

ASSESSMENT OF RISK FACTORS OF POST-PARTUM HEMORRHAGE AND ITS OUTCOME AT TERTIARY CARE CENTER

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Received:15/01/2019

Revised:10/03/2019

Accepted:20/03/2019

ABSTRACT

Background: Post-partum hemorrhage (PPH) is responsible for approximately 23% of maternal mortality worldwide and also reported as the most common cause of maternal mortality in Asian continent. The most common direct cause of maternal deaths and as well as maternal morbidity in India is post-partum hemorrhage, reported in various researches and accounts for 25% maternal deaths. **Material & Methods:** A total of 200 cases who had vaginal delivery with blood loss of 500 ml or more and cases who had caesarean section with blood loss of 1000 ml or more, were enrolled for study. Written informed consent from each and every participant was taken prior to study. **Results:** The most common risk factor for the post-partum hemorrhage was the atonicity of the uterus which was seen in 168 (84%) of the total pregnant women. PIH was seen in 74 (37%) pregnant women followed by APH which was seen in 45 (22.5%) pregnant women. Prolonged labour was accounts for 28 (14%) cases of PPH and retained placental products accounts for 17 (8.5%) cases of PPH. Large baby induced PPH was seen in 14 (7%) pregnant women and Genital tract Injuries accounts for 13 (6.5%) cases of PPH. PPH due to ruptured uterus was seen in 9 (4.5%) pregnant women and multi parity accounts for 9 (4.5%) cases of PPH. Infections were accounts for 5 (2.5%) cases of PPH and Uterine Inversion accounts for 2 (1%) cases of PPH. **Conclusion:** We concluded from the present study that Post-partum hemorrhage can be managed effectively by active management of the third stage of labour with use of uterotonics and blood transfusions.

Keywords: Postpartum haemorrhage, Atonicity, Maternal mortality.

INTRODUCTION

Post-partum hemorrhage (PPH) is responsible for approximately 23% of maternal mortality worldwide and also reported as the most common cause of maternal mortality in Asian continent (1). The most common direct cause of maternal deaths and as well as maternal morbidity in India is post-partum hemorrhage, reported in various researches and accounts for 25% maternal deaths. Post-partum hemorrhage is characterized by loss of blood equal to or more than 500 ml within the 24 hours of the labour (2). Maternal deaths due to post-partum hemorrhage are significantly low (approximately 8%) in developed countries. i.e. pregnant women giving childbirth in the developing countries are exposed to greater risk of dying during labour than countries in

their developed counterparts. Hence, this suggests that it is preventable cause of maternal mortality. (3)

The mortalities due to post-partum hemorrhage represents only cases which were registered for hospitalized delivery and the hidden or submerged portion of the iceberg which represents the overall mortality which are leading cause of maternal deaths is the target for policy makers (4). Post-partum hemorrhage reported as the most common direct cause of maternal deaths, although majority of pregnant mothers having hospitalized deliveries or home based deliveries by the help of skilled birth attendants, hence along with that there is essential need of active management of the third stage of labour in all the cases (5). Clinical trainings and

workshops based on active management of third stage of labour based on international guidelines for the health care personals for improving the quality of care. Training programs based on active management of third stage of labour are the mainstay in the early diagnosis, prevention and management of the post-partum hemorrhage (6).

Clinical trainings and workshops should include hands-on training on management of post-partum hemorrhage along with seminars and video presentations, manual removal of placenta along with management of retained placenta, how to visually estimate the blood loss, management of uterine tamponade, bimanual uterine compression, repair of injuries during labour, compression sutures, ligation of internal iliac artery and uterine devascularization (7). Hence, the present study aimed to know the risk factors and outcome of post-partum hemorrhage at our tertiary care center.

MATERIALS & METHODS

The present cross-sectional prospective study was conducted at Jhalawar Medical Collage & Hospital, Jhalawar. The study duration was of one year from June 2016 to May 2017. A sample size of 200 was calculated at 95% confidence interval at 10% acceptable margin of error by epi info software version 7.2. A total of 200 cases who had vaginal delivery with blood loss of 500 ml or more and cases who had caesarean section with blood loss of 1000 ml or more, were enrolled for study. Written informed consent from each and every participant was taken prior to study. Clearance from Institutional Ethics Committee was taken. Detailed socio-demographic data were taken and recorded along with general physical and clinical examination. Pregnant women who were requiring more than 2 blood transfusions, pregnant women requiring surgical intervention such as B Lynch ligation with or without internal iliac artery ligation, pregnant women who were requiring obstetric hysterectomy were excluded from the study. The data were analyzed by using software's MS Excel 2010, Epi Info v7 and SPSS v22.

RESULTS

In the present study a total of 200 pregnant women who had post-partum hemorrhage were enrolled. The age of the pregnant women were range from 20 to 35 years, with a mean age of 26 years. 72% of the pregnant women were from rural background. Most of the pregnant women were referred from elsewhere 102 (51%). Majority of pregnant women had normal vaginal delivery 138 (69%) while caesarian section was mode of delivery among 62 (31%) pregnant women. Majority of pregnant women were

primigravida 112 (56%) while pregnant women with gravida 2 and gravida 3 or more were 66 (33%) and 22 (11%) respectively. Commonest complication was anaemia in 128 (64%) pregnant women. DIC and other complications were seen in 7 (3.5%) and 13 (6.5%) pregnant women respectively. No complications were seen in 52 (26%) pregnant women. There were no maternal deaths reported in present study. (Table 1)

Table 1: Distribution of study participants according to study parameters.

	Parameters	No. of cases
Mode of delivery	NVD	138 (69%)
	LSCS	62 (31%)
Gravid status	Primigravida	112 (56%)
	Gravida 2	66 (33%)
	Gravida 3 and above	22 (11%)
Complications	Anemia	128 (64%)
	DIC	7 (3.5%)
	Others	13 (6.5%)
	No Complications	52 (26%)

In the present study among the majority of the pregnant women the etiology behind the post-partum hemorrhage was the atonicity of the uterus which was seen in 168 (84%) of the total pregnant women. PIH was seen in 74 (37%) pregnant women followed by APH which was seen in 45 (22.5%) pregnant women. Prolonged labour was accounts for 28 (14%) cases of PPH and retained placental products accounts for 17 (8.5%) cases of PPH. Large baby induced PPH was seen in 14 (7%) pregnant women and Genital tract Injuries accounts for 13 (6.5%) cases of PPH. PPH due to ruptured uterus was seen in 9 (4.5%) pregnant women and multi parity accounts for 9 (4.5%) cases of PPH. Infections were accounts for 5 (2.5%) cases of PPH and Uterine Inversion accounts for 2 (1%) cases of PPH. (Table 2)

In the present study among the majority of the pregnant women the etiology behind the post-partum hemorrhage was the atonicity of the uterus which was

seen in 168 (84%) of the total pregnant women. 162 (81%) pregnant women with PPH were given uterotonics with less than 2 blood transfusions were used for the management of PPH. Peritoneal repair was conducted in 22 (11%) pregnant women. 16 (8%) cases of PPH were required the surgical interventions. (Table 3)

Table 2: Distribution of study participants based upon risk factors and causes of PPH.

Risk factors	No. of cases
Atonicity	168 (84%)
PIH	74 (37%)
APH	45 (22.5%)
Prolonged labour	28 (14%)
Retained Placenta	17 (8.5%)
Large baby	14 (7%)
Genital tract Injuries	13 (6.5%)
Ruptured Uterus	9 (4.5%)
Multi parity	9 (4.5%)
INFECTION	5 (2.5%)
Uterine Inversion	2 (1%)

Table 3: Distribution of study participants based upon management outcomes.

Type of intervention for PPH	No. of cases
Uterotonics + <2 blood transfusions	162 (81%)
Perineal tear repair	22 (11%)
Surgical intervention	16 (8%)
Total	100%

DISCUSSION

In the present study a total of 200 pregnant women who had post-partum hemorrhage were enrolled. The age of the pregnant women were range from 20 to 35 years, with a mean age of 26 years. 72% of the pregnant women were from rural background. Most of the pregnant women were referred from elsewhere 102 (51%). Majority of pregnant women had normal vaginal delivery 138 (69%) while caesarian section was mode of delivery among 62 (31%) pregnant women. Majority of pregnant women were primigravida 112 (56%) while pregnant women with gravida 2 and gravida 3 or more were 66 (33%) and 22 (11%) respectively. Nearly similar finding was reported in study conducted to estimate the overall

prevalence of post-partum hemorrhage which was approximately 3%. The mean age of their study participants was 35±3 years. (8) Similar findings were reported in a study conducted by Chitra S et al among 250 cases and 250 controls and the magnitude of PPH reported was 3.4%. Overall 52.5% of the pregnant women were primigravida (9)

In the present study commonest complication was anaemia in 128 (64%) pregnant women. DIC and other complications were seen in 7 (3.5%) and 13 (6.5%) pregnant women respectively. No complications were seen in 52 (26%) pregnant women. There were no maternal deaths reported in present study. Similar findings were reported in a study conducted by Chandrika S et al among 12356 pregnant women over the period of two years and found the overall prevalence of post-partum hemorrhage of 0.9%. The majority of pregnant women 62% were multipara. The most complication was found to be anaemia among studied participants (10). In the present study the magnitude of post-partum hemorrhage was observed to be 2.2%. In previous researches the prevalence of post-partum hemorrhage were reported from 1.5% to 12% out of the total deliveries (11).

In the present study among the majority of the pregnant women the etiology behind the post-partum hemorrhage was the atonicity of the uterus which was seen in 168 (84%) of the total pregnant women. PIH was seen in 74 (37%) pregnant women followed by APH which was seen in 45 (22.5%) pregnant women. Prolonged labour was accounts for 28 (14%) cases of PPH and retained placental products accounts for 17 (8.5%) cases of PPH. Large baby induced PPH was seen in 14 (7%) pregnant women and Genital tract Injuries accounts for 13 (6.5%) cases of PPH. PPH due to ruptured uterus was seen in 9 (4.5%) pregnant women and multi parity accounts for 9 (4.5%) cases of PPH. Infections were accounts for 5 (2.5%) cases of PPH and Uterine Inversion accounts for 2 (1%) cases of PPH. Similar findings were reported in a study conducted by Tasneem et al among 1333 cases of post-partum hemorrhage and found the overall prevalence of PPH reported was 3.55%. The most common cause for PPH was found to be atonicity among 86% cases (12). Similar findings were reported in a study conducted by Pratima D et al, they found the overall prevalence of post-partum hemorrhage was 2%. The most common cause for PPH was atonicity reported among 62 % of the pregnant women (13).

In the present study among the majority of the pregnant women the etiology behind the post-partum hemorrhage was the atonicity of the uterus which was

seen in 168 (84%) of the total pregnant women. 162 (81%) pregnant women with PPH were given uterotonics with less than 2 blood transfusions were used for the management of PPH. Peritoneal repair was conducted in 22 (11%) pregnant women. 16 (8%) cases of PPH were required the surgical interventions. A study conducted by Naina Kumar reported that PPH is a preventable and managed by early timely intervention by active management of third stage of labor with the help of uterotonics with or without blood transfusion (14).

CONCLUSION

We concluded from the present study that Postpartum hemorrhage can be managed effectively by active management of the third stage of labour with use of uterotonics and blood transfusions. In some cases, surgical intervention was required. To minimize PPH risk factors should be reduced, promote institutional deliveries, increase awareness, and training of health care professionals. The subject still needs elaborative research to overcome the burden of PPH.

REFERENCES

1. Duhan L, Nanda S, Sirohiwal D, Dahiya P, Singhal S, Vandana V. A retrospective study of maternal and perinatal outcome in patients of postpartum haemorrhage in a tertiary care hospital. *Int J Reprod Contraception, Obstet Gynecol.* 2016 Jan 5;5(6):1897–901.
2. Alam A, Shyam P, Goswami S. A comparative study of efficacy of oxytocin, methylergometrine and misoprostol in prevention of post-partum haemorrhage. *Int J Reprod Contraception, Obstet Gynecol.* 2017 Apr 27;6(5):1960.
3. Gore S, Padmawar A, Pathan SK. A prospective randomized controlled trial for comparison of oral misoprostol with methyl ergometrine in the third stage of labour for prevention of postpartum haemorrhage. *Int J Reprod Contraception, Obstet Gynecol.* 2017 Jun 24;6(7):2825.
4. Kodey P, Koneru G, Kota L, Kuchibatla S. Pseudoaneurysm of uterine artery: as a cause of secondary post partum haemorrhage. *Int J Reprod Contraception, Obstet Gynecol.* 2015 Feb 19;4(6):1821–4.
5. Jain A, Sapkal RU. Internal iliac artery ligation to combat post partum haemorrhage: an institutional review of case series. *Int J Reprod Contraception, Obstet Gynecol.* 2017 May 25;6(6):2347
6. Rani PR, Begum J. Recent Advances in the Management of Major Postpartum Haemorrhage - A Review. *J Clin Diagn Res.* 2017 Feb;11(2):QE01-QE05.
7. Vibha M, Nilesh D. Pregnancy outcome in elderly primi gravidas. *Int J Reprod Contraception, Obstet Gynecol.* 2016 Dec 14;5(11):3731–5.
8. Nigeen W, Farooq M, Afzal A, Ashraf S, Bhat AS. Secondary postpartum haemorrhage in a tertiary care hospital of North India: a retrospective analysis. *Int J Reprod Contraception, Obstet Gynecol.* 2017 Jan 31;6(2):532.
9. Subramaniam C, Chandran S, Priya S. Comparative Study on Prevention of Postpartum Hemorrhage by Routine Active Management of Third Stage of Labor in Madurai Medical College, Tamil Nadu, India. 2017;5(1):70–3.
10. Kodla CS. A study of prevalence, causes, risk factors and outcome of severe obstetrics haemorrhage. *J Sci Innov Res JSIR.* 2015;4(42):83–7.
11. Shaikh, Shabnam; Shaikh, Najma Bano; Talpur, Sabreena; Balouch R. Postpartum Hemorrhage: An Experience At Tertiary Care Hospital, Hyderabad. *Med Channel.* 2013;19(1):44–7.
12. Tasneem F, Sirsam S, Shanbhag V. Clinical study of post partum haemorrhage from a teaching hospital in. 2017;6(6):2366–9.
13. Devi KP, Singh LR, Singh LB, Singh MR, Singh NN, Devi KP. Postpartum Hemorrhage and Maternal Deaths in North East India. *Open J Obstet Gynecol.* 2000;5(5):635–8.
14. Kumar N. Postpartum Hemorrhage; a Major Killer of Woman: Review of Current Scenario. *Obstet Gynecol Int J.* 2016;4(4).

How to cite this article: Nanani M., Assessment of risk factors of post-partum hemorrhage and its outcome at tertiary care center, *Int.J.Med.Sci.Educ* 2019;6(3):17-20