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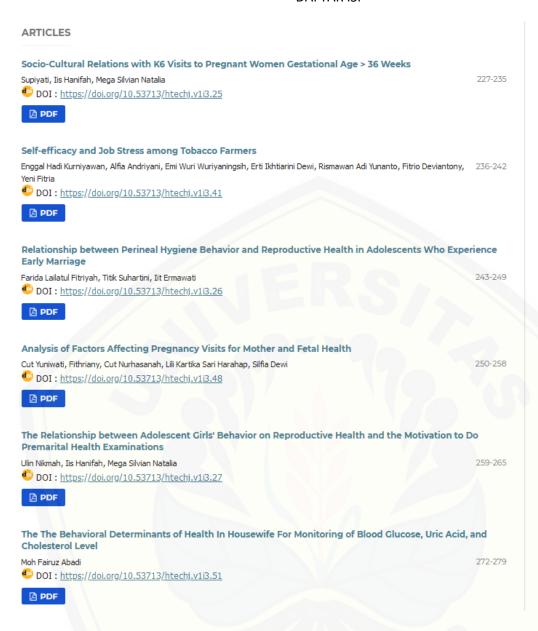| Google | Sinta | Scopus |

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Relationship Between Maternal Parity and Primary Postpartum Hemorrhage

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Abstract:
Primary postpartum hemorrhage is bleeding that occurs within the first 24 hours. Primary postpartum hemorrhage greatly affects maternal parity. One of the causes of maternal death related to bleeding is maternal parity. This study aims to determine the relationship between maternal parity and primary postpartum hemorrhage. This research is an analytic observational study, while the research design is retrospective. Data were taken from medical records that entered the obstetrics and gynecology department of Bhayangkara Lumajang Hospital from January to April 2022 with a population of 160 spontaneous postpartum mothers. The sample studied was 40 respondents and was taken using Simple Random Sampling. Bleeding cases at Bhayangkara Lumajang Hospital from January to April 2022 showed a parity of respondents who were at risk of experiencing primary postpartum hemorrhage as much as (40%), parity at risk of not experiencing primary postpartum hemorrhage as much as (17.5%), the results obtained were X^2 greater from p so it can be concluded that there is a relationship between maternal parity and primary postpartum hemorrhage. It is hoped that health workers in the delivery room will refresh their knowledge to increase their knowledge and services so that complications and complications do not occur in childbirth.

INTRODUCTION

About 160 million women in the world get pregnant every year. Most of these pregnancies proceed safely. Approximately 15% of pregnant women suffer from severe complications, with one-third being complications threatening the mother's life. These complications result in the death of more than half a million mothers each year. Of this estimate, about 90% occur in Asia and Sub-Saharan Africa, 10% in other developing countries, and less than 1% occur in developed countries. The risk of maternal death is higher than 1 in 10 pregnancies in developing countries, while in developed countries, it is less than 1 in 6,000 (Prawirohardjo, 2018). This incident can also be at risk anxiety in pregnant women, resulting in decreased quality of life (Putri et al., 2021).

Postpartum hemorrhage is bleeding of more than 500 cc after the baby is born vaginally or more than 1000 cc after abdominal delivery within 24 hours and six weeks after delivery. Based on the time of occurrence, postpartum hemorrhage can be divided into primary and secondary bleeding. Primary bleeding occurs within the first 24 hours and is usually caused by uterine atony, tearing of the birth canal, partial remnants of the placenta, and blood clotting disorders. Secondary bleeding is bleeding that occurs after 24 hours of delivery. Parity 2-3 is the safest in terms of postpartum hemorrhage. Parity 1 and high parity (more than 3) have a higher incidence of

postpartum hemorrhage. At low parity (parity one), the unpreparedness of the mother in facing the first birth is a factor causing the inability of pregnant women to deal with complications that occur during pregnancy, childbirth, and the puerperium. Whereas at high parity (more than 3), the reproductive function has decreased, so the possibility of postpartum hemorrhage is greater (Satriyandari & Hariyati, 2017). Another consequence is that it can cause sleep disturbances that impact their quality of life (Aliyah et al., 2019).

The number of maternal deaths compiled from family health program records at the Ministry of Health in 2020 shows 4,627 deaths in Indonesia. This number shows an increase compared to 2019 of 4,221 deaths. Based on the cause, most maternal deaths in 2020 were caused by 1,330 cases of bleeding, 1,110 cases of hypertension during pregnancy, and 230 cases of circulatory system disorders (Beyer et al., 2006). So that it results in a decrease in the quality of service because of the large number of patients hospitalized at the hospital (Putri et al., 2021).

The maternal mortality rate in East Java increased in 2020. This is due to restrictions on prenatal care visits, so screening high-risk pregnant women is not optimal. In several districts/cities, the number of deliveries assisted by traditional birth attendants has increased from the previous year, and many pregnant women who should have delivered at referral health facilities were delivered at primary health facilities. Due to limited hospital beds during the Covid-19 pandemic, the causes of maternal death were other cases (Covid-19), contributing to the increase in maternal deaths. Based on the causes, most maternal deaths in 2020 were caused by 1,330 cases of bleeding, 1,110 cases of hypertension during pregnancy, and 230 cases of circulatory system disorders (East Java Provincial Health Office, 2020). This increased incidence can also affect the mother's vital signs, decreasing her quality of life (Fauzi et al., 2022).

The Maternal Mortality Rate in Lumajang Regency has decreased since last year. This illustrates the results of better performance, one of which is stringent supervision of complications of pregnant women by health workers by village midwives, health workers at public health centers, cadres accompanying pregnant women, and across sectors in the village and the sub-district. The maternal mortality rate this year is 97 per 100,000 live births. This achievement is below the strategic plan target, meaning efforts to reduce MMR are going well. Kedungjajang Health Center has the highest maternal mortality, namely, three deaths. Data from the Lumajang District Health Office in 2020 shows the 4 (four) most common causes of maternal death, namely due to other causes (5 deaths), Pre-eclampsia/Eclampsia (hypertension in pregnancy) (6 deaths), bleeding from other causes, these are mostly caused by disease factors accompanying pregnancy. (Lumajang District Health Office., 2020)

Based on preliminary studies at the Hospital. Bhayangkara Lumajang found that in 2020 there were 627 normal deliveries, of which there was 14 at-risk parity (2.23%), while the number of primary postpartum hemorrhage events was around 26 (4.14%). Whereas in 2021, data on deliveries were 722 people, with parity events at risk of 19 people (2.6%), with the number of primary postpartum bleeding events being 34 (4.7%)

Maternal death is divided into direct and indirect death. Immediate death results from pregnancy, childbirth, puerperium complications, and all interventions or improper handling of these complications. Indirect maternal deaths are deaths due to pre-existing diseases or those that arise during pregnancy that affect pregnancy, for example, malaria, anemia, HIV/AIDS, and cardiovascular disease. Globally, 80% of maternal deaths are classified as direct maternal deaths. The pattern of direct causes is the same everywhere, namely bleeding (25%, usually postpartum bleeding), sepsis (15%), hypertension in pregnancy (12%), obstructed labor (8%), complications of unsafe abortion (13%), and other causes (8%) (Prawiroharjo, 2018)

Efforts that can be made, namely through efforts to improve the quality of maternal health services and by increasing the knowledge and skills of health workers, can be in the form of attending training or seminars. In this case, it is a form of effort to reduce the incidence of primary postpartum hemorrhage, namely that midwives must be able to provide midwifery care to mothers with parity so that primary postpartum hemorrhage does not occur. This study aims to determine the relationship between maternal parity and primary postpartum hemorrhage.

METHOD

This type of research is an analytic observational study. The population in this study were all spontaneous birth mothers at Bhayangkara Lumajang Hospital taken from secondary data (patient medical records) from January to April 2022. The sample in this study were all birth mothers who experienced postpartum hemorrhage primary care with at-risk parity and postpartum hemorrhage primary school with non-risk parity at Bhayangkara Lumajang Hospital. The sampling technique used in this study is simple random sampling, namely by taking sample members from the population, which is done randomly without regard to the existing strata in the population. (Sugiyono, 2017). The research instrument was medical record records that entered the obstetrics and gynecology department of Bhayangkara Lumajang Hospital from January to April 2022. The data collection technique in this study was administratively using a retrospective study. The researcher recorded from the maternity register book in the delivery room at Bhayangkara Lumajang Hospital. Data were analyzed with Chi-square with a significance level of 0.05.

RESULT

Characteristics of Respondents

Table 1. Respondents' Age, Education, Occupation, Newborn Baby's Weight, and Cause of Referral (n=30)

Variable	Frequency	Percentage
Age (years old)		
< 20	10	25%
20 – 35	25	62.5%
>35	5	12.5%
Education		
Elementary School	6	15%
Junior High School	9	22.5%
Senior High School	21	52.5%
College	4	10%
Occupation		
Housewife	30	75%
Private sector employee	6	15%
Teacher	4	10%
Newborn Baby's Weight		
< 2500	0	0
2500-3500	33	82.5%
>3500	7	17.5%
Referral indication		
Premature Rupture of Membrane	9	22.5%
Post Date	8	20%
Prolonged labor/first phase	5	12.5%
Pre-eclampsia	14	30%
Breech	4	10%

Table 1 shows that of the 40 respondents, most were in the age range of 20-35 years, with 25 respondents (62.5%). Most had a high school education, with 21 respondents (52.5%). Most 40 respondents work as housewives, with 30 respondents (75%). Most of the respondents' newborn baby weight was 2500-3500 grams, with 33 respondents (82.5%). Almost half indicate pre-eclampsia referral, with 14 respondents (30%).

Identification of Parity Risk and Primary Post-Partum Hemorrhage

Table 2. Identification of Parity Risk and Primary Post Partum Hemorrhage

Variable	Frequency (f)	Percentage (%)
Parity		
At risk	23	57.5%
No Risk	17	42.5%
Primary Postpartum Hemorrhage		
Yes	18	45.0%
No	22	55.0%

Table 2 shows that most parity respondents are at risk, with 23 respondents (57.5%), and most did not experience primary postpartum hemorrhage, with 22 respondents (55%).

Relationship between Parity Risk and Primary Post-Partum Hemorrhage

Table 5. Relationship between Parity Risk and Primary Post-Partum Hemorrhage

Parity	Primary Postpartum Hemorrhage				Total		p-value	OR
	Yes		No					
	f	%	f	%	f	%		
At risk	16	40	7	17.5	23	57.5	0.000	17.143
No risk	2	5	15	37.5	17	42.5		
Total	18	45	22	55	40	100		

The cross-tabulation results in Table 5 show that the parity of respondents at risk of experiencing primary postpartum hemorrhage is 16 respondents (40%), the parity at risk of not experiencing primary postpartum hemorrhage is seven respondents (17.5%), the parity is not at risk of experiencing postpartum hemorrhage two respondents (5%), and parity were not at risk of not experiencing postpartum hemorrhage as many as 15 respondents (37.5%). Statistical test using Chi-Square, the result is a p-value of 0.000, which means that there is a relationship between parity and primary postpartum hemorrhage. With an odds ratio of 17.143, parity is at risk of increasing the incidence of primary postpartum hemorrhage by 17 times.

DISCUSSION

Parity at Bhayangkara Lumajang Hospital in 2022

The measurement results show that most respondents were in the risk category, namely the number of one or more than three children, 23 respondents (57.5%). Parity is the number of pregnancies that produce a fetus that can live outside the uterus. Parity is divided into nullipara, primipara, multipara and grand multipara. At parity, one and more than three are included in at-risk

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parity. While parities 2 and 3 are the safest parties from the point of view of maternal and perinatal deaths (Varney, 2018).

According to Prawirohardjo (2018), factors influencing parity include education, employment, economic conditions, cultural background, and knowledge. Parity is divided into primiparas, namely women who have given birth to a term baby once; multiparas, namely women who have given birth several times; and grand multiparas, namely women who have given birth to term fetuses more than 4 times.

According to the researchers' assumptions, most respondents are in the risk category, namely the number of children of one or more than three. Based on the analysis, it is influenced by the educational and occupational factors of the respondents. In this study, 15 respondents (37.5%) have an elementary-junior high school education level, and 21 have a high school education (52.5%). This data shows the need for more education level of the respondents, which affects the amount of parity. According to Ainiyah (2020), education is one of the critical variables in sustainable development. It can influence a person's realistic view of the ideal number of children, encouraging husbands and wives to limit the number of families. The higher the education level of a wife or woman tends to improve the quality of children by reducing the number of children they have.

The results show that most of the parity of respondents in the category of respondents are housewives (IRT), with a total of 30 respondents (75%). This data shows that most respondents do not work, which affects family income. According to the researchers' assumptions, this study's results indicate that most parity respondents are in a risk category. Educational and occupational factors influence this risk parity. Therefore, mothers with multiparity and grand multipara parity need to be monitored early during their pregnancy because these parities are unsafe parities that often cause complications during pregnancy and childbirth. Efforts can be made to prevent risks at high parity by launching a family planning program. Meanwhile, prevention in pregnant women can be handled with obstetric care through examinations antenatal care (ANC) is integrated continuously.

Primary Post-Partum Hemorrhage at Bhayangkara Lumajang Hospital in 2022

The results show that most respondents did not experience primary postpartum hemorrhage, with 22 respondents (55%). Primary postpartum hemorrhage loses 500 mL of blood in normal delivery and 1,000 mL in a cesarean section (SC) delivery. The cause of primary postpartum hemorrhage is uterine atony, followed by the retained placenta, retained placenta, lacerations of the birth canal, and coagulation disorders (Varney, 2018). According to Oxorn (2018), risk factors for postpartum hemorrhage include the age of the mother who is too young (less than 20 years) or too old (more than 35 years), parity status (multipara and grand multipara), prolonged labor or non-progressive labor, uterus too stretched or large (in multiple pregnancies or large babies), uterine abnormalities and socioeconomic factors that affect the nutritional status of the mother.

According to Cunningham (2018), several pathological conditions that can cause postpartum hemorrhage, namely: tone, trauma, tissue, thrombin, and predisposing factors are parity, age, education spacing between births, history of previous bad births, and anemia status, which can cause negative effects and postpartum hemorrhage which can cause puerperal infection, hypovolemic shock, Sheehan's syndrome, and death.

According to the researchers' assumptions, most respondents did not experience primary postpartum hemorrhage. Based on the analysis, it is influenced by age and level of work. In this study, the measurement results in Table 5.1 show that most respondents are 20-35 years old. Wiknjosastro (2017) states a healthy reproductive period is 20-35. At < 20 years, the reproductive

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HTechJ **Health and Technology Journal (HTechJ)**

Volume 01 Number 03
June 2023
p-ISSN: 2986-5662
e-ISSN: 2985-959X

organs are still immature for pregnancy, whereas if the mother is > 35 years old, the reproductive organs and physical functions decrease, so the possibility of postpartum complications, especially bleeding, will be greater.

The results show ten respondents (25%) working as private employees and civil servants. This data shows the economic level of the respondents, which influences nutritional status. High socioeconomic status affects the pattern of fulfilling food needs. Manuaba (2018) states that adequate nutrition in pregnant women will prevent anemia. Anemia during labor will cause uterine fatigue and inertia, resulting in postpartum hemorrhage.

According to the researchers' assumptions, this study showed that most respondents did not experience postpartum hemorrhage. However, precaution or being prepared in cases of suspected bleeding is important. Preventive measures are carried out during childbirth and have been started since pregnant women through screening for early detection of high-risk pregnancies in examinations antenatal care continuous. Midwives must be able to recognize excessive bleeding in the first 24 hours after delivery and immediately perform emergency first aid to control bleeding.

The Relationship between Parity and Primary Postpartum Hemorrhage at Bhayangkara Lumajang Hospital in 2022

The results show the parity of at-risk respondents who experienced primary postpartum bleeding in as many as 16 respondents (40%), the at-risk parity of not experiencing primary postpartum hemorrhage in as many as seven respondents (17.5%), the parity not at risk experiencing postpartum hemorrhage as much as two Respondents (5%) and parity not at risk of not experiencing postpartum bleeding as many as 15 respondents (37.5%).

This study shows there is a relationship between parity and primary postpartum hemorrhage. With an odds ratio of 17.143, parity is at risk of increasing the incidence of primary postpartum hemorrhage by 17 times. Parity influences the incidence of postpartum hemorrhage because, during each pregnancy and childbirth, there are changes in the uterus's muscle fibers, which can reduce the ability of the uterus to contract, making it difficult to put pressure on the blood vessels that open after the placenta is released. The risk of postpartum hemorrhage will increase after the third or more deliveries resulting in postpartum hemorrhage. Every pregnancy, the uterus enlarges, and stretching of the uterine muscles occurs. As a result of this strain, the elasticity of the uterine muscles does not return to what it was before pregnancy after delivery. The more often pregnant women give birth, the closer the distance between pregnancy and childbirth, the elasticity of the uterus is increasingly disturbed. As a result, the uterus does not contract ideally, resulting in postpartum hemorrhage. This is to the multiparity theory, which is a predisposing factor for bleeding because the myometrium already contains much connective tissue, which causes the strength of the uterine wall to become less so that stretching causes tears more easily (Varney, 2018).

The results of this study are by the theory according to Manuaba (2018), which says that parity in one mother's unpreparedness is a factor in the mother's inability to deal with childbirth and complications that may occur during labor or the puerperium. Whereas at a parity of more than three, muscle cells become less able to contract and retract efficiently which can cause uterine atony. In addition, increasing parity causes the uterus to work less efficiently.

According to the researchers' assumptions, almost half of the respondents with parity are at risk of experiencing primary postpartum hemorrhage. However, there were still two parity respondents who were not at risk of experiencing postpartum bleeding. Based on the researcher's analysis, this was due to the referral indication factor, namely pre-eclampsia. This is supported by research data in Table 5.5 which shows that almost half of the respondents are in indications of

pre-eclampsia referral. Mothers with preeclampsia experience change in essential body organs, one of which is endothelial cell dysfunction, namely damage to endothelial cells by fatty peroxides, which are toxic circulating throughout the body and can damage endothelial cells and endothelial cells in the uterus. So, it is necessary to watch out for bleeding postpartum due to the failure of the myometrium to contract. In addition, in mothers with preeclampsia, there is a decrease in coagulation factors, and erythrocytes change shape, thereby accelerating hemolysis.

According to the researchers' assumptions, this study is by the theory, which states that parity is related to the occurrence of postpartum hemorrhage. The researchers assumed that it was essential to regulate the spacing of pregnancies to prevent the emergence of risk parity, which affects the incidence of postpartum bleeding through counseling about family planning (KB) and the provision of family planning safaris to facilitate access to the use of family planning. Programming the distance and number of children will minimize parity at risk to prevent pregnancy and childbirth complications, including postpartum hemorrhage.

CONCLUSION

There is a significant relationship between maternal parity and primary postpartum hemorrhage at Bhayangkara Lumajang Hospital in 2022. It is hoped that health workers in the delivery room will refresh their knowledge to increase their knowledge and services so that complications and complications do not occur in childbirth.

ACKNOWLEDGEMENT

CONFLICT OF INTEREST

There isn't any conflict of interest.

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