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Comparison between the Efficacy of Oral vs Per-Rectal Use of Misoprostol in Prevention of Third Stage Bleeding

Dr. Farhana Kabir[1*], Dr. Shamima Ferdous Chowdhury[2], Dr. Nayer Islam[3]

[1]Lecturer, Dept. of Pharmacology, Gazi Medical College, Sonadanga, Khulna, Bangladesh
[2]Lecturer, Dept. of Pharmacology, Dhaka Central International Medical College, Dhaka, Bangladesh
[3]Lecturer, Dept. of Pharmacology, Gazi Medical College, Sonadanga, Khulna, Bangladesh

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***Corresponding author:** Dr. Farhana Kabir

Abstract **Original Research Article**

Objective: To evaluate the efficacy of Oral Vs Per-rectal Use of Misoprostol in Prevention of Third Stage Bleeding. ***Method*:** this observational prospective study was done at Tertiary medical college and hospital from March 2***017***-March 2018. Total 100patients who got admitted into the Gynae and Obstetric department of tertiary medical college and hospital, for their delivery purposes were evaluated for study. Where the patients divided into two groups: group-A: orally used misoprostol; n= 51, group-2: pre rectally used misoprostol; n=49. ***Result***: in the study, it was found that maximum patients belonged to 20-24 years group (51.4%). The next highest number of the patients was in 25-29 years group (29.7%).56% patients use misoprostol orally where only 44% use Misoprostol rectally. The t-test revealed that the mean blood loss (as measured by haemoglobin percentage) was significantly higher in per oral user group than that of per rectal users (p<.OOJ). That meant that per rectal use of Misoprostol could able to prevent more blood loss than oral use of Misoprostol tablet. ***Conclusion:*** from our study we can conclude that, rectal misoprostol is more effective in the management of third stage of labor. Lesser dose and other routes could be explored in the future.

Keywords: Misoprostol, Third Stage Bleeding, postpartum haemorrhage (PPH).

INTRODUCTION

Third stage of labour is defined as the duration from birth of the baby until the complete expulsion of the placenta and membrane [1]. It is a period during which both the patient and the obstetrician maybe relieved with the safe arrival of a healthy baby and hence into a false sense of security that all is safe and well. The normal case can be, within a minute be abnormal and successful delivery can be turned swiftly into a disaster unless prompt action is taken. Serious maternal morbidity and sometimes mortality can occur. The third stage is perhaps the most dangerous part of the labour for mother, the main risk being postpartum haemorrhage (PPH) [2]. PPH is a nightmare for obstetrician and the leading cause of maternal death around the world. To give birth to a healthy child is the most awaited event in a woman's life. Although incidence of haemorrhage related maternal death in developed countries have declined.

PPH with uterotonics such as prostaglandinis animportant toolin third stage management. Misoprostol is a cheap, thermostable, prostaglandin El derivative. It is a potent uterotonic. It is available in tablet form and can be administered orally, vaginally, rectally or sublingually, with different pharmacokinetic profiles. The oral and sublingual results are the fastest onset of action and strongest initial uterotonic effect. Rectally, there is a prolonged uterine contraction after a slow onset of action. Absorption of misoprostol is extremely rapid and being detected in circulation within two minutes of its introduction [3]. Its effects on post-partum uterus has been shown be rapid [4]. It does not require special storage and has a shelf life of several years and economically beneficial for developing countries. Several recent studies have been done reporting the use of oral and rectal misoprostol in third stage of labour for prevention of PPH.

So, in this study, our main goal is to evaluate the efficacy of Oral Vs Per-rectal Use of Misoprostol in Prevention of Third.

OBJECTIVE

General Objective

- To assess the efficacy of Oral Vs Per-rectal Use of Misoprostol in Prevention of Third.

Specific Objective

- To detect distribution of the patients according to route of Misoprostol
- To identify relationship between different routes of Misoprostol use and difference in levels of haemoglobin percentage before and after delivery

METHODOLOGY

Type of study	Prospective observational study
Place of study	Tertiary medical college and hospital
Study period	March 2017- March 2018
Study population	Total 100patients who got admitted into the Gynae and Obstetric department of tertiary medical college and hospital, for their delivery purposes. Where the patients divided into two groups: group-A: orally used misoprostol; n= 51, group-2: pre rectally used misoprostol; n=49.
Sampling technique	Purposive

METHOD

Data were collected from the patients who fulfilled the inclusion and exclusion criteria. A face-to-face Interview was carried out with help of the pre-tested semi structed interview schedule. Simultaneously the level of haemoglobin (before and after the deliver)') was measured with the help of skella book from blood and thus blood loss was calculated by deduction of after labored haemoglobin level from the haemoglobin level of the patients before delivery and administration of Misoprostol tablets.

STATISTICAL ANALYSIS

After compilation of data, obtained data were checked, verified, edited and quoted and data were enter in the personal computer using the program "SPSS-PC". Entered data were then be cleaned, edited and appropriate statistical tests were done depending on the distribution of data.

RESULTS

In Table-1 shows age distribution of the patients where after categorized the age, it was found that maximum patients belonged to 20-24 years group (51.4%). The next highest number of the patients was in 25-29 years group (29.7%). The following table is given below in detail:

Table-1: Distribution of the patient by age

Group of the age	Percent
15-19years	2.7
20-24 years	51.4
25-29 years	29.7
30-34 years	16.2
Total	100.0

In Table-2 shows income of patients. The maximum patients used to earn in between 5001 takas to 10,000 taka *(93.2%).* The rest of the patients were in the group who use to earn in between 10,001 takas to 15,000 taka (6.8%). The following table is given below in detail:

Table-2: Distribution of the patients by income

Monthly income	Percent
5001 -10000 taka	93.2
10001 -15000 taka	6.8
Total	100.0

In Figure-1 shows distribution of the patients according to route of Misoprostol where 56% patients use misoprostol orally where only 44% use Misoprostol rectally. The following table is given below in detail:

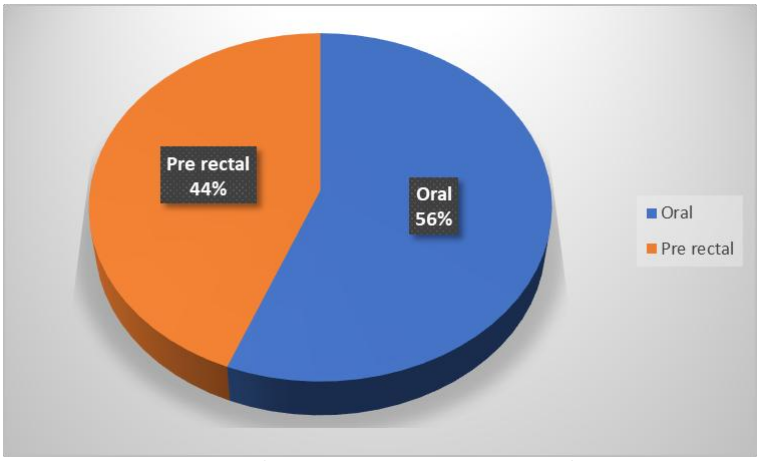

Fig-1: Distribution of the patients according to route of Misoprostol

In Figure-2 shows per rectal users of tablet Misoprostol about 90 percent of this patient group belonged to primi parous and remaining 10 percent had two para. The following figure is given below in detail:

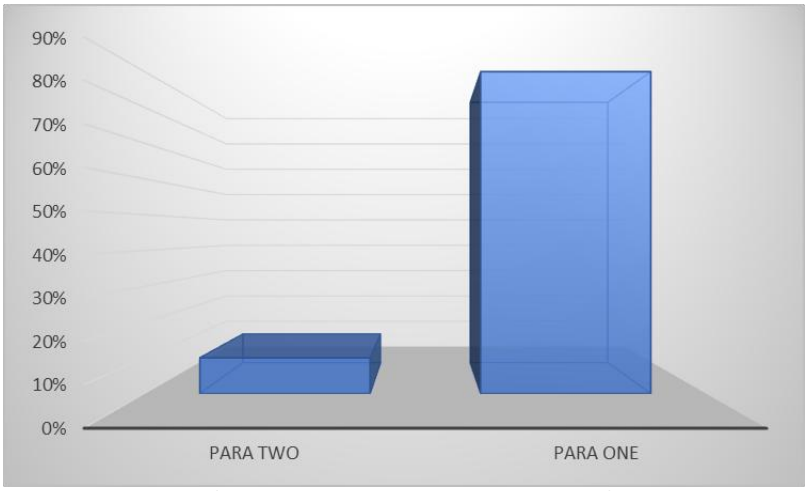

Fig-2: Distribution of the patients by parity in per rectal users of Misoprostol tablet

In Figure-3 shows Per oral user of Tablet Misoprostol About percent of the patients of this group was belonged to primi para. The rest of the patients (10.0%) had two parous.

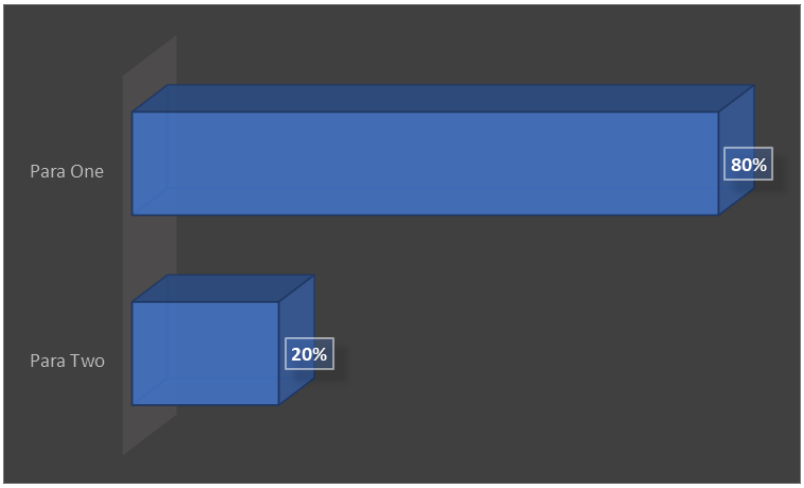

Fig-3: Distribution of the patients by parity in per Oral users of Misoprostol tablet

Table-3 shows relationship between different routes of Misoprostol use and Haemoglobin level before delivery. Where the result oft-test was found no statistical difference in between the percentages of haemoglobin of two groups (p>.05) before delivery and Misoprostol use. The following table is given below in detail:

Table-3: Relationship between different routes of Misoprostol use and Haemoglobin level before delivery

Name of characteristics	Route of Misoprostol use	Mean	Std. deviation	t-value	df	p- value
Hb% before the delivery	Rectal	65.13	5.07	.434	94	.665
	Oral	65.69	6.46			

Table-4 shows relationship between different routes of Misoprostol use and difference in levels of haemoglobin percentage before and after delivery. The t-test revealed that the mean blood loss (as measured by haemoglobin percentage) was significantly higher in per oral user group than that of per rectal users (p<.OOJ) that meant that per rectal use of Misoprostol could able to prevent more blood loss than oral use of Misoprostol tablet. The following table is given below in detail:

Table-4: Relationship between different routes of Misoprostol use and difference in levels of haemoglobin percentage before and after delivery

Name of characteristics	Route of Misoprostol use	Mean	Std. deviation	t-value	df	p- value
Difference in levels of Hb% before and after delivery	Rectal	3.27	4.43	4.05	94	.000
	Oral	8.93	7.81			

DISCUSSION

The mean income of per rectal users of tablet Misoprostol 9705.40 taka with standard deviation (±) 4034.22 taka and the range was in between 5500 taka to 20,000 taka. On the other hand, the mean income of per oral users was 7118.64 taka with standard deviation (±) 2055.14 taka and the range was in between 5500 taka to 15,000 taka. Which is supported by one study [5]. 90 percent of the patient was primi para (90% vs 80%).

The mean haemoglobin percentage of the patient, before per rectal use of misoprostol, was 65.13 % with the standard deviation 5.07 %. Meanwhile, the mean haemoglobin percentage of the same group, after delivery and use of per rectal misoprostol tablets, was 61.62% with standard deviation 3.34%. It was also observed that the mean reducing of haemoglobin percentage of this per rectal users was 3.27 gm% with standard deviation 4.4 Igm%.

Besides, the mean haemoglobin percentage of the per oral users of misoprostol tablet was 65.68 gm% with the standard deviation 6.46 % while the mean haemoglobin percentage in this group, after delivery and use of oral misoprostol tablets, was 56.35% with standard deviation 5.07%. Meanwhile, it was also observed that the mean reducing of haemoglobin percentage of this group of patients was 8.98 gm% with standard deviation 7.81 gm%.

It was found that no statistical difference in between the percentages of haemoglobin of two groups before delivery and usage of tablet Misoprostol (p>.05). On the other hand, there was significant statistical difference observed in the haemoglobin percentage of two user groups after delivery and use of tablet Misoprostol (p<.05) It was revealed in the statistical test that the mean blood loss of the patients was significantly higher in per oral user group than that of per rectal users (p<.001) that meant the per rectal use of Misoprostol could able to prevent more blood loss than per oral use of Misoprostol tablet in third stage of labor. This had the similarity with the study several studies [6, 7].

CONCLUSION

From our study we can conclude that, rectal misoprostol is more effective in the management of third stage of labor. Lesser dose and other routes could be explored in the future.

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