



RISK FACTORS FOR POSTPARTUM HEMORRHAGE AT DR. M. DJAMIL PADANG IN 2018-2020

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ABSTRACT

Introduction: Postpartum hemorrhage (HPP) is a vaginal delivery that bleeds more than 500 ml after the baby is born and in cesarean section more than 1000 ml. In general, if there is excessive bleeding that results in changes in vital signs such as pulse pressure of more than 100x/minute, blood pressure of less than 90 mmHg, cold sweats, shortness of breath, giddiness, paleness, weakness and decreased consciousness, treatment must be done immediately. **Aims:** to determine the risk factors for postpartum hemorrhage at Dr. M. Djamil Padang in 2018-2020. **Methods:** This type of research is descriptive. The population in this study were all pregnant women who experienced postpartum hemorrhage at Dr. M. Djamil Padang in 2018-2020 as many as 69 samples with a total sampling technique. Univariate data analysis is presented in the form of a frequency distribution. **Result:** This study obtained a classification of postpartum hemorrhage based on the time of the occurrence, the most occurrence was primary postpartum hemorrhage, namely 35 people (62.5%), the most maternal age were mothers aged 20-34 years, namely 35 people (62.5%), the highest parity were mothers with multipara, namely 45 people (80.4%), maternal anemia with the most Hb levels <11.0 g%, namely 48 people (85.7%), and the most history of pregnancy and childbirth were mothers with no bad history, namely 47 people (83.9%). **Conclusion:** the classification of postpartum hemorrhage based on the time of its occurrence is primary postpartum hemorrhage, the most maternal age is 20-34 years, the most parity is multipara, the most anemia is mothers with Hb levels <11.0 g%, and the most history of pregnancy and childbirth is no bad history.

Keywords: Classification Based on Time of Incidence, Maternal Age, Parity, Anemia, History of Pregnancy and Childbirth

INTRODUCTION

Postpartum Bleeding (PPP) is a vaginal delivery that bleeds more than 500 ml after the baby is born and in cesarean section more than 1000 ml. In general, if there is excessive bleeding that results in changes in vital signs such as pulse pressure of more than 100x/minute, blood pressure of less than 90 mmHg, cold sweats, shortness of breath, giddiness, paleness, weakness and decreased consciousness, treatment must be done immediately. The effect of bleeding in pregnant women is determined by the volume of blood lost during pregnancy, the degree of hypovolemia and previous hemoglobin levels.¹

One of the indicators used to determine the success of maternal health efforts is by looking at the maternal mortality rate (MMR). This figure is the ratio of maternal mortality during pregnancy, childbirth and postpartum caused by pregnancy, childbirth and postpartum itself and not due to other causes such as accidents in every 100,000 live births.² This maternal mortality rate is still very far from the target of the Sustainable Development Goals. (SDG's) by 2030 to reduce the MMR below 70 per 100,000 live births. In Asian countries, Indonesia is in the 3rd highest position, which is 190 per 100,000 live births after Timor Leste 270 per 100,000 live births and Myanmar 200 per 100,000 live births.³



Based on research conducted by Leo Simanjuntak in 2020, in Indonesia in 2015 the maternal mortality rate was still high at 305 per 100,000 live births, decreased in 2012 from 369 per 100,000 live births but increased in 2007 from 228 per 100,000 live births.⁴ Postpartum hemorrhage is the main cause of maternal death in the world, amounting to 35%.⁵ One of the indicators used to determine the success of maternal health efforts is by looking at the maternal mortality rate (MMR). This figure is the ratio of maternal mortality during pregnancy, childbirth and postpartum caused by pregnancy, childbirth and postpartum itself and not due to other causes such as accidents in every 100,000 live births.² This maternal mortality rate is still very far from the target of the Sustainable Development Goals. (SDG's) by 2030 to reduce the MMR below 70 per 100,000 live births. In Asian countries, Indonesia is in the 3rd highest position, which is 190 per 100,000 live births after Timor Leste 270 per 100,000 live births and Myanmar 200 per 100,000 live births.³

Based on research conducted by Leo Simanjuntak in 2020, in Indonesia in 2015 the maternal mortality rate was still high at 305 per 100,000 live births, decreased in 2012 from 369 per 100,000 live births but increased in 2007 from 228 per 100,000 live births.⁴ Postpartum hemorrhage is the main cause of maternal death in the world, amounting to 35%.⁵ In Indonesia, high maternal mortality is caused by bleeding (30%), preeclampsia/eclampsia (27.1%), and infection (7.3%).⁶

In West Sumatra Province, maternal mortality is estimated at around 126 per 100,000 live births in 2014. In 2015, there was a decline to 106 cases of maternal mortality with details on causes of bleeding (36 of 106 cases), hypertension (14 out of 106 cases), infection (2 out of 106 cases), metabolic disorders (1 out of 106 cases) and others (53 out of 106 cases).⁷ In Padang City, the incidence of postpartum haemorrhage has increased from 1 in 15

cases in 2012 and then increased to 5 from 15 cases. 15 incidents in 2013. Therefore, the contributor to maternal mortality in Padang is in the first place, namely bleeding.^{8,9}

Postpartum bleeding is classified based on the time of occurrence, namely primary postpartum hemorrhage and secondary postpartum hemorrhage. Primary postpartum hemorrhage is bleeding within 24 hours after delivery caused by tearing of the birth canal, uterine atony, blood clotting disorders and the remnants of part of the placenta. Secondary postpartum hemorrhage is bleeding within more than 24 hours after delivery caused by retained placenta. Excessive bleeding is the main cause of maternal death in the first 24 hours after giving birth.^{10,11}

Postpartum bleeding is medically caused by tone (uterine atony), tissue (retention of the placenta or retained placenta), trauma (laceration of the birth canal) and thrombin (blood coagulation disorders). Several delay factors such as delays in transportation and delays in identifying the presence of bleeding, intensity of bleeding and handling can affect the failure to treat obstetric bleeding.⁴ Factors related to postpartum hemorrhage are age, previous delivery history, number of parity, anemia and health care facility factors.¹²

A 2014 study conducted at Ngudi Wlingi Hospital Blitar between a history of postpartum hemorrhage and the distance between pregnancies had an influence on the incidence of postpartum bleeding.¹³ A 2013 study conducted at Majene Hospital found that parity, poor delivery history and age had a risk of postpartum hemorrhage.¹⁴

Research conducted by Jihan from 2016 to 2017 at RSUP Dr. M. Djamil Padang showed that the most post partum hemorrhagic (HPP) occurred in Dr. RSUP. M. Djamil was the primary HPP (79.5%). The risk factors for the most cases of postpartum hemorrhage were mothers with Hb levels <11 g% (92.4%), mothers with



parity more than 2 times or multipara (89.4%), mothers aged 21-34 years (69.2 %), and mothers with no history of poor pregnancy and childbirth (66.7%).¹⁵

Therefore, based on the description of the background, seeing the high maternal mortality rate due to bleeding, the authors are interested in conducting research on risk factors that influence the incidence of postpartum hemorrhage at Dr. M. Djamil Padang in 2018-2020 because he wanted to know the incidence of factors such as maternal age, parity, anemia and history of pregnancy and childbirth in order to seek efforts to reduce maternal mortality due to bleeding.

METHODE

The scope of this research includes obstetrics and gynecology medicine. The place of this research will be carried out at the Medical Record Installation of RSUP Dr. M. Djamil Padang. The time of the study will be carried out from March 2021 to January 2022. The type of research used in this study was descriptive categorical with a cross sectional design, using secondary data obtained from medical records with the aim of knowing the risk factors for postpartum hemorrhage at Dr. RSUP. M. Djamil Padang in 2018-2020. The target population in this study were all pregnant women who experienced postpartum hemorrhage at Dr. M. Djamil Padang. The affordable population in this study were all pregnant women who experienced postpartum hemorrhage at Dr. M. Djamil Padang in 2018-2020, totaling 69 people. The sampling method in this study was a total sampling of patients with postpartum hemorrhage at Dr. M. Djamil Padang. Because the number of samples will be taken based on the number of patients experiencing postpartum hemorrhage at Dr. M. Djamil Padang. The sample in this study were 69 patients who experienced postpartum hemorrhage. 13 patients were excluded, of which 3 were excluded due to incomplete medical record data and 10 were excluded due to the absence of the patient's medical record, so

the study was conducted on 56 samples that met the inclusion criteria.

The data of this study were taken from medical records and registration of patients diagnosed with postpartum hemorrhage at Dr. RSUP. M. Djamil Padang in 2018-2020. The tools used in this study were writing instruments and laptops for recording the results of medical record data for patients with postpartum hemorrhage at Dr. M. Djamil Padang in 2018-2020. The type of data used in this study is secondary data, namely the data used is taken from medical records. Data obtained from the medical records of Postpartum Bleeding patients in the period 2018-2020, were processed and analyzed descriptively, then the data were presented in narrative form and frequency tables. Data presented by distributing through Univariate analysis. The purpose of univariate analysis is to explain or describe the characteristics of each research variable.

RESULT

Tabel 1. Frequency Distribution of Postpartum Bleeding Events Based on Classification at Dr. RSUP. M. Djamil Padang

Classification of Postpartum Bleeding	<i>f</i>	%
Perdarahan Pascapersalinan Primer	35	62,5
Perdarahan Pascapersalinan Sekunder	21	37,5
Quantity	56	100,0

The results of the analysis of the data presented in table 5.1 can be concluded that from 56 maternity mothers who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the classification of postpartum hemorrhage based on the time of its occurrence was primary postpartum hemorrhage, amounting to 35 people (62.5%).



Table 2. Frequency Distribution of Postpartum Bleeding Based on Maternal Age at Dr. RSUP. M. Djamil Padang

Mother's Age	<i>f</i>	%
20-34 years old	35	62,5
<20 years old and ≥ 35 years old	21	37,5
Quantity	56	100,0

Based on table 2, it can be concluded that from 56 maternity women who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the highest maternal age was 20-34 years, namely 35 people (62.5%)

Table 3. Frequency Distribution of Postpartum Bleeding Based on Parity at Dr. RSUP. M. Djamil Padang

Parity	<i>f</i>	%
Primipara	11	19,6
Multipara	45	80,4
Quantity	56	100,0

Based on table 3, it can be concluded that from 56 maternity women who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the highest parity was multipara, namely 45 people (80.4%).

Table 4 Distribution of the Frequency of Postpartum Bleeding Based on Anemia in Dr. RSUP. M. Djamil Padang

Anemia	<i>f</i>	%
Hb < 11,0 gr%	48	85,7
Hb ≥ 11,0 gr%	8	14,3
Quantity	56	100,0

Based on table 4, it can be concluded that from 56 maternity women who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the most anemia was Hb < 11.0 g%, namely 48 people (85.7%)

Table 5 Distribution of the Frequency of Postpartum Bleeding Based on History of Pregnancy and Childbirth at Dr. RSUP. M. Djamil Padang

History of Pregnancy and Childbirth	<i>f</i>	%
There is a bad history	9	16,1
No bad history	47	83,9
Quantity	56	100,0

Based on table 5, it can be concluded that from 56 maternity women who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the most history of pregnancy and childbirth are mothers who do not have a history of pregnancy and childbirth as many as 47 people (83.9%).

DISCUSSION

A. Frequency Distribution of Postpartum Bleeding Based on Classification

Based on the research, the results were obtained from 56 maternity mothers who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the classification of postpartum hemorrhage based on the time of its occurrence was primary postpartum hemorrhage, which was as many as 35 people (62.5%). The results of this study are in accordance with research at Dr. RSUP. M. Djamil Padang in 2016-2017, namely the most PPP classification was primary PPP as many as 30 people (62.5%).¹⁵

The results of this study are also in line with Friandini's research (2015) which found that the most classification of PPP was primary PPP, namely 52 people (81.3%). Likewise, research conducted by Azizah (2018) also obtained that the most PPP classifications were primary, namely (59%).^{23, 30}

In accordance with the theory that primary postpartum hemorrhage is the occurrence of bleeding within the first 24 hours after the child is born, the main cause



(precipitation) of primary postpartum hemorrhage is uterine atony, retained placenta, various tears in the birth canal and the remaining part of the placenta. the cause of PPH itself, where the most common cause of primary PPH is retained placenta due to the placenta not being able to come out a maximum of 30 minutes after the baby is born so that bleeding occurs early. This may be due to postpartum bleeding often appears in the first 2 hours after birth

Factors causing postpartum hemorrhage include uterine atony, retained placenta, laceration of the birth canal, and blood disorders. Uterine atony is a condition of weak tone or failure of the uterus to contract adequately which causes the uterus to be unable to close the bleeding that opens from the placental implantation site. Predisposing factors for postpartum hemorrhage include parity, gestational age, delivery distance, excessive uterine stretching (macrosomia, gemeli and polyhydramnios).), precipitous parturition, oxytocin induction, history of cesarean section, history of postpartum hemorrhage and prolonged stage I and II.³²

In tackling the problem, the efforts made to prevent the occurrence of postpartum hemorrhage and all the impacts that may occur are not only carried out during childbirth but since the mother is pregnant by conducting a comprehensive, integrated and quality ANC examination so that any problems/diseases can be detected and treated early. In health care places, through integrated antenatal care, pregnant women will get more comprehensive and integrated services, so that their reproductive rights can be fulfilled, missed opportunities can be avoided and health services can be held more effectively and efficiently. It is important in preventing labor complications including preventing postpartum hemorrhage. Mothers who have a history of postpartum hemorrhage or there are factors that cause postpartum hemorrhage are strongly recommended to give birth in a hospital that has more complete facilities and infrastructure or has a blood bank so that the incidence of

bleeding that may occur after delivery that causes death can be reduced.³³

B. Distribution of the Frequency of Postpartum Bleeding Based on Maternal Age

Based on the research, the results obtained from 56 maternity mothers who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the highest maternal age was 20-34 years, namely 35 people (62.5%). The results of this study are in accordance with research at Dr. RSUP. M. Djamil Padang in 2016-2017 PPP patients were more commonly found at the age of 21-34 years as many as 27 people (69.2%).¹⁵

The results of this study are in line with previous research conducted by Yuniarti (2018), it was found that the age of the mother experiencing postpartum hemorrhage at the most was 20-35 years, namely (48.14%). Likewise, research conducted by Rosidah in (2020) found that the age of the mother giving birth with the most postpartum bleeding was (71.3%).^{33,34}

According to research conducted by Hikmah N (2015), postpartum hemorrhage that causes maternal death in women who give birth at the age of 35 years, is 30 people (58.8%), in the case group compared to the control group as many as 14 people (27.5%).). This shows that the percentage of those who experience postpartum hemorrhage who are at high risk is higher than those who do not experience postpartum hemorrhage in the same age group (high risk).³⁶

Mothers aged <20 years or >35 years and over are 12 times more likely to experience postpartum hemorrhage than mothers aged 20-35. Age under 20 years of age a woman's reproductive function is not fully developed, so she is not ready to get pregnant and give birth, while at the age of over 35 years there is a progressive decline so that the endometrium affects the strength of contractions during labor and after delivery.

The results showed that the age of mothers who experienced PPH was more than 20-35 years, the high percentage of



healthy reproductive age in primary postpartum hemorrhage in this study was probably caused by the influence of other risk factors besides age. Among them are short pregnancy intervals, Hb levels, duration of labor, history of previous bad deliveries, history of antepartum or postpartum hemorrhage, history of caesarean section, macrosomia, multiple pregnancies as well as factors from parturition assistants and delivery sites/delivery facilities.

C. Distribution of the Frequency of Postpartum Bleeding Based on Parity

Based on the research, the results obtained from 56 maternity mothers who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the highest parity was multipara, namely 45 people (80.4%). The results of this study are in accordance with research at Dr. RSUP. M. Djamil Padang in 2016-2017 the most PPP patients were multiparous mothers as many as 35 people (89.7%).¹⁵

The results of this study are in line with previous research conducted by Megasari (2013), it was found that the most partias of mothers were multiparous, namely (84.3%). Likewise, a study conducted by Hayati 2019, said the risk of postpartum hemorrhage in women with parity 3-5 and 6 or more, respectively, was 24% and 81% higher than in women with parity 1-2.^{37,31}

Parity 2-3 is the safest parity in terms of postpartum hemorrhage which can result in maternal death. Parity one and parity high (more than three) had a higher incidence of postpartum hemorrhage. At low parity (parity one), the unpreparedness of the mother in facing the first delivery is a factor causing the inability of pregnant women to handle complications that occur during pregnancy, delivery and postpartum. In mothers with high parity it will affect the condition of the mother's uterus, because the more often the mother gives birth, the reproductive function decreases, the uterine muscles are too stretched and less able to contract normally so that the possibility of postpartum hemorrhage is greater.

Mothers who gave birth >3 times were more at risk of experiencing postpartum hemorrhage than mothers with parity 1-3. At parity > 3 reproductive function experienced a decline so that the possibility of postpartum hemorrhage was greater. With increasing parity, there will be more connective tissue in the uterus so that the ability to contract decreases as a result it is difficult to apply pressure to the open blood vessels after the placenta is separated. In addition, there is also deterioration and defects in the endometrium that result in fibrosis at the former implantation of the placenta so that vascularity can be reduced.³⁵

High parity will have an impact on the emergence of various health problems for both mothers and babies born. Repeated pregnancies and childbirths cause damage to blood vessels in the uterine wall and a decline in the flexural power (elasticity) of tissues that have been repeatedly stretched by pregnancy, so that they tend to arise abnormalities in the location or abnormalities of placental growth and fetal growth, resulting in low birth weight babies.

D. Distribution of the Frequency of Postpartum Bleeding Based on Anemia

Based on the research, the results obtained from 56 maternity mothers who experienced postpartum hemorrhage at Dr. M. Djamil Padang, the most anemia was mothers with Hb levels <11.0 gr%, namely 48 people (85.7%). The results of this study are in accordance with research at Dr. RSUP. M. Djamil Padang in 2016-2017 the most PPP patients were mothers with Hb <11.0 gr% as many as 36 people (92.4%).¹⁵

The results of this study are in line with previous research conducted by (Oktariza, 2020) it was found that the most postpartum mothers were mild anemia, namely (47.2%). Likewise, research conducted (Sumarrna, 2016) obtained postpartum mothers with the most anemia being mild anemia, namely (35.7%).

The threshold values used to determine anemia status in women based on



WHO criteria were set in three categories: normal >11 g/dl, mild 8-11 g/dl, severe <8gr/dl. In pregnant women anemia increases the frequency of complications in pregnancy and childbirth. The risk of maternal death, the rate of prematurity, low birth weight and perinatal mortality increases. Antepartum and postpartum hemorrhage are more common in anemic women and are more often fatal, because anemic women cannot tolerate blood loss.

Post partum anemia can be detected on the seventh day after delivery which is characterized by Hb values, general condition looks pale, fatigue, headache, fever, and profuse sweating. The factors that cause anemia are genetics (thalassmia and hemoglobinopathy), nutrition (iron deficiency, vitamin B12 deficiency and malnutrition), bleeding, immunology, infection, and drugs and chemicals (chemotherapeutic agents, contraceptives and toxic chemicals).³⁹

The ability of the uterus to contract after delivery can increase bleeding. Lack of hemoglobin in the blood causes more serious complications for the mother both in pregnancy, childbirth, and postpartum. Lack of hemoglobin levels in the body of pregnant women which causes excessive blood thinning at the time of delivery resulting in bleeding.³⁸

Anemia associated with weakness can be considered as a direct cause of postpartum hemorrhage. Delivery action is one of the risk factors for postpartum hemorrhage. Delivery by action includes vaginal delivery, namely by vacuum, forceps, or episiotomy, while delivery per abdominal is SC. Actions during vaginal or abdominal deliveries can cause trauma to both the mother and the baby.⁴⁰

E. Distribution of the Frequency of Postpartum Bleeding Based on History of Pregnancy and Childbirth

Based on the research, the results obtained from 56 maternity mothers who experienced postpartum hemorrhage at Dr. M. Djamil Padang, as many as 47 people did not have a history of poor pregnancy and childbirth (83.9%). This is in

accordance with research at RSUP Dr. M. Djamil Padang in 2016-2017, namely PPP occurred the most in mothers who did not have a history of childbirth and poor pregnancy as many as 26 people (66.7%).¹⁵

The results of this study are different from research conducted by Aeni (2013) which states that mothers who have a history of illness during childbirth have a 27.74 times greater risk of dying than mothers who do not have a history of illness during childbirth. conducted by Sondang (2017) stated that there was a significant relationship between a history of poor labor and postpartum hemorrhage and that mothers with a history of poor delivery in the form of cesarean section, curettage and abortion had a 3,496 times greater risk of experiencing postpartum hemorrhage.²⁹

According to a study conducted by Ononge in 2016, a cesarean section increases the risk of uterine atony which is the cause of postpartum hemorrhage. In this study, the odds ratio was 7.54, meaning that the cesarean section had a 7.54 times risk of experiencing postpartum hemorrhage.

The history of childbirth experienced in the past is closely related to pregnancy and the subsequent delivery process. Research (Rifdiani, 2015), states that there is an influence of a history of postpartum hemorrhage on the incidence of postpartum hemorrhage and mothers who have a bad history in previous deliveries are at risk of experiencing postpartum hemorrhage at birth by 7.98 times compared to mothers who do not have a bad history of childbirth in childbirth. previous delivery.⁴¹ The high rate of postpartum hemorrhage in women who do not have a history of pregnancy and poor delivery may be influenced by other unstudied risk factors that can cause postpartum hemorrhage such as a history of caesarean section, macrosomia, multiple pregnancies as well as factors from parturition workers and delivery sites/facilities. maternity.²³



CONCLUSION

Based on the results of research on risk factors for postpartum hemorrhage at Dr. M. Djamil Padang in 2018-2020, it can be concluded that:

1. The most classification of mothers who experience postpartum hemorrhage is primary postpartum hemorrhage.
2. The highest maternal age is mothers aged 20-34 years.
3. Most parity is mothers with multipara.
4. The most anemia is mothers with Hb levels <11.0 g%.
5. Most of the history of pregnancy and childbirth are mothers with no history of poor pregnancy and childbirth.

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