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A TERTIARY INSTITUTE'S CLINICAL EVALUATION OF RISK VARIABLES IN SUBJECTS WITH POST-PARTUM HEMORRHAGE

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Short Review

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ABSTRACT

Background: In both industrialised and progressive countries, post-partum hemorrhage may occur in 1-5% of child births. It continues to be the most common reason of mother morbidity and mortality. When advising women on where to give birth, doctors must be aware of the risk elements for PPH and should take these into consideration.

Aims & objectives: A tertiary institute's post-partum hemorrhage subjects were the subject of the current research to examine risk variables.

Material and Methods: The current research was an observational, prospective, institute-based study that involved pregnant women older than 18 who gave birth at our institute and were diagnosed with post-partum hemorrhage.

Results: During the two-year study duration, 9784 births took place at our institute; 172 subjects (1.76%) experienced post-partum hemorrhage; the maximum of these subjects were between the ages of 21 and 24, followed by the 25 to 29 age category (31.4%). The study category's average age was 23.26± 3.46 years. Severe anaemia (Hb 7 gm%) (36.05%), previous LSCS (26.74%), hypertensive disorders of pregnancy (22.09%), premature membrane rupture (17.44%), hypothyroidism (17.44%), abruptio placentae (17.44%), prolonged labour (15.12%), and placenta previa (15.12%) were all common risk elements in the current study. Bi-lateral uterine vessel ligation (45.35%), bi-lateral uterine vessel ligation + bi-lateral internal iliac vessel ligation (9.30%), obstetric hysterectomy (15.12%), and perineal tear repair (9.30%) were the only interventions other than more than two uterotonics (100.00%) and more than two PCV blood transfusions (84.88%). Six subjects died, it was noted (atonic PPH – 3 cases, mixed PPH 2 cases, placenta accreta spectrum- 1 case).

Conclusion: Age between 21 and 24 years, primiparity, severe anaemia (Hb 7 gm%), prior LSCS, hypertensive disorders of pregnancy, premature membrane rupture, hypothyroidism, abruptio placentae, delayed labour, and placenta previa were significant risk elements in the current study for post-partum bleeding.

Keywords: risk elements, post-partum hemorrhage, atonic PPH, previous LSCS.

INTRODUCTION

In both industrialised and progressive countries, post-partum hemorrhage may occur in 1-5% of child births[1]. It continues to be the most common reason of mother morbidity and mortality. When there is a blood loss of more than 500 ml during a vaginal childbirth, more than 1000 ml during a C-section, or more than 1500 ml during an obstetric hysterectomy, post-partum hemorrhage is diagnosed[2]. Another definition of PPH is blood loss significant enough to result in hypovolemia, a 10% decrease in hematocrit, or the need for blood products to be transfused (regardless of route of childbirth). Mother mortality can be avoided in cases of post-partum hemorrhage[3]. In developed countries, the percentage of mother fatalities attributable to post-partum hemorrhage is very low (about 8%). i.e., pregnant women giving birth in progressive countries face a higher risk of passing away during labour than women in industrialised countries. Anemia, numerous pregnancies, obstetric procedures (augmentation and inducement of labour, assisted vaginal birth, caesarean childbirth), and chorio-amnionitis are among the established risk elements for PPH. Nevertheless, PPH can occur in people who have no known risk elements[4]. Prior to any pregnancy, the prediction technique implies the evaluation of risk elements. PPH risk elements might manifest throughout pregnancy or immediately after childbirth; care strategies must be adjusted as needed[5]. When advising women on where to give birth, doctors must be aware of the risk elements for PPH and should take these into

consideration. Our capacity to lower the risk of PPH rests on continual analyses of risk variables and previously unexplained reasons[6].

Aims & objectives:

A tertiary institute's post-partum hemorrhage subjects were the subject of the current research to examine risk variables.

MATERIAL AND METHODS

The current research was an observational, prospective institute-based study that was carried out in the central Indian department of gynaecology and obstetrics. The study lasted two years (July 2019 to June 2021). The institutional ethical committee gave its clearance for the study.

Inclusion criteria: pregnant people older than 18 who gave birth at our institute and met any one of the following requirements: Subjects who have had a caesarean section, a vaginal childbirth, or an obstetric hysterectomy with an expected blood loss of more than 500 ml, 1000 ml, or 1500 ml. Subjects who experience symptoms of excessive bleeding, such as lightheadedness, dizziness, or syncope, as well as symptoms of hypovolemia (eg, hypotension, tachycardia or oliguria). Subjects who required blood transfusions had post-partum hemoglobin concentrations that had decreased by more than 10% from pre-partum values.

Exclusion criteria- women who are unwilling to engage in the study or who are too ill to consent or be questioned.

A patient's or a relative's written informed consent was obtained before participation. Microsoft Excel was used for data collection and compilation, and descriptive statistics were used for statistical analysis.

RESULTS

During the two-year study duration, 9784 births took place at our institute; 172 subjects (1.76%) experienced post-partum hemorrhage; the maximum of these subjects were between the ages of 21 and 24, followed by the 25 to 29 age category (31.4%). The study category's average age was 23.26 ± 3.46 years. When it came to parity status, the maximum (51.16%) were primiparous, followed by the parity status >2 (26.74%). The bulk, in terms of gestational age, fell between 36 and 38 weeks (26.74%) and 38 to 40 weeks (31.4%).

Table 1: General characteristics

Characteristics	No. of cases	Percentages
Age in years		
19-20	6	3 %
21-24	64	37 %
25-29	54	31 %
30-34	32	19 %
≥ 35	16	9 %
Parity		
1	88	51 %
2	38	22 %
>2	46	27 %
Gestational age (weeks)		
<34 weeks	16	9 %
34- 36	18	10 %
36- 38	46	27 %
38- 40	54	31 %
>40	38	22 %

Severe anaemia (Hb 7 gm%) (36.05%), previous LSCS (26.74%), hypertensive disorders of pregnancy (22.09%), premature membrane rupture (17.44%), hypothyroidism (17.44%), abruptio placentae (17.44%), prolonged labour (15.12%), and placenta previa (15.12%) were all common risk elements in the current study.

Table 2: Risk elements associated with PPH

Risk elements	No. of cases	Percentages
Severe Anaemia (Hb < 7 gm%)	62	36 %
Previous LSCS	46	27 %
Hypertensive disorders od pregnancy	38	22 %
Premature rupture of membranes	30	17 %
Hypothyroidism	30	17 %
Abruptio placentae	30	17 %
Placenta previa	26	15 %
Prolonged labor	26	15 %
Mal presentation	18	10 %
Instrumental childbirth	18	10 %
Genital trauma	16	9 %
Gestational diabetes mellitus	16	9 %
Fever	14	8 %
Primary LSCS	12	7 %
Multiple pregnancy	10	6 %
Macrosomia (Birth weight > 4 kg)	10	6 %
Polyhydramnios	10	6 %
Placenta accreta spectrum	2	1 %
Fibroid uterus	2	1 %

Bi-lateral uterine vessel ligation (45.35%), bi-lateral uterine vessel ligation + bi-lateral internal iliac vessel ligation (9.30%), obstetric hysterectomy (15.12%), and perineal tear repair (9.30%) were the only interventions other than more than two uterotonics (100.00%) and more than two PCV blood transfusions (84.88%). 12 subjects died, it was noted (atonic PPH – 6 cases, mixed PPH 4 cases, placenta accreta spectrum- 2 cases).

Table 3: Management outcomes.

Type of intervention for PPH	No. of cases	Percentages
Uterotonics > 2	172	100 %
Blood transfusions > 2 PCVs	146	85 %
Surgical intervention		
Bi-lateral uterine vessel ligation	78	45 %
Bi-lateral uterine vessel ligation + bi-lateral internal iliac vessel ligation	16	9 %
Obstetric hysterectomy	26	15 %
Perineal tear repair	16	9 %
Mortality	12	7 %

DISCUSSION

The maximum of the 142 women evaluated by Rajeshwari et al. with post-partum hemorrhage were primiparous, between the ages of 25 and 29 years, and had pre-existing anaemia in 11% of cases, PROM in 16% of cases, and hypothyroidism in 20% of cases[7]. Additionally, 19% of the women suffered secondary LSCS. Similar results were seen in the current research. Chandrika SK reported that 115 subjects (or 0.9% of the population) had severe obstetrical bleeding (greater than 1500 ml). There were 0.9% cases of severe obstetric hemorrhage. Sixty-two percent of the subjects (subjects) were multipara. In this study, morbidity was 78.26% and mortality was 21.73%. Uterine atonic PPH was found to be the most frequent reason of obstetric hemorrhage in this research[8].

In a study of 80 PPH cases, Yogesh T et al. found that PPH was more prevalent in people between the ages of 25 and 28 and at greater parities and gestational ages of 36.5 3.4 weeks. Prolonged labour (26.3%) and preeclampsia (35%) were significant risk elements for PPH. According to Nanani M.'s analysis of 200 PPH

cases, atonicity of the uterus (84%) was the most common risk element, followed by PIH (37%), APH (22.5%), delayed labour (14%) and retained placental products (8.5%). Infections (2.5%), huge baby-induced PPH (7%), genital tract injuries (6.5%), ruptured uteruses (4.5%), multiparity (4.5%), and uterine inversion (1%), among others, were also reported[9]. In a study, Kebede BA et al. reported that the prevalence of primary post-partum hemorrhage was 16.6% overall among the 422 study participants. Primary post-partum hemorrhage was significantly predicted by mother age (AOR = 6.8, 95% CI (3.6, 16.0)], pre-partum anaemia (AOR = 5.3, 95% CI (2.2, 12.8)), labour complications (AOR = 1.8, 95% CI (2.8, 4.2), history of prior post-partum hemorrhage (AOR = 2.7, 95% CI (1.1, 6.8)], and instrumental childbirth (AOR = 5.3, 9 Pre-existing anaemia can make PPH worse, and in such cases, even a modest amount of blood loss might have negative clinical effects. In terms of uterine atony, anaemia during pregnancy is frequent and connected to post-partum hemorrhage[10].

The likelihood of more blood loss and a negative outcome increases with the severity of anaemia. It is feasible to spot pregnant women who have anaemia early and take the necessary precautions[11]. In environments with weak referral and communication systems, as well as a lack of essential medications and equipment, the rapidity with which PPH deaths occur, poses a significant issue. When giving birth in a facility, active treatment of the third stage of labour is quite effective at preventing post-partum hemorrhage[12]. In preventing blood loss, severe post-partum hemorrhage (>500 ml), and an extended third stage of labour, it is more successful than physiological control. Rural areas should think about measures to promote both primary prevention (iron supplementation, AMTSL), as PPH can begin without notice, and secondary prevention of PPH (availability of obstetric first aid, availability of transport, and availability of emergency obstetric care) [13,14].

CONCLUSION

Age between 21 and 24 years, primiparity, severe anaemia (Hb 7 gm%), prior LSCS, hypertensive disorders of pregnancy, premature membrane rupture, hypothyroidism, abruptio placentae, delayed labour, and placenta previa were significant risk elements in the current study for post-partum bleeding. Anemia is a treatable condition that is strongly linked to uterine atony and should be treated antenatally as a matter of priority.

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