Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Obstetrics & Gynecology

Medical Termination of Pregnancy up to 28 Weeks -A Tertiary Care Hospital Study in Bangladesh

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DOI: 10.36347/sjams.2022.v10i11.018 | **Received:** 11.10.2022 | **Accepted:** 16.11.2022 | **Published:** 20.11.2022

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Abstract **Original Research Article**

Background: Early pregnancy failure is a major public health problem throughout the world. It has been estimated that over 10-20% of pregnancies end up in spontaneous abortion and 80% of all these occur before 12 weeks. Mifepristone and Misoprostol are drugs, which are easy to store and require no surgical skills to administer, providing an alternative to surgical intervention that could increase access to abortion care. ***Objective:*** The objective of the study was to evaluate the safety, effectiveness, and acceptability of oral mifepristone and misoprostol for the termination of first- trimester pregnancy. The study was carried out in the department of Obstetrics and Gynecology, Holy Family Red Crescent Medical College Hospital, Dhaka, conducted from June 2021 to May 2022. ***Methods:*** A total of 80 women participants of reproductive age group with miscarriage at gestational age up to 28 weeks attended the outdoor of Holy Family Red Crescent Medical College Hospital, Dhaka. A complete history was taken from each patients and accompanying attendants. A thorough clinical examination was done. Relevant investigation reports were collected. Patients were given a tablet of Misoprostol on day 1. Mifepristone & Misoprostol, in the divided dose and repeated after 2 weeks & after 2 weeks only misoprostol is given for 3 days as per needed. They were followed up for 1-3 days before discharge. Participants were asked to return to the hospital two weeks later to conform to clinical status. If incomplete termination was determined by clinical exam or by ultrasound in either of the study arm, women were given the option for surgical evacuation or 500 mcg of Misoprostol for additional follow-up 1 week later to see if expulsion would have occurred spontaneously. If, after the second follow-up visit, abortion was not complete, a surgical completion was performed. ***Results:*** Patients belonged to the age group 18-25 years. Maximum numbers of cases were multiparous and belonged to 7-8 weeks of gestation; past history of lower segment cesarean section was maximum. Maximum patients reported bleeding, out of these, 9% had excessive bleeding, but blood transfusion was required in 2 cases. 3% of patients had infections but 20% of patients had incomplete evacuation who underwent suction curettage. There was no case of uterine perforation was seen. The success rate was 98%. The overall acceptability of treatment of the study population stated that the treatment was satisfactory. 88% of patients stated that they would select this method again if needed. ***Conclusion:*** The present study concludes that the medical method of termination of pregnancy is a safe and effective method during the first trimester& 2nd trimesters. This simple, non-invasive and like a "natural menstrual period", emotionally easier and effective procedure could be utilized as an alternative method to surgical evacuation (MVA) for first trimester pregnancy termination.

Keywords: Early pregnancy, Spontaneous abortion, Mifepristone, Misoprostol, Surgical intervention, Method to surgical evacuation (MVA).

INTRODUCTION

Early pregnancy failure is a major public health problem throughout the world. It has been estimated that over 10-20% of pregnancies end up in spontaneous abortion and 80% of all these occur before 12 weeks [1]. Many of these are performed illegally in unsafe situations resulting in approximately 78,000

deaths annually worldwide, with the majority of these deaths occurring as a result of septicemia and hemorrhage [2]. In addition, many more women suffer long term morbidity from pelvic infection, uterine perforation and anemia. A recent study from Bangladesh suggested that providing women with lifesaving treatment for abortion related complications costs the health sector US $ 1.6 million annually in incremental costs alone [3]. The analysis also showed wide variations in incremental health system costs of providing care for moderate abortion complications. In these settings, medical method could save many lives annually by providing a treatment that can be administered at even the most basic rural health center. The principal concern is how to provide the most effective, easy, safe and less expensive way of management of early pregnancy loss. The use of sensitive pregnancy tests and the accessibility of ultra-sonogram have led to an increase in the number of diagnosed miscarriages. This study was designed to compare the safety, efficacy and medical termination of pregnancy up to 28 weeks.

METHODOLOGY

This was a cross-sectional observational study. The study was conducted from June 2021 to May 2022 it was carried out in the outpatient Department of Obstetrics and Gynecology, Holy Family Red Crescent Medical College Hospital, Dhaka. Bangladesh. This study was done with an aim to find out the effectiveness of medical termination of pregnancy. A total of 80 patients with history of pregnancy termination who agreed to enroll in this study were included. A total of 80 patients were enrolled in the study. A complete history was taken from patients and accompanying attendants. A thorough clinical examination was done. Relevant investigation reports were collected. Patients were given a tablet of misoprostol on day 1. Mifepristone & Misoprostol, in the divided dose and repeated after 2 weeks & after 2 weeks only misoprostol is given for 3 days as per requirement. They were followed up for 1-3 days before discharge. Participants were asked to return to the hospital 2 weeks later to conform to clinical status. If incomplete termination was determined by clinical exam or by ultrasound in either of the study arm, women were given the option for surgical evacuation or 500 mcg of misoprostol for additional follow-up 1 week later to see if expulsion would have occurred spontaneously. If, after the second follow-up visit, abortion was not complete, a surgical completion was performed.

Inclusion Criteria

- Patients with a diagnosis of incomplete abortion with gestational age of 12 weeks or less.
- Those were given informed consent to participate in this study.
- Women in general good health (i.e. not needing resuscitation and without chronic ill health).
- No signs of infection (temp >37.5°C, pulse>110 per minute, foul smelling discharge.
- No known hypersensitivity to misoprostol or mifepristone
- Ultrasonography must be available.
- Inj. Anti-D for R_h negative cases.

Exclusion Criteria

- Known allergy to mifepristone or misoprostol.
- Patients underwent unsafe abortion.
- Incomplete abortion with anemia.
- Ectopic pregnancy.
- Molar pregnancy.

RESULTS

Table 1: Comparison of the study population according to age (N= 80)

Age in years	Frequency (n)	Percentage (%)
<20 yrs.	12	15.0
21-25 yrs.	40	50.0
26-30 yrs.	21	26.25
>30 yrs.	7	8.75
Mean ± SD	20±4.5	

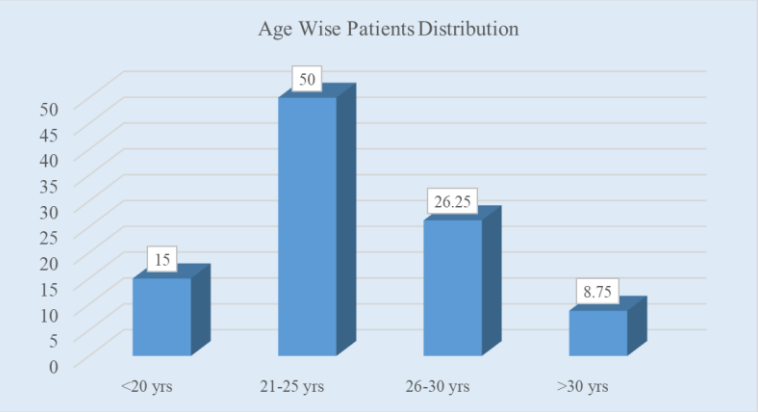

Figure 1: Bar chart showed group wise age distribution of the Participants. (N=80)

Table II: Distribution of the patients according to termination types of pregnancy (N= 80)

Indication	Frequency (n)	Percentage (%)
Unplanned	70	87.5
Miscarriage	10	12.5
An embryonic pregnancy	0	0.00

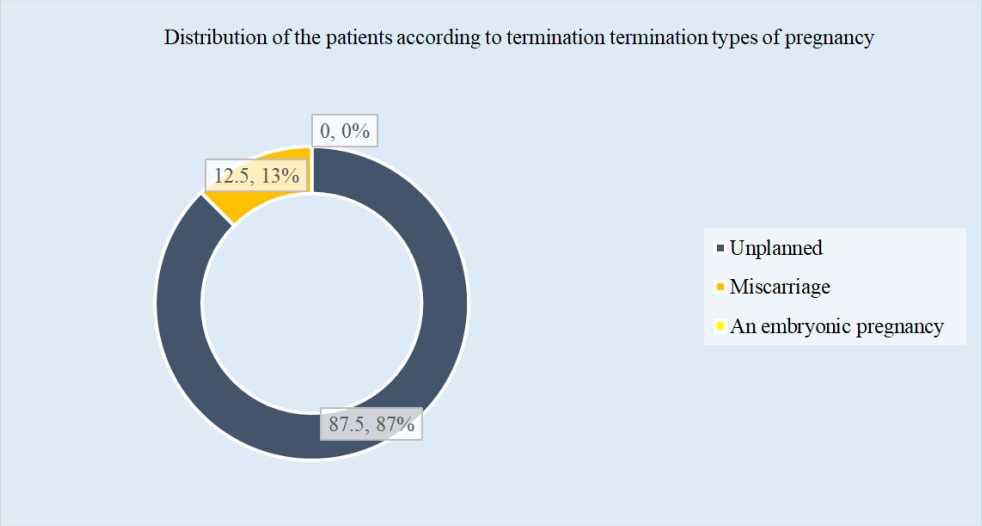

Figure 2: Pie chart showed distribution of the patients according to termination types of pregnancy (N= 80)

Table III: Distribution of patients by risk factors (N= 80)

Risk factors	Frequency (n)	Percentage (%)
Past history of abortion	10	12.5
Past history of LSCS	22	27.5
Hypertension	7	8.75
Diabetes Mellitus	5	6.25
History of significant obs. complications	36	45.0

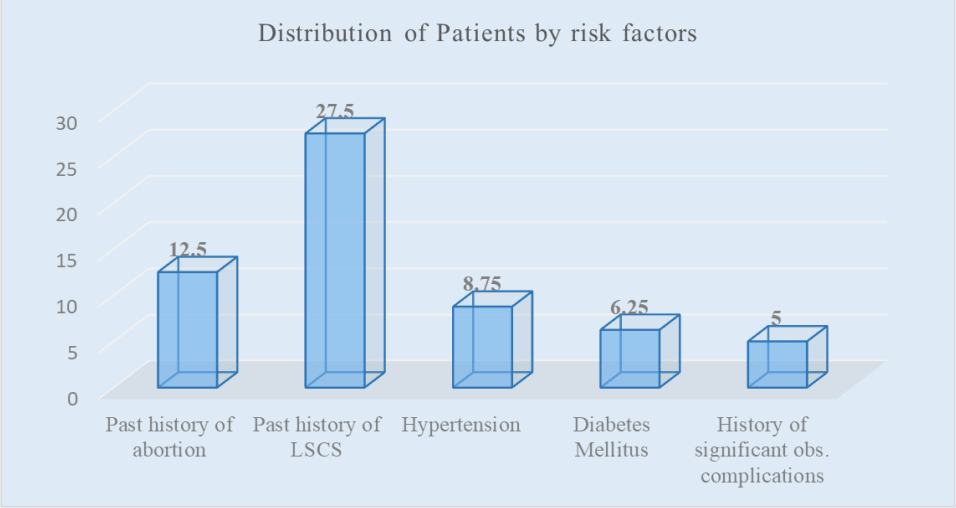

Figure 3: Bar chart showed types of Patients risk factors. (N=80)

DISCUSSION

For the termination of pregnancy in special case of intra uterine death using both mifepristone and misoprostol have the roll of highest efficacy and as well as the shortest time interval of abortion. The two agents: one is mifepristone which is a synthetic steroid with ant progestogen activity, and the other one is misoprostol, a prostaglandin E1 analogue. Mifepristone (mif-uh-PRIS-tone) competes with progesterone act as a receptor level and blocking its action. Which helps to stop of progressing nature of pregnancy and also work in the placenta and embryo to detach from the endometrium, following by dilation and softening of the cervix?

Mifepristone increases uterine contractility and sensitization of the myometrium to prostaglandin induced contraction. Success rate only 60-80%, depending upon dosage and gestational age. After 24-48 hours of mifepristone, Misoprostol (my-so-PROS-tol) is taken. Misoprostol induces contractions, cervical opening and evacuation of the uterine contents. In most cases, bleeding and expulsion occurs within 3-4 hours of after taking of misoprostol administration. Vaginal bleeding declines over 10-16 days. Oral mifepristone (Mifeprex) and oral misoprostol (cytotec) most of the time these medicines are usually taken within six to seven weeks of the first day of last menstrual period. With this type of medical termination of pregnancy mostly in IUD case mifepristone tablet is taken by mouth, 200 mg orally. Next step is misoprostol tablet placed in mouth between the teeth and cheek (buccal route) on under the tongue (sublingual route) and the dose is 400 mcg buccally every 3 hours for up to 5 doses [4]. When mifepristone and misoprostol are used for medical abortion, success rate for these regimens range from 95.16% and 97.7% [5, 6]. With failure due to ongoing pregnancy in approximately 1% [7]. Combination is more effective than either drug used alone [6, 8]. After a medical abortion by Mife-Miso need a follow-up visit to make sure that abortion is successful - that is whether pregnancy expulsion has occurred and there are some other investigations for confirmation. These are clinical assessment, Ultrasound, Serum pregnancy test [9]. Psychological complication does not typically occur by sometimes may occur in women who had psychologic symptoms before pregnancy. Had emotional attachment to the pregnancy have limited social support. Mifepristone and Misoprostol are contraindicated for who have: Previous history of allergic reaction to mifepristone or misoprostol. Known or suspected ectopic pregnancy. Inherited porphyria, chronic adrenal failure.

The current study result was supported by the study which was done by Chen, *et al.,* 2004 [10] and Mundle, *et al.,* (2008) [11]. The study also indicates that educated people underwent more pregnancy termination by safe procedure.

CONCLUSION

The present study concludes that the medical method of termination of pregnancy is a safe and effective method during the first trimester & 2nd trimesters. This simple, non-invasive and like a "natural menstrual period", emotionally easier and effective procedure could be utilized as an alternative method to surgical evacuation (MVA) for first trimester pregnancy termination.

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