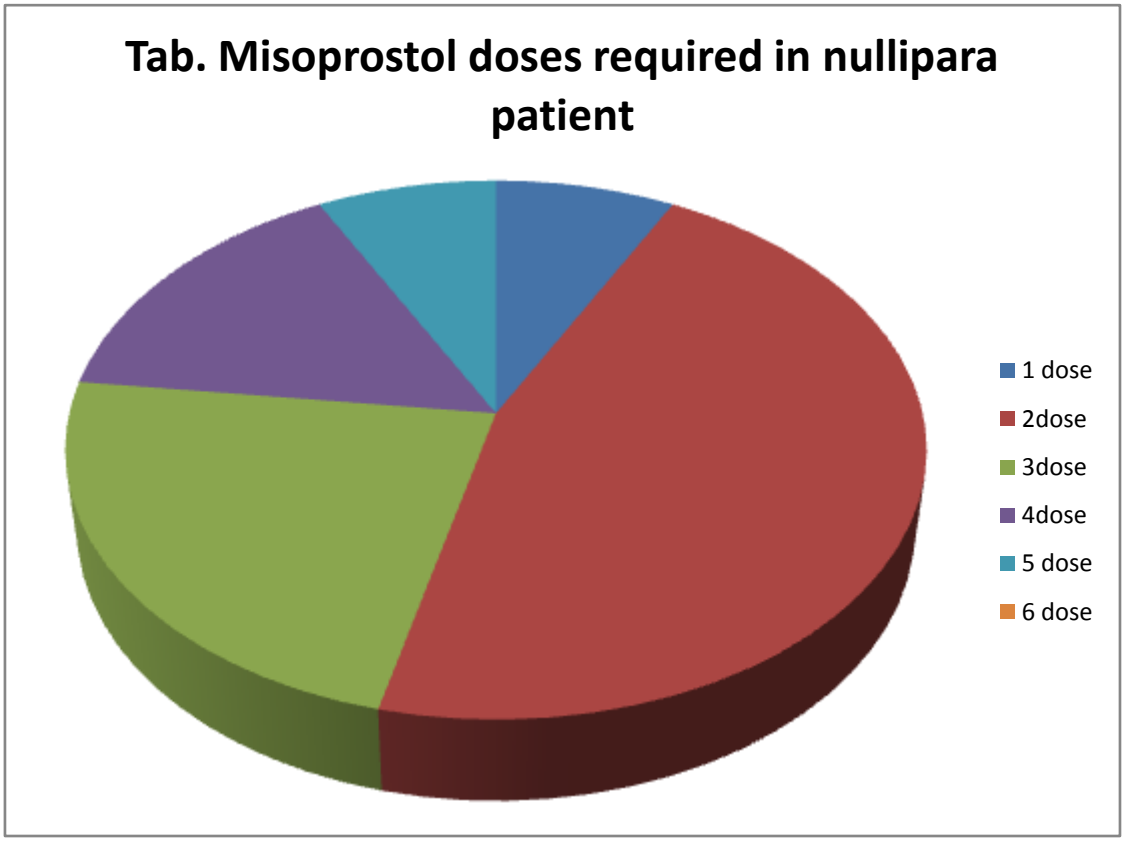
1st cycle			
1	1 (07.69%)	7 (24.13%)	8 (19.05%)
2	6 (46.15%)	14 (48.27%)	20(47.62%)
3	3 (21.4%)	4 (13.80%)	7 (16.67%)
4	2 (23.07%)	0	2 (4.76%)
5	1(07.69%)	2(06.89%)	3 (7.14%)
2ed cycle			
6	0	1(03.44%)	1(2.38%)
7	0	1(03.44%)	1(2.38%)



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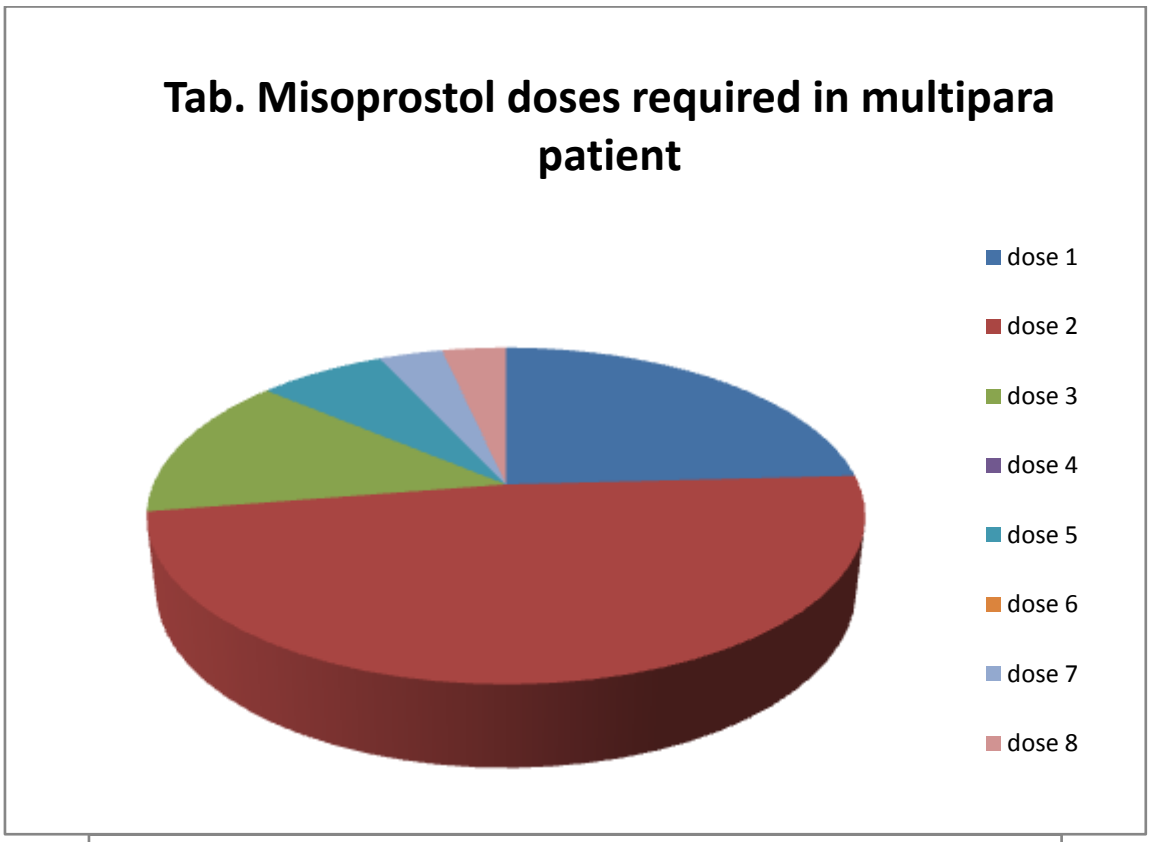

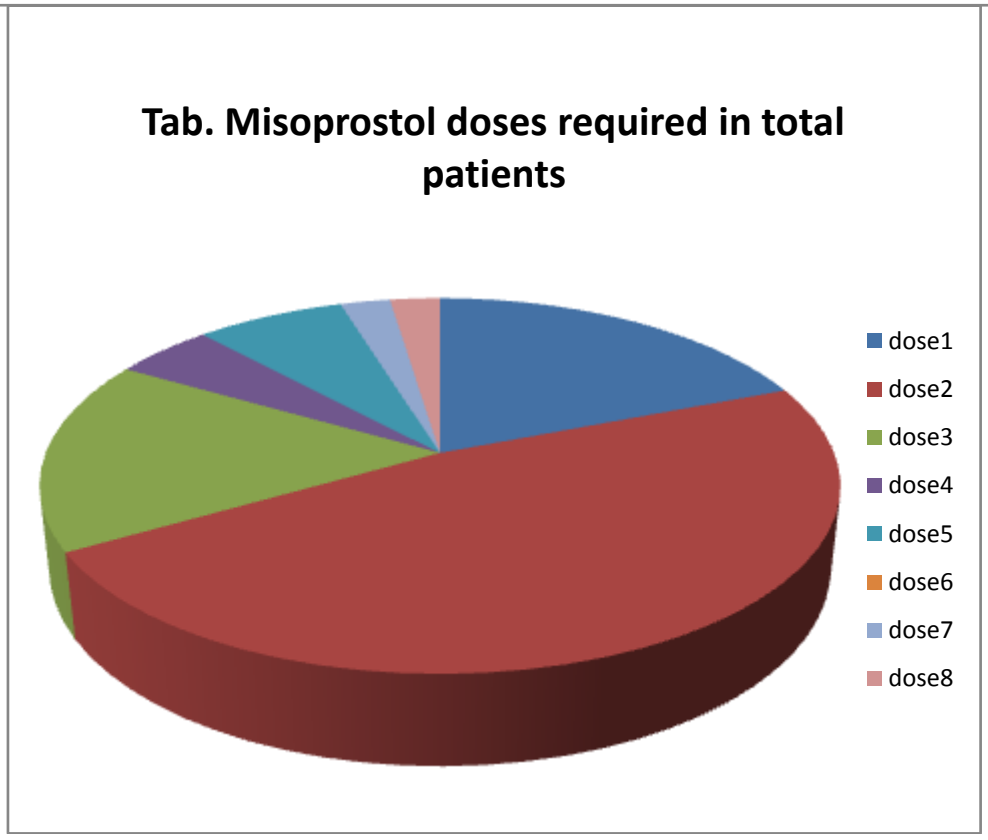

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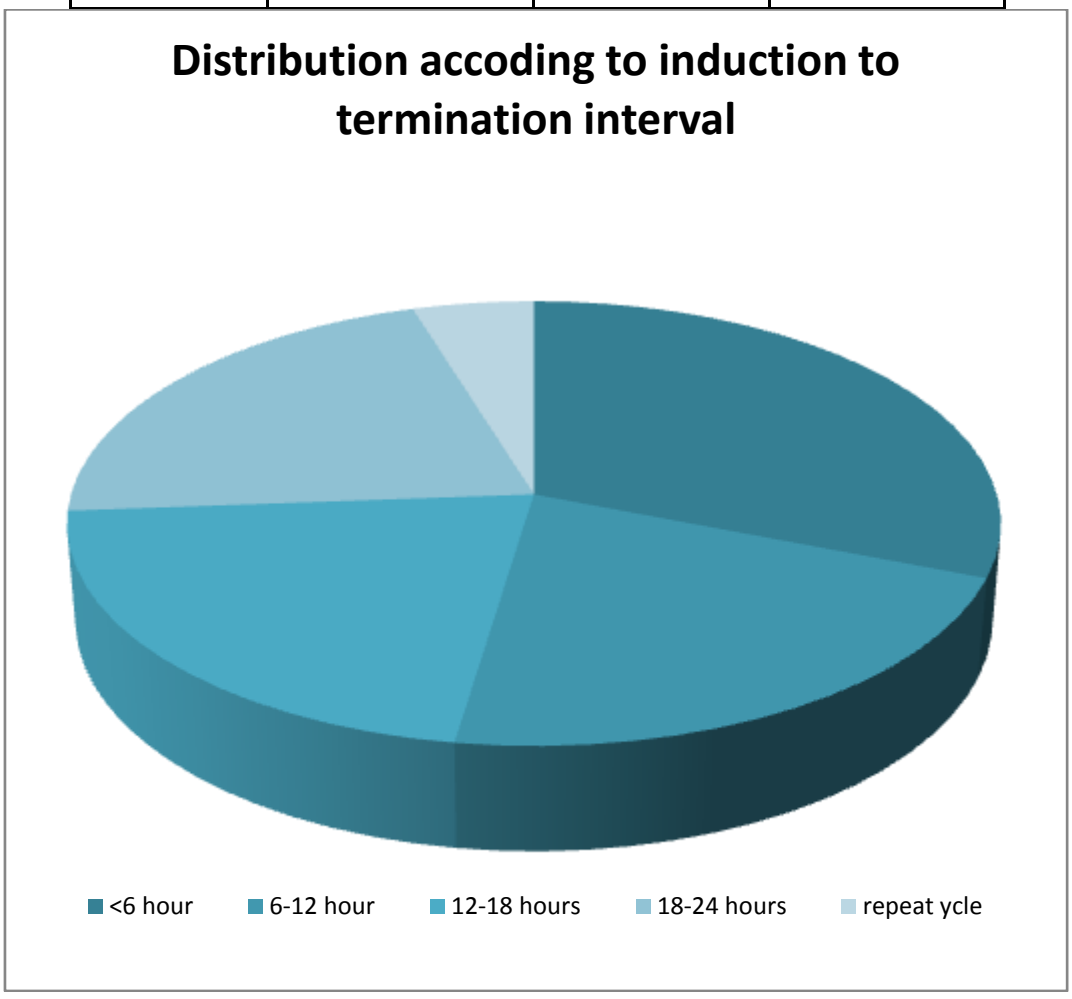
Duration	Nulliparous (n=15)	Multiparous (n=27)	Total (n=42)
<6 hours	5(33.33%)	8(29.62%)	13(30.95%)
6-12 hours	2(13.33%)	7(25.92%)	9 (21.42%)
12-18 hours	4(26.66%)	5(18.51%)	9 (21.42%)
18-24 hours	4(26.66%)	5(18.51%)	9 (21.42%)
Repeat cycle	0	2(7.40%)	2(4.76%)



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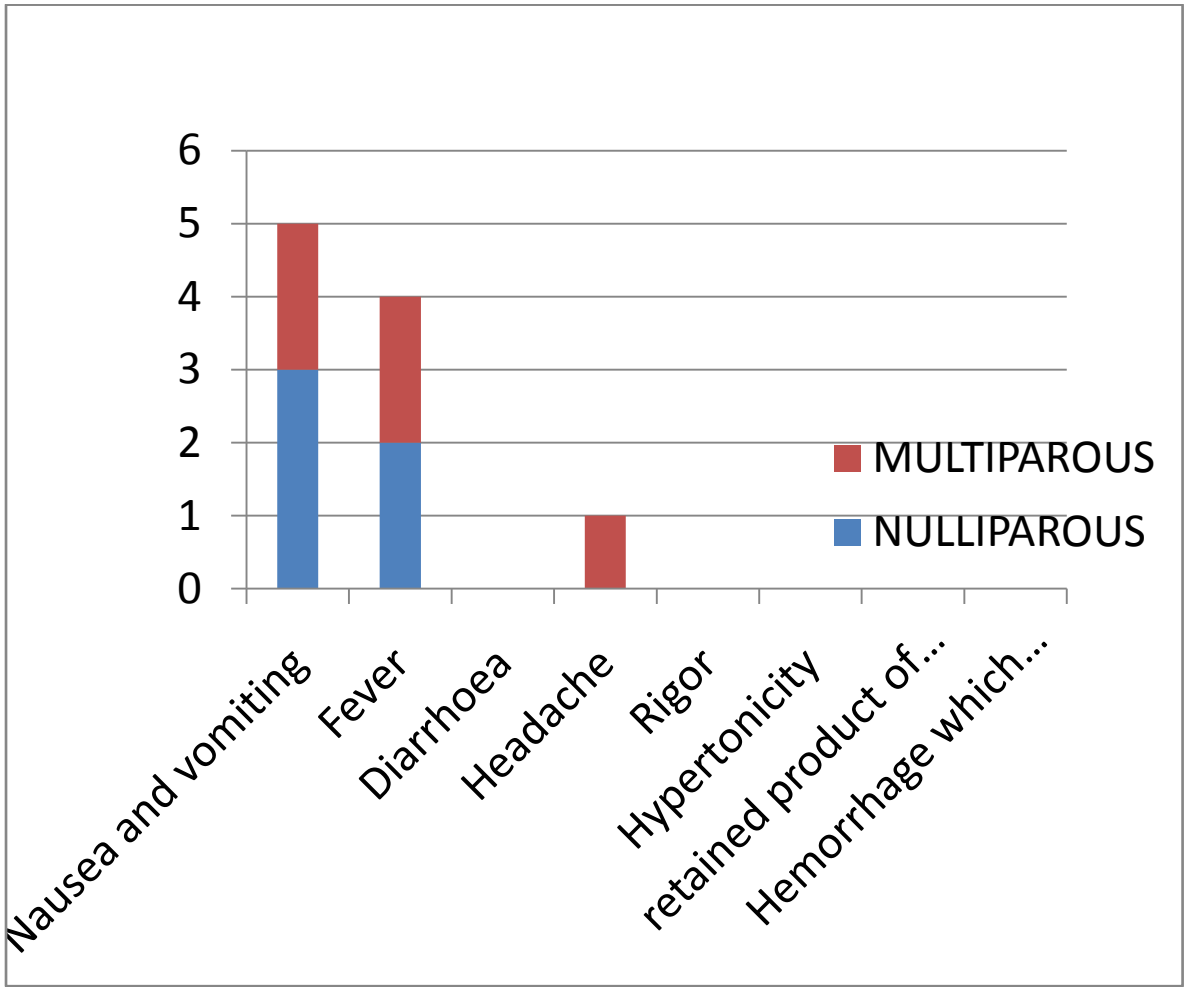
Adverse effect	Nulliparous (n=15)	Multiparous (n=27)	Total (n=42)
Nausea and vomiting	3	2	5(11.90%)
Fever	2	2	4(9.52%)
Diarrhoea	0	0	0
Headache	0	1	1(2.38%)
Rigor	0	0	0
Hyper tonicity	0	0	0
Retained product of conception	0	0	0
Hemorrhage which need blood transfusion	0	0	0



III. RESULTS

- Out of 42 patients, 35 patients (83.33%) delivered with 1-3 doses of misoprostol. Only 2 patients out of 42 had to under go second cycle. Both of them were multipara.
- Out of 42 patients 40 (95.23 %) delivered in 1st cycle itself. Majority delivered within 12 hours (52.37%). 9 patients needed longer than 18 hours for complition.
- Most common side effect caused by these drugs is nausea and vomiting seen in 5

(11.90%) patients only. Majority patients 32 (76.19%) out of 42 did not develop any side effects.

IV. DISCUSSION

Second trimester termination of pregnancy is a complicated procedure in developing countries especially in rural areas. There is constant research going on for an ideal method which is 100% reliable, safe and cheap. Medical second trimester termination of pregnancy with mifepristone and misoprostol is an effective method in clinical use. The 24- hour abortion successful rate (95.23%). The majority of the women required one to three doses of misoprostol, the median being one doses.

V. CONCLUSION

mifepristone and misoprostol significantly increase the effectiveness with less adverse effect of medical method of second trimester abortion. It is minimal invasive and significantly reduces the risk for surgical method (dilatation and evacuation) of termination of pregnancy.

ACOG practice bulletin no.135 suggests dilatation and avacuation over termination by medical abortion but in our study we experience very few side effets of medical management for second trimester termination.

REFERENCES

[1]. ACOG practice bulletin no.135 june 2013-second trimester abortion
[2]. WHO clinical practice handbook for safe abortion.
[3]. RCOG The Care of Women Requesting Induced Abortion Evidence-based Clinical Guideline Number 7
[4]. Second trimester medical abortion with mifepristone-misoprostol and misoprostol alone: a review of methods and management - PubMed Kristina Gemzell-Danielsson , Sujata Lalitkumar