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Analysis Of The Corelation Between Risk Factors And The Incidence Of Early Postpartum Hemorrhagia

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Perdarahan postpartum dapat dipengaruhi oleh adanya faktor risiko pada periode antenatal maupun faktor risiko pada saat intrapartum. Walaupun perdarahan postpartum dapat terjadi secara tidak terduga tetapi beberapa penelitian menjelaskan bahwa terdapat faktor risiko yang dapat dimodifikasi atau dikelola dengan kewaspadaan ekstra. Tujuan dari penelitian ini adalah untuk mengetahui hubungan faktor risiko yang terdiri dari usia ibu, paritas, jarak kelahiran, jumlah kunjungan periksa kehamilan, riwayat persalinan, suplementasi zat besi dan kehamilan kembar dengan kejadian *early post partum hemorrhage*. Metode penelitian ini menggunakan pendekatan *cross sectional* design kuantitatif. Populasi seluruh ibu nifas di Puskesmas Kembang Janggut Kabupaten Kutai Kartanegara. Jumlah sampel 30 ibu nifas yang memenuhi kriteria sampel dengan teknik pengambilan sampel *purposive sampling*. Pengumpulan data menggunakan menggunakan wawancara dan pengisian kuesioner oleh pada ibu nifas. Analisis data menggunakan *Chi square*. Hasil penelitian menunjukan bahwa ada hubungan yang signifikan antara usia ibu, paritas, jarak kelahiran, jumlah kunjungan periksa kehamilan, Riwayat persalinan, suplementasi zat besi, dan kehamilan kembar dengan dengan kejadian *early post partum haemoragia* dengan hasil uji analisis *chi square* di dapatkan nilai *p* value < α (0.05). Upaya pencegahan kejadian *early postpartum hemorrhage* perlu dilakukan semaksimal mungkin dengan cara meningkatkan pelayanan, konseling, maupun peningkatan pelatihan tenaga kesehatan untuk meningkatkan kompetensi dalam deteksi dini dan pencegahan perdarahan post partum.

Analysis Of The Corelation Between Risk Factors And The Incidence Of Early Postpartum Hemorrhagia

Postpartum hemorrhage can be influenced by the presence of risk factors during the antenatal period and risk factors during the intrapartum period. Although postpartum hemorrhage can occur unexpectedly, several studies explain that there are risk factors that can be modified or managed with extra vigilance. The purpose of this study was to determine the relationship of risk factors consisting of maternal age, parity, birth spacing, number of antenatal check-ups, delivery history, iron supplementation and twin pregnancies with the occurrence of early postpartum hemorrhage. This study used a quantitative cross-sectional design approach. The population was all postpartum mothers at the Kembang Janggut Community Health Center, Kutai Kartanegara Regency. The sample size was 30 postpartum mothers who met the sampling criteria with a purposive sampling technique. Data collection used interviews and questionnaires by postpartum mothers. Data analysis using Chi-square. The results of the study showed that there was a significant relationship between maternal age, parity, birth spacing, number of antenatal check-ups, delivery history, iron supplementation, and twin pregnancies with the incidence of early postpartum hemorrhage with the results of the chi-square analysis test obtained a p value <α (0.05). Efforts to prevent early postpartum hemorrhage need to be carried out as much as possible by improving services, counseling, and increasing training of health workers to improve competence in early detection and prevention of postpartum hemorrhage.

Introduction

The maternal mortality rate in Indonesia is relatively high. The most common cause of maternal death is hemorrhage. Postpartum hemorrhage is an unexpected and rapid cause of maternal death worldwide. Postpartum hemorrhage is the loss of 500 cc or more of blood that occurs after the baby is born. Risk factors/predisposing factors for postpartum hemorrhage include: anemia, parity, gestational age, birth spacing, excessive uterine distension (macrosomia, multiple pregnancies, and polyhydramnios), precipitous labor, oxytocin induction, history of cesarean section, antepartum hemorrhage, prolonged first and second stage labor, and others. Although maternal mortality rates have declined significantly in developed countries, postpartum hemorrhage remains a leading cause of maternal death elsewhere.(Kirana and Astuti, 2023)

According to the 2016 WHO report, there are 216 million maternal deaths per 100,000 live births each year worldwide. 90% of maternal deaths occur in developing countries such as Indonesia. The number of maternal deaths in Indonesia in 2017 reached 4,295 deaths. WHO shows that every year around 14 million mothers in the world suffer from vaginal bleeding after childbirth. Based on data from the World Health Organization, the possibility of maternal death due to postpartum hemorrhage is 1 in 1000 deliveries in developing countries, including Indonesia. The main causes of maternal death in Indonesia are postpartum hemorrhage (27.1%) and hypertension (22.1%). Postpartum hemorrhage was also one of the main causes of maternal death in 2015 and 2016, namely 31% of 4,999 deaths and 29.2% of 4,912 deaths (Ministry of Health of the Republic of Indonesia, 2018).

The severity of postpartum hemorrhage is influenced by age, gravidity, parity, ANC follow-up, previous postpartum hemorrhage, body max index, fetal macrosomia, mode of delivery, antepartum hemorrhage, length of labor, and number of fetuses. The most important predisposing factors causing postpartum hemorrhage are large intrauterine volume (large baby, polyhydramnios, twins), maternal age at delivery and obesity. Several factors contributing to maternal mortality include low parity and high parity (more than 3) and maternal mortality in pregnant and giving birth women under 20 years of age is 25 times higher than maternal mortality that occurs at the age of 20-29 years. Maternal mortality increases again after the age of 30-35 years (Sugiyarni *et al.*, 2023)

Anemia during pregnancy is a condition where the mother has a hemoglobin (Hb) level below 11 g/dL in the first and third trimesters or less than 10.5 g/dL in the second trimester. A deficiency of hemoglobin in the blood will result in a lack of oxygen being carried or transferred to cells throughout the body. When there is insufficient oxygen, the oxygen supply to the uterine muscles decreases, causing the uterine muscles to be unable to contract again after childbirth, a condition known as uterine atony. The occurrence of uterine atony causes pregnant women suffering from anemia to experience postpartum hemorrhage (Aqilah Farah Salsabil *et al.*, 2024)

Age is a risk factor for the occurrence of primary postpartum hemorrhage. For example, mothers of high-risk age (35 years) are 14.22 times more likely to experience primary postpartum hemorrhage compared to mothers of non-risk age (20-25 years). Women who give birth under the age of 20 or over 35 years are at risk of postpartum complications that can lead to maternal death. This is due to the young age of the women (Sugiyarni *et al.*, 2023). Lestari's research (2019) revealed a correlation between parity and the incidence of postpartum hemorrhage. Anemia is a condition characterized by a decrease in hemoglobin levels below normal values, classified as anemia when hemoglobin levels are less than 11 g/dl. A deficiency of hemoglobin in the blood can lead to more serious complications for mothers during pregnancy, childbirth, and the postpartum period. Inadequate oxygen supply to the uterus can cause the uterine muscles to contract inadequately, potentially leading to uterine atony, which results in postpartum hemorrhage.

According to Ononge et al. (2016), multiple pregnancies and macrosomia are also risk factors for postpartum hemorrhage in both vaginal and cesarean deliveries. A large baby can cause uterine overdistension, leading to uterine atony. Meanwhile, in multiple pregnancies, the placenta is larger, increasing the bleeding area after the baby's birth.Another factor influencing the incidence of postpartum hemorrhage is the number of antenatal care visits (Omotayo *et al.*, 2021). Based on the Regulation of the Minister of Health of the Republic of Indonesia Number 97 of 2014, the government's strategy aims to ensure that pregnant women can undergo healthy pregnancies, deliver safely, and give birth to healthy, quality babies through antenatal healthcare services. Antenatal healthcare services are provided from conception until before childbirth through integrated antenatal care. This activity is conducted by trained healthcare workers to monitor and support maternal health through health services and counseling, including

stimulation and nutrition, early detection of complication risks, childbirth preparation, anticipatory planning, early preparation in case of complications, case management, and involving pregnant women, their husbands, and families. Integrated antenatal care also includes providing iron tablets to pregnant women, with at least 90 tablets during pregnancy to reduce anemia prevalence. (RI, 2020). Iron is an essential nutrient for mothers, related to the increased number of erythrocytes (increased maternal blood circulation and hemoglobin levels) required to prevent anemia (Hutahean, 2013). However, in 2016, the coverage of pregnant women receiving Iron Tablets (TTD) had not reached the target of 85% (Sugiyarni *et al.*, 2023).

Based on a preliminary survey conducted by the researcher at Kembang Janggut Health Center, the prevalence of Early Postpartum Hemorrhage is quite high. Data from July to December 2023 showed that 21% of pregnant women experienced Early Postpartum Hemorrhage in the working area of Kembang Janggut Health Center. This figure increased to 24% from January to April 2024. Therefore, it is necessary to conduct research on "Analysis of the Relationship Between Risk Factors and the Incidence of Early Postpartum Hemorrhage at Kembang Janggut Health Center, Kutai Kartanegara Regency."

Method

The type of research used is analytical research with a cross sectional research design.A nalytical research aims to find the relationship between one variable and another. The research conducted was a study that aimed to analyze the relationship between risk factors and the incidence of early postpartum haemorrhagia. In this study, the selected population was all postpartum mothers at the Kembang Janggut Health Center, Kutai Kartanegara Regency. The sample technique used in this study uses the Purposive Sampling technique. Samples used based on inclusion criteria: a). Mothers who give birth by normal labor or spontaneous partus b). The patient was recorded in the medical record of the Kembang Janggut Health Center, Kutai Kartanegara Regency. Exclusion criteria: a) Mothers who refused to be respondents b) Mothers who have a history of diseases with hematological disorders such as hemochromatosis, anemia, hemolytic leukemia, thrombocytopenia.

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Research Results

Table 1. The Corelation of Maternal Age to the Incidence of Early Postpartum Hemorrhage

Maternal Age	*Early Postpartum Hemorrhage*				P *value*	OR (95% CI)
	Ya		No			
	n	%	n	%		
At Risk (< 20 dan > 35 tahun)	10	66,7	5	33,3	0,018	2,4 (1,222-5,019
No risk (20-35 tahun)	1	6,7	14	93,3		

Based on table 1, it can be seen that of the 15 mothers whose age is included in the risk category, as many as 10 respondents (66.7%) experienced early postpartum hemorrhage. Meanwhile, of the 15 mothers whose age is included as not at risk, only 1 respondent (6.7%) experienced early postpartum hemorrhage. The results of the chi square test were obtained p=0.018 (p< 0.05). These results suggest that there is a significant relationship between maternal age and the incidence of early postpartum hemorrhage. The OR value was 2.4 (1,222 – 5,019) which means that mothers of risk age have a 2.4 times greater chance of experiencing an early postpartum hemorrhage event compared to mothers of non-risk age.

Table 2. The Corelation of Maternal Parity with the Incidence of Early Postpartum Hemorrhage

Status Gravida	*Early Postpartum Hemorrhage*				P *value*	OR (95% CI)
	Ya		No			
	n	%	n	%		
Primigravida/ Grandemultigravida	4	33,3	8	66,7	0,023	2,1 (1,151-3,970)
Multigravida	4	33,3	8	66,7		

Based on table 2, it can be seen that of the 12 mothers whose pregnancy status is included in the category. Grande multigravida there were 4 respondents (33.3%) who experienced early postpartum hemorrhage, while of 18 mothers whose gestation status included multigravida, only 6 respondents (33.3%) experienced early postpartum hemorrhage. The results of the chi square test were obtained p=0.023 (p < 0.05). These results suggest that there is a significant relationship between maternal gestational status and the incidence of early post partum hemorrhage. The OR value was 2.1 (1.151 – 3.970) which means that mothers who are primigravida/grandemultigravida have a 2.1 times greater chance of experiencing early postpartum hemorrhage compared to mothers who are multigravida.

Table 3. The Corelation of Birth Distance to the Incidence of Early Postpartum Hemorrhage

Birth Distance	*Early Postpartum Hemorrhage*				P *value*	OR (95% CI)
	Ya		No			
	n	%	n	%		
< 2 years	1	6,25	15	93,75	0,02	

2 – 10 years	4	28,6	10	71,4		2,7 (2,243-3,323)

Based on table 3, it can be seen that of 16 mothers with a birth interval of < 2 years, there was 1 respondent (6.25%) who experienced early postpartum hemorrhage, while of 14 mothers with a birth interval of 2-20 years, there were 4 respondents (28.6%) who experienced early postpartum hemorrhage. The results of the chi square test were obtained p=0.02 (p < 0.05). These results suggest that there is a significant relationship between birth distance and the incidence of early postpartum hemorrhage. The OR value was 2.7 (2.243-3.323) which means that mothers with a birth gap of < 2 years are 2.7 times more likely to experience early postpartum hemorrhage compared to mothers who are 2-10 years apart from birth

Table 4. The Corelation of Frekuensi Pregnancy Checkup to Early Postpartum Hemorrhage

Frekuensi Pregnancy Checkup	***Early Postpartum Hemorrhage***				**P *value***	**OR (95% CI)**
	Ya		**No**			
	n	**%**	**n**	**%**		
< 6 kali	6	75	2	25	0,001	3,3 (1,655-6,695)
≥ 6 kali	4	18,2	18	81,8		

Based on table 4, it can be seen that of the 8 mothers who had 6 pregnancy check-up visits < 6 times, as many as 6 respondents (75%) experienced early postpartum hemorrhage, while of the 22 mothers whose pregnancy check-up visits ≥ 6 times, there were 4 respondents (18.2%) who experienced early postpartum hemorrhage. The results of the chi square test were obtained p=0.001 (p < 0.05). These results suggest that there is a significant association between the number of pregnancy checkup visits and the incidence of early postpartum hemorrhage. The OR value was 3.3 (1,655-6,695) which means that mothers who had <6 <regnancy check-ups were 3.3 times more likely to experience early postpartum hemorrhage than mothers who had ≥ 6 pregnancy check-up.

Table 5. The Corelation of Childbirth History to Early Postpartum Hemorrhage

Childbirth History	***Early Postpartum Hemorrhage***				**P *value***	**OR (95% CI)**
	Ya		**No**			
	n	**%**	**n**	**%**		
good labor history	5	33,3	10	66,7	0,027	2,8 (1,199-6,801)
poor labor history	7	47	8	53		

The results of the chi square test were obtained p=0.027 (p < 0.05). These results suggest that there is a significant relationship between labor history and the incidence of early postpartum hemorrhage. The OR value was 2.8 (1.199-6.801) which means that mothers with a history of poor childbirth, have a 2.8 times greater chance of

experiencing early postpartum hemorrhage compared to mothers with a good history of childbirth.

Table 6. The Corelation of Iron Supplementation with the Incidence of Early Postpartum Hemorrhage

Iron Supplementation	***Early Postpartum Hemorrhage***				**P *value***	**OR (95% CI)**
	Ya		**No**			
	n	**%**	**n**	**%**		
Yes	2	29	5	71	0,001	3,3 (1,655-6,695)
No	13	56,5	10	43,5		

Based on table 6, it can be seen that of the 7 mothers who consumed iron during the last trimester of pregnancy, as many as 2 respondents (29%) experienced early postpartum hemorrhage, while of the 23 mothers who did not consume iron during the last trimester of pregnancy, 13 respondents (56.5%) experienced early postpartum hemorrhage. The results of the chi square test were obtained p=0.001 (p< 0.05). These results suggest that there is a significant association between consuming iron supplementation during the last trimester of pregnancy and the incidence of early postpartum hemorrhage. The OR value was 3.3 (1,655-6,695) which means that mothers who do not take iron supplements during the last trimester of pregnancy, have a 3.3 times greater chance of experiencing early postpartum hemorrhage compared to mothers who take iron supplements.

Table 7. The Corelation of Multiple Pregnancy with Early Postpartum Hemorrhage

Multiple Pregnancy	***Early Postpartum Hemorrhage***				**P *value***	**OR (95% CI)**
	Ya		No			
	n	**%**	**n**	**%**		
Yes	1	100	0	0	0,001	3,3 (1,655-6,695)
No	14	48	15	52		

Based on table 7, it can be seen that there is 1 respondent (100%) with twin pregnancies who experience early postpartum hemorrhage, while of the 29 mothers who are not pregnant with twins, there are 14 respondents (48%) who experience early postpartum hemorrhage. The results of the chi squarevtest were obtained p=0.001 (p < 0.05). These results suggest that there is a link between twin pregnancies and the incidence of early postpartum hemorrhage. The OR value was 3.3 (1,655-6,695) which means that mothers with twin pregnancies are 3.3 times more likely to experience early postpartum hemorrhage compared to mothers who are not pregnant with twins.

Discussion

The Corelation of Maternal Age to the Incidence of Early Postpartum Hemorrhage

The OR value obtained was 2.4 (1,222-5,019) which means that mothers whose age at the time of childbirth was included in the risk age had 2.4 times more likely to experience early postpartum hemorrhage compared to mothers whose age at the time of childbirth included the age not at risk. Mothers of age at risk of experiencing early postpartum hemorrhage (66.7%) compared to those who did not have early postpartum hemorrhage (33.3%). Age less than 20 years and over 35 years are at risk. At the age of less than 20 years, a woman's reproductive organs are not ready for pregnancy, while on the other hand, at the age of more than 35 years, the function of the reproductive organs will slowly decline towards the manaupose stage, which is where a woman is in the stage of not menstruating.

For women, the ideal reproductive age for pregnancy and childbirth is 20-35 years old. The reproductive function of a woman under the age of 20 years has not been fully developed so that she is not ready to get pregnant and give birth, while at the age of 35 years there is a progressive deterioration of the endometrium which affects the strength of contractions during the labor process or after childbirth. (Betti *et al.*, 2023)

If a woman wants to have excellent reproductive health function, she should avoid the 4 too or known as the "4 T" where two of the “4 too” are about the mother's age. First, being too young means getting pregnant at the age of not yet 20 years old and being too old means getting pregnant over the age of 35 years of age, all of which are likely to be at risk of miscarriage, preeclampsia, difficulties in the delivery process due to the imperfect reproductive system, premature delivery and low birth weight (BBLR), bleeding, and congenital defective babies (Badan Pusat Statistik, 2020). Research conducted by Dina et al., (2018) which showed results that at the confidence level of 95% of mothers aged before 20 years or over 35 years old have a 3.3 times greater risk of experiencing postpartum bleeding than mothers aged between 20-35 years.

The Corelation of Maternal Parity with the Incidence of Early Postpartum Hemorrhage

Early Postpartum Hemorrhage The OR value was 2.1 (1.151 – 3.970) which means that mothers with primipara/grandemultipara have a 2.1 times greater risk of experiencing early postpartum hemorrhage compared to multipara mothers. The results of this study report that the greater the parity, the higher the risk of early postpartum hemorrhage. This correlates with

research conducted by Lovandia, (2022) which shows that there is a relationship between parity and postpartum bleeding. The results of this study showed that the incidence of early postpartum hemorrhage was more common in primipara/ grandemultipara (1 or ≥4). The first primimaria or parity is caused by the mother's psychological unpreparedness in facing the delivery process so that pregnant women do not know and are unable to handle the signs of complications that occur during pregnancy, childbirth and postpartum period. High parity or grandemultipara is one of the risk factors for early postpartum hemorrhage caused because the uterus that gives birth to many children tends to work not as efficiently in each stage of labor. The uterus has undergone changes in its elasticity. The more elastic and larger the size, the weaker the uterine contractions so that uterine contractions become weak and reduce uterine function (Ononge, S., Florence, M., Julius, W., dan Oona, 2016)

The parity relationship with the incidence of early postpartum hemorrhage is evidenced by the more often the mother gives birth, the more the function of the uterine muscles is reduced. In grandemultipara, there is a reduction of the uterine muscles so that childbirth in grandemultipara tends to experience uterine atonia. In addition, in grandemultipara, the elasticity of the myometrium muscle will be reduced, making it easy for uterine rupture to occur (Kurnia *et al.*, 2024) . At high parity, it often triggers the lagging of part of the placental tissue in the uterus. This is also in line with research Tort J (2015) which shows a relationship between parity and the incidence of early postpartum hemorrhage (p=0.001).

The Corelation of Birth Distance to the Incidence of Early Postpartum Hemorrhage

Based on the results of the study, $p = 0.02$ ($p < 0.05$). These results suggest that there is a significant relationship between birth distance and the incidence of early postpartum hemorrhage. The OR value was 2.7 (2.243-3.323) which means that mothers who are <2 years apart from birth are 2.7 times more likely to experience early postpartum hemorrhage compared to mothers who are 2-10 years apart. Birth distance is the distance in a matter of months or years between the birth of one child and the previous child. After giving birth to the first child, it is then necessary to consider the distance of the next birth to reduce the risk of morbidity and mortality for the mother and child. The World Health Organization (WHO) claims

that the mother's body will be able to go through the process of rebirth after at least 24 months from the previous delivery.

The National Family Planning Coordinating Board (BKKBN) is given the authority by the government to make a minimum limit of 2 years of childbirth with an optimal distance of 3 years. According to the results of Dewie (2020) research, it is stated that the uterus can recover after six months of childbirth, but its function is not optimal. The uterus that is not ready to receive pregnancy will experience a deficit in the provision of food for the mother and the baby-to-be. This can be a risk of abortion, prematurity in the baby, pregnancy complications, and even bleeding during childbirth. Research conducted in Boyolali found that mothers with a delivery gap of < 2 years will increase the risk of postpartum hemorrhage, even resulting in a higher proportion of deaths. If the reproductive organs are not ready to face pregnancy and childbirth plus the mother's increasing age so that the mother's strength to conceive weakens, as well as uterine contractions that are not optimal, can result in early postpartum hemorrhage. In addition to short delivery intervals (< 2 years), the study also found that women who had a long delivery interval (> 5 years) had a greater risk of experiencing early postpartum hemorrhage (Sugiyarni *et al.*, 2023)

In addition to early postpartum hemorrhage, long delivery distances can also cause a high risk of maternal morbidity, even in some studies it is said that long delivery distances have more side effects compared to short delivery distances, including preeclampsia and intrapartum fever. The distance of delivery is regulated with the intention that the mother's body can be properly prepared to experience pregnancy and subsequent delivery, 2-5 years is a delivery distance that is considered safe both in terms of the health of the reproductive organs and from the psychological point of view of the mother so that the mother can face the pregnancy and delivery process properly. With the right delivery distance, the mother can have enough time to recover and the baby will also get enough breast milk. The distance of delivery can be regulated using Family Planning (KB) contraceptives, where the phase of separating pregnancy has a distance of 2-4 years between one child to another with a total of two children (Pabidang, 2024)

The Corelation of Frekuensi of Pregnancy Checkup to Early Postpartum Hemorrhage

Incidence The OR value was 3.3 (1,655-6,695) which means that mothers who had 6 <pregnancy check-ups were 3.3 times more likely to experience early postpartum

hemorrhage than mothers who had ≥ 6 pregnancy check-up visits. This study is in line with research conducted by Sari (2017), which states that there is a relationship between the number of pregnancy checkup visits and the incidence of early postpartum hemorrhage. The study also states that mothers with a number of pregnancy check-up visits or regularly can reduce the occurrence of complications, especially early postpartum hemorrhage. Antenatal Care (ANC) pregnancy check-up visits are a health service program that aims to reduce maternal and child morbidity and mortality. In conducting an ANC pregnancy check-up visit, pregnant women are required to come at least 6 times during their pregnancy.

In the antenatalcare examination process, there are many things that are done for pregnant women such as conducting an anamnesis to explore what complaints were experienced during pregnancy In addition, the medical history of pregnant women before pregnancy is also checked. In addition to the examination with anamnesis, a physical examination was also carried out for high blood pressure, Measuring the circumference of the upper arm, BMI, and weight to find out the nutritional status of pregnant women. In addition, blood pressure and anemia checks and other risky complaints are carried out during ANC. For the supporting examinations themselves, blood sugar, blood type, Hb levels, HIV, malaria, syphilis, and also ultrasound are carried out.

In addition to the above examinations, educational education is also carried out for pregnant women regarding important things that must be known during pregnancy and childbirth (RI, 2020). The incidence of early postpartum hemorrhage is caused by many things and each type of postpartum is different. Based on the time of occurrence, early postpartumihemorrhage is divided into two, namely primary early postpartum hemorrhage and early postpartum secondary hemorrhage. For early postpartum primary hemorrhage, it is often caused by uterine atonia, placental retention, birth canal tear, and blood clotting abnormalities. As for early postpartum secondary hemorrhage, it is most often caused by rest palsenta (Respati, S.H., Sulistyowati, S. and Nababan, 2019).

The Corelation of Childbirth History to the Incidence of Early Postpartum Hemorrhage

Based on the results of the study, p=. The OR value was 2.8 (1,199-6,801) which means that mothers with a history of poor labor have a 2.8 times greater chance of experiencing early postpartum hemorrhage compared to mothers with a good history of labor. Past labor history is closely related to the outcome of pregnancy and subsequent delivery. If the past delivery history

is poor, officers must be aware of complications in the delivery that will take place. This history of bad labor can be in the form of abortion, fetal death, eclampsia and preeclampsia, sectio caesarea, difficult or long labor, large fetuses, infections and having experienced antepartum bleeding and early postpartum hemorrhage. This research is in accordance with the research of Senewe, et.al. (2004), in Dina (2013), which states that mothers who have a history of poor childbirth are at risk of experiencing early postpartum hemorrhage 2.4 times. According to Imane Khireddine.et.al's research. (2013), in Dina (2013), that a history of bleeding in previous childbirth is significant as a risk factor that affects the incidence of early postpartum hemorrhage. Mothers with a history of bleeding in previous childbirth were 2.7 times more likely to experience primary postpartum bleeding than mothers without a history of bleeding (OR= 2.76; 95% CI 1.25; 6,12).

The Corelation of Iron Supplementation with the Incidence of Early Postpartum Hemorrhage

The OR value was 3.3 (1,655-6,695) which means that mothers who do not take iron supplements during the last trimester of pregnancy, have a 3.3 times greater chance of experiencing early postpartum hemorrhage compared to mothers who take iron supplements. The results of this study are in line with the opinion (Wibowo, in Wahidah, 2018), that the most common cause of anemia in Indonesia is anemia due to iron deficiency. This is due to insufficient input through food and due to increasing needs, as well as the lack of consumption to stimulate iron absorption such as animal protein and vitamin C. Fe tablets are minerals needed to form red blood cells (hemoglobin). In addition, this mineral also acts as a component to form myoglobin (a protein that carries oxygen to muscles), collagen (a protein found in bones, cartilage, and connective tissue), and enzymes. Fe tablets also function in the body's defense system. (Nurdin, Ihsanul M and Andi Palancoi, 2020)

Fe tablets are very important for the health of pregnant women, including: preventing iron deficiency anemia, preventing bleeding during childbirth and can increase nutritional intake for the fetus. The iron requirement in pregnant women is on average close to 800 mg. This requirement consists of, about 300 mg is required for the fetus and placenta and another 500 mg is used to increase maternal haemoglobin mass. Approximately 200 mg more will be excreted through the intestines, urine and skin. A pregnant woman's diet per 100 calories will produce

about 8–10 mg of iron. Calculating 3 meals with 2500 calories will produce about 20–25 mg of iron per day. During pregnancy with a calculation of 288 days, pregnant women will produce as much iron as 100 mg so that iron needs are still lacking for pregnant women (Mitta *et al.*, 2023). Based on the results of the previous study above, it shows that the need for iron during pregnancy makes a very positive contribution to the health of the mother and fetus, pregnant women who consume less Fe tablets will have an impact on the incidence of anemia which eventually causes early postpartum hemorrhage. There is a close relationship between consuming Fe tablets and the incidence of early postpartum hemorrhage, especially in the third trimester because this period is the most routine period to be maintained (Amalia, 2020).

The Corelation of Multiple Pregnancy to the Incidence of Early Postpartum Hemorrhage

The OR value was 3.3 (1,655-6,695) which means that mothers with twin pregnancies are 3.3 times more likely to experience early postpartum hemorrhage compared t mothers who are not pregnant with twins. The results of this study are also supported by the results of previous research which stated that there is a relationship between multiple pregnancies and the incidence of postpartum hemorrhage. The result of the odd ratio = 6.375, the OR value is > 1 which means that if the mother gives birth with a getelli pregnancy, then the probability of postpartum bleeding is 6.375 times compared to the mother who gave birth with a normal pregnancy (Nislawaty, Aprilla and Melani, 2024). Multiple pregnancy can be defined as a pregnancy in which there are two or more embryos or fetuses at once. Multiple pregnancies occur when two or more ovums are released and fertilized or when one fertilized ovum divides prematurely to form two identical embryos at the inner or earlier stage of cell mass (Nurdin, Ihsanul M and Andi Palancoi, 2020).

Multiple pregnancies can pose a higher risk to the mother and fetus. Therefore, in the face of twin pregnancies, intensive antenatal care must be carried out. Twin pregnancies are related to nutritional status which is reflected by the mother's weight. Taller and larger mothers have a 25-30% risk of double pregnancy compared to shorter and smaller mothers. Twin births occur 1 in 100 pregnancies in white people, while in black people 1 in 80 pregnancies (Mitta *et al.*, 2023). Multiple pregnancies can cause the uterus to stretch too much, with such overdistension can cause atonic uterus or bleeding from the location of the placenta due to the uterus's inability to contract properly. Uterine atonia is a failure of uterine muscle contraction, which causes blood

vessels in the former implantation of the placenta to open so that it can cause the occurrence of early postpartum hemorrhage. Generally, the occurrence of early postpartum hemorrhage due to uterine atonia occurs in the first 24 hours postpartum (Nurdin, Ihsanul M and Andi Palancoi, 2020).

Conclusion

Describing the results and discussion of the study "Analysis of the corelation between Risk Factors and the Incidence of Early Post Partum Haemorrhagia at the Kembang Janggut Health Center, Kutai Kartanegara Regency", it can be concluded that age, parity, pregnancy distance, frekuensi of pregnancy check-up, childbirth history with the incidence of early postpartum hemorrhage, consumption of fe tablets, multiple pregnancies are risk factors that contribute to the occurrence of early postpartum hemorrhage.

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