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Factors Related to The Occurrence of Risiko Pregnancy During the COVID-19 Pandemic in Pregnant Women

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Abstract
Introduction: *The high maternal mortality rate i largely due to risk pregnancy. 90% of maternal deaths occur at the time of delivery and immediately after delivery. The direct causes of maternal mortality include bleeding at 28%, eclampsia at 24% and infection at 11%. While the indirect causes are Chronic Energy Deficiency during pregnancy 57%, anemia in pregnancy 40%. Risk pregnancy is a pregnancy that can cause pregnant women and babies to become suspected of death or die before birth takes place. Factors that affect the high maternal mortality rate are age, knowledge and parity.* ***Methods:*** *This study used a cross sectional design. The study population is all pregnant women in the first, second and third trimesters who visited the Linggang Bigung Health Center.* ***Results and Discussion:*** *Most of the respondents had 32 (59.3%) risk-free age (20-35 years), 37 (68.5%) risk-free parity (2-3 children), 30 people (55.6%) had sufficient knowledge and 31 (57.4%) had high-risk pregnancies. The results of the Sperm Corelation test were obtained from the age factor (value p=0.001), the knowledge factor (value p=0.001) and the parity factor (value p=0.017), where these three factors were related to pregnancy risk.* ***Conclusion:*** *Age factors, knowledge factors and parity factors are related to pregnancy risk at Linggang Bigung Health Center.*

Keywords: Age; Knowledge; Parity; Pregnancy Risk;

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Introduction

The 2005-2025 National Long-Term Development Plan identifies the maternal mortality rate (MMR) and infant mortality rate (IMR) as key indicators of health status and the effectiveness of health development initiatives (Rosanna Simamora, 2022). The program aimed at accelerating the reduction of maternal mortality has been established as a strategic priority project within the national development agenda. This emphasizes that maternal and child health issues are reflected through the indicators of maternal and infant mortality (Wulandari & Utomo, 2021). According to estimates by the World Health Organization (WHO), over 585,000 mothers die globally each year due to complications during pregnancy or childbirth. The primary direct causes of maternal mortality include bleeding (28%), high-risk pregnancy (24%), infections (11%), unsafe abortions (5%), and prolonged labor (5%). Among these, high-risk pregnancies represent the second leading cause of maternal death (Fitri Yanti, Rohaya, & Rahmawati, 2022)

In 2020, Indonesia's maternal mortality rate reached 4,627 deaths, reflecting an 8.92% increase from the previous year's figure of 4,197. The maternal mortality rate in East Kalimantan Province stood at 70 per 100,000 live births. Additionally, the Covid-19 pandemic contributed to a rise in maternal and infant deaths, with 1,086 mothers and 302 infants testing positive for Covid-19 via PCR swab tests.

In East Kalimantan, 2020 data indicated 92 maternal deaths per 100,000 live births, primarily due to bleeding (30 cases), pregnancy-induced hypertension (25 cases), infections (5 cases), circulatory system disorders (1 case), metabolic disorders (3 cases), and other causes (28 cases). The province recorded 82,512 pregnant women during this period. In West Kutai Regency in 2021, the maternal mortality rate was 9 per 100,000 live births, with causes including bleeding (2 cases), pregnancy-induced hypertension (2 cases), and Covid-19 (5 cases). The region had 2,531 pregnant women, with 980 classified as high-risk pregnancies.

Data from the Linggang Bigung Health Center showed that, before the Covid-19 pandemic in 2019, there were 158 pregnant women, including 28 high-risk cases. During the pandemic in 2020, the numbers increased to 189 pregnant women, with 50 identified as high-risk. In 2021, no maternal deaths were recorded, although 6 infant deaths occurred (4 due to intrauterine fetal death and 2 from congenital abnormalities). The number of pregnant women rose to 248, with 80 classified as high-risk—an increase of nearly 13%. High-risk factors included chronic energy deficiency (38%), preeclampsia (37%), suspected infectious diseases such as HIV/AIDS, syphilis, and hepatitis (19%), and severe anemia (6.3%).

The high maternal mortality rate is primarily attributed to high-risk pregnancies, with 90% of maternal deaths occurring during childbirth or shortly thereafter. The leading direct causes of maternal mortality include bleeding (28%), eclampsia (24%), and infections (11%) (Maharani, 2022). On the other hand, indirect causes involve chronic energy deficiency (CED) during pregnancy, accounting for 57%, and anemia in pregnancy, contributing to 40% of cases (Adhelna, Halifah, & Ardhia, 2022). Additional indirect factors contributing to maternal mortality include delayed decision-making, late

arrival at referral points, and delayed access to healthcare services. Other contributing factors include giving birth at a very young or old age, having too many children, short birth intervals, low socioeconomic status, limited education, insufficient knowledge, gender roles and status, socio-cultural influences, and transportation challenges (REGION, n.d.)

The high maternal mortality rate is influenced by factors such as age, knowledge, and parity. Many mothers still perceive pregnancy and childbirth as natural processes that do not require medical examination or treatment, often overlooking the fact that pregnant women belong to a high-risk group (Apriani & Subandi, 2021). Age plays a significant role in high-risk pregnancies. The ideal reproductive age for a healthy and safe pregnancy is between 20 and 35 years. Pregnancies occurring under the age of 20 or over 35 pose a higher risk. Women under 20 years old are biologically underdeveloped, often experience unstable emotions, and may lack the mental maturity to handle pregnancy-related stress, leading to increased maternal mortality. Additionally, they might neglect proper nutritional needs during pregnancy (Rangkuti & Harahap, 2020).

For women over 35 years of age, declining immunity and the onset of various health issues can increase the risk of maternal mortality. At this age, changes in the endometrium necessitate broader placental growth to meet the fetus's nutritional requirements (Tarigan, Sembiring, & Aruan, 2024). Statistics indicate that maternal mortality among pregnant women under 20 years old is 2-5 times higher than in those aged 20-29. Furthermore, the risk of maternal death rises again after the age of 30-35 years (Dewi Yanti & Lilis, 2022)

Knowledge is a crucial predisposing factor in health behavior. Pregnant women with better knowledge about high-risk pregnancies are more likely to take preventive measures, avoid potential risks, and seek appropriate medical attention. Such awareness encourages regular pregnancy check-ups, allowing healthcare providers to identify and address potential risks early and effectively (Sumardiani, 2020).

Methods

This type of research uses a type of analytical descriptive research. This research was carried out with a quantitative approach with a research design, namely cross sectional. The population in this study is all pregnant women in the first, second and third trimesters who visit the Linggang Bigung Health Center. The total population in November - January 2022 is around 62 people. The total sample was 54 repondents. The sampling technique in this study is consecutive sampling.

This research has been carried out at the Linggang Bigung Health Center, West Kutai Regency, which is located on student street, Linggang Bigung District, and is a 24-hour Emergency Room Service Health Center. This research has been carried out in April - June 2022

Results and Discussion

Result

Table 1
Characteristics of Respondents

Characteristics of respondents	Frequency	Percentage (%)
Education		
ES	8	14.8
JHS	15	27.8
SHS	17	31.5
High Altitude	14	25.9
Total	54	100
Work		
Housewives	25	46.3
Farmer	6	11.1
Self employed	9	16.7
Private Employees	7	13
Civil Servant/Honorary	7	13
Total	**54**	**100**

Based on table 1 above, the results were obtained that of the 54 respondents, most of them had a high school education of 17 people (31.5%), as housewives as many as 25 people (46.3%)

Table 2
Age of Respondents

Age	Frequency	Percentage (%)
Age is not at risk		
16-35 Years	32	59,3
Age at Risk		
<16 years and >35 years	22	40,7
Total	**54**	**100**

Based on table 2 The results above were obtained that most of the respondents had a non-risk age (16-35 years) as many as 32 people (59.3%), while the rest had a risky age (age <=16 years or >35 years) as many as 22 people (40.7%). The results were obtained that most of the respondents had good knowledge as many as 20 people (66.7%), while the rest had less knowledge as many as 10 people (33.3%).

Table 3
Knowledge

Knowledge	Frequency	Percentage (%)
Good	10	18.5
Enough	30	55.6
Less	14	25.9
Total	**54**	**100**

Based on table 3. The results above were obtained that most of the respondents had sufficient knowledge as many as 30 people (55.6%), while the rest had less knowledge as many as 14 people (25.9%) and had good knowledge as many as 10 people (18.5%)

Table 4
Parity

Parity	Frequency	Percentage (%)
Parity is not risky	37	68.5
Parity at Risk	17	31.5
Total	**54**	**100**

Based on table 4. above, the results were obtained that most of them had non-risk parity (2-3 children) as many as 37 people (68.5%) while the rest had risky parity (1 child or more than 4 children) as many as 17 people (31.5%).

Table 5
Pregnancy Risk

Pregnancy Risk	Frequency	Percentage (%)
Low	12	22.2
High	31	57.4
Very high	11	20.4
Total	**54**	**100**

Based on table 5. above, the results were obtained that most of them had high-risk pregnancies as many as 31 people (57.4%), while the rest had low-risk pregnancies as many as 12 people (22.2%) and had very high-risk pregnancies as many as 11 people (20.4%).

Table 6
Age Relationship with Pregnancy Risk

Age	Pregnancy Risk						Total		p-value
	Low		High		Very high				
	N	%	N	%	N	%	N	%	
Age Not at Risk	12	22.2	19	35.2	1	1.9	32	100	0.001*
Age at risk	0	0	12	22.2	10	18.5	22	100	
Total	**12**	**22.2**	**31**	**57.4**		**20.4**	**54**	**100**	

Based on table 6. the results of the analysis of the relationship between age and risk pregnancy at the Linggang Bigung Health Center were obtained that there were 12 out of 32 (22.2%) respondents who were not at risk and had low-risk pregnancies, while there were as many as 10 out of 22 (18.5%) respondents who were at risk and had very high-risk pregnancies. The results of *the Spearman Correlation statistical test* obtained a value of p=0.001, so it can be concluded that the age factor is significantly related to pregnancy risk

Table 7
Relationship between Knowledge and Risk of Malpractice

Knowledge	Pregnancy Risk						Total		p-value
	Low		High		Very high				
	N	%	N	%	N	%	N	%	
Good	6	11.1	2	7.4	0	0	10	100	**0.001***
Enough	4	7.4	23	42.6	3	5.6	30	100	
Less	2	3.7	4	7.4	5	14.8	11	100	
Total	**12**	**22.2**	**31**	**57.4**	**11**	**20.4**	**54**	**100**	

Based on table 7. the results of the analysis of the relationship between knowledge and risk pregnancy at the Linggang Bigung Health Center were obtained that there were 6 out of 10 (11.1%) respondents who were well educated and had low risk pregnancies, while there were 2 out of 11 (3.7%) respondents who were poorly educated and had very high risk pregnancies. The results of *the Spearman Correlation statistical test* obtained a value of p=0.001, so it can be concluded that the knowledge factor is significantly related to pregnancy risk

Table 8
Parity Relationship with Pregnancy Risk

Age	Pregnancy Risk						Total		p-value
	Low		High		Very high				
	N	%	N	%	N	%	N	%	
Parity is not risky	10	18.5	13	42.6	4	7.4	27	100	0.017*
Parity at Risk	2	3.7	8	14.8	7	13	17	100	
Total	**12**	**22.2**	**31**	**57.4**	**11**	**20.4**	**54**	**100**	

Based on table 8, the results of the analysis of the relationship between parity and risk pregnancy at the Linggang Bigung Health Center showed that there were as many as 10 out of 27 (18.5%) respondents who had no risk parity and low risk pregnancy, while there were 2 out of 17 (3.7%) respondents who had risk parity and very high risk pregnancy. The results of *the Spearman Correlation statistical test* obtained a value of p=0.017, so it can be concluded that the parity factor is significantly related to pregnancy risk

Discussion

Characteristics of Respondents

Based on the results of the analysis, it was obtained that of the 54 respondents, most of them had a high school education as many as 17 people (31.5%). This result is in line with the research of Yuliyanti, et al. (2020) on the relationship between the level of knowledge about high-risk pregnancy and the preparation for childbirth in pregnant women in the Working Area of the Bandarharjo Semarang Health Center which found that most of the respondents had a high school education totaling 38 people with a percentage (54.3%) (Yuliyanti, 2020). The results of research conducted by Ningsih (2017) stated that pregnant women who have more basic education compared to those with higher education, where this education also affects their knowledge to be low

A person's education level is classified into three groups, namely primary (elementary), middle, and high education. Primary education is the initial level of education during the first nine years of the school period. Secondary education is the level of advanced education from basic education. Meanwhile, higher education is a level of education after secondary education, including bachelor's, master's, doctoral and specialist programs organized by universities. The low education that the mother has will be related to the pregnancy that the mother is going through. This is because with low education, the understanding of pregnancy will also be low, so mothers do not know that the pregnancy that is being experienced at that age is one of the high-risk pregnancies.

The level of education of pregnant women can affect their level of knowledge in the ability of pregnant women to receive and understand determined by the level of education they have (Khasanah & Wahyuningsih, 2020). Understanding and receiving information can be received by a highly educated person better than by a person with a low education. Furthermore, according to Hawari (2016), it is stated that the level of education affects a person or individual on the ability and process of thinking so that they are able to capture information. This is in line with researcher research which states that pregnant women who have higher education are more than those with low education so their knowledge is high. Pregnant women with low education have a chance of high-risk pregnancy.

Based on the results of the analysis, it was obtained that of the 54 respondents, most of them were housewives as many as 25 people (46.3%). This result is in line with the research of Yuliyanti, et al. (2020) on the relationship between the level of knowledge about high-risk pregnancy and the preparation for childbirth in pregnant women in the Working Area of the Bandarharjo Semarang Health Center which found that most of the respondents did not work as many as 50 people with a percentage (71.4%).

Handayani & Naha (2018), stated that pregnant women who do not work are more likely to work than pregnant women who work. Work can affect the mother's pregnancy, if the mother is busy with work, the mother will rarely do a pregnancy examination because she is busy with her work. Work for pregnant women should not be forced and pregnant women have enough rest time for approximately 8 hours a day (Herliani & Yustiana, 2016). Researchers assume that most pregnant women do not work so that they can carry out pregnancy checks according to a predetermined schedule

Work is a series of tasks or activities that must be carried out by a person in accordance with their respective positions or professions. In mothers who mostly choose not to work and become housewives. At that age, usually a person does not have special skills to be able to work, so the mother prefers to stay at home. In mothers over 35 years old, it was found that most of them were working mothers. Mothers of that age assume that they will become career women first so that at the age when pregnant women should be pregnant, mothers choose to work first. So that at the age of more than 35 years old do mothers decide to get pregnant and have children so that mothers experience high-risk pregnancies (Loisza, 2020)

Age

Based on the results of the analysis, it was obtained that most of the respondents had a non-risk age (16-35 years) as many as 32 people (59.3%), while the rest had a risky age (age <=16 years or >35 years) as many as 22 people (40.7%). This result is in line with the result of presearch conducted by Rangkuti & Harahap (2020) Regarding the relationship between age and pregnancy, the risk is high where sThe majority of high-risk pregnant women are ≤16 years old and ≥35 years old (Rangkuti & Harahap, 2020)

Pregnant women are 35 years old or older, where at that age there are changes in the tissue of the uterine organs and the birth canal is no longer flexible. In addition, there is a tendency to get other suspected deaths in the mother's body. Dangers that can occur high blood pressure and pre-eclampsia, premature rupture of membranes, unsmooth or jammed delivery, bleeding after the baby is born. Maternal mortality in pregnant women and childbirth under the age of 20 years is 2-5 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 (Marlina, Santoso, & Sirait, 2022)

Researchers assume that the mother's age is not at risk (20-35 years old) is considered ideal for pregnancy and childbirth. According to Hikmah and Sari, (2017) explained that in this age range, women's physical condition is in excellent condition. The uterus is ready and able to provide maximum protection or conditions for pregnancy. Generally, they are mentally ready, which has an impact on their behavior of caring for and maintaining their pregnancy carefully, while the age of 30-35 years is actually a transition period. Pregnancy at this age is still acceptable as long as the woman's body condition and health, including her nutrition, are in good condition. And high-risk age (age 35). At the age of 35 at this time, a woman's fertility rate decreases when a woman is in her early 30s and after the age of 35, it decreases even more.

Parity

Based on the results of the analysis, it was found that most of them had no risk parity (2-3 children) as many as 37 people (68.5%) while the rest had risky parity (1 child or more than 4 children) as many as 17 people (31.5%). The results of this study are in line with Yusuf, (2019) research on the effect of parity and sources of information on high-risk pregnancies in pregnant women in West Panyabungan sub-district which found that respondents with parity had a risk of 10.5% of high-risk pregnancies were good and 45.6% were poor. Respondents who parity were not at risk, 26.3% of pregnancies were at high risk of good and 17.6% were poor.

Researchers assume that mothers have been pregnant or given birth 4 or more times, because mothers give birth frequently, they are likely to encounter many conditions such as disturbed health, laxity in the uterine wall. The dangers that can occur are abnormalities in location, latitude location delivery, uterine tears in latitude location abnormalities, long labor and postpartum hemorrhage. Grande multi para can also cause placental asolution and placenta previa.

Parity has a great influence on a person's acceptance of knowledge where watermelon dies a mother has a lot of experience so the acceptance of watermelon death is easy. Parity is the number of births of life that a woman has. Parity can be divided into primipara, multipara and grandemultipara. Paritas is a woman who has given birth to an aterm baby. Primipara is a woman who has given birth to a child, who is big enough to live in the outside world. A multipara is a woman who has given birth to a child more than once.

Knowledge

Based on the results of the analysis, it was obtained that most of the respondents had enough knowledge as many as 30 people (55.6%), while the rest had less knowledge as many as 14 people (25.9%) and had good knowledge as many as 10 people (18.5%). This result is in line with the research of Yuliyanti, et al. (2020) on the relationship between the level of knowledge about high-risk pregnancy and the preparation for childbirth in pregnant women in the Working Area of the Bandarharjo Semarang Health Center which found that respondents who had a good level of knowledge were 28 people with a percentage (40%) (Yuliyanti, 2020)

Researchers assumed that pregnant women who were less informed about high-risk pregnancies were more likely to be compared to well-informed pregnant women. Lack of knowledge about high-risk pregnancies will lead to bad behavior. Pregnant women have good knowledge about high-risk pregnancies, so it is likely that mothers will think about adjusting their attitudes, behave to prevent, avoid and overcome problems regarding high-risk pregnancies and can also prepare for childbirth well. Pregnant women will also examine their pregnancy and conduct antenatal care visits so that if a high-risk pregnancy occurs, it can be treated as soon as possible.

Researchers assume that knowledge as a domain of behavior so that the higher the level of knowledge of a person, the higher the level of knowledge of a person, the more lasting the behavior will be. In other words, mothers who know and understand high-risk pregnancies, especially risks that may arise at the age of less than 20 years and more than 35 years, then mothers will behave according to what they know. Researchers think that low maternal knowledge will have an impact on her pregnancy. The low knowledge in pregnant women includes what can be said to be a high-risk pregnancy and the impact of high-risk pregnancy on both mother and baby.

Pregnancy Risks

Based on the results of the analysis, it was found that most of them had high-risk pregnancies as many as 31 people (57.4%), while the rest had low-risk pregnancies as many as 12 people (22.2%) and had very high-risk pregnancies as many as 11 people (20.4%). The results of Yusuf's research (2019) on the effect of parity and sources of information on high-risk pregnancies in pregnant women in West Panyabungan sub-district found that most of the respondents were in high-risk pregnancies as many as 36 people (63.2%) (Yusuf, 2019)

Researchers assume that high-risk pregnancies during the pandemic can also occur due to a lack of supervision of pregnant women who are anxious or worried about doing ANC examinations so that they do not have ANC visits during the pandemic, maternal mortality rates, maternal health is not monitored, including the risk of high-risk pregnancies.

Pregnancy is a process that is awaited by all mothers-to-be. Anxiety and worry can of course approach at any time, a midwife must be able to provide the right assistance, counseling and even education so that expectant mothers are able to pass the pregnancy period calmly. Education is not only given to mothers-to-be, but also fathers-to-be so that they are always on standby when accompanying their wives. In the midst of the current COVID-19 pandemic, the health of pregnant women must be completely maintained, both from the intake they eat daily to food hygiene (Sulistyowati & Andrianika, 2021)

Age Relationship with Pregnancy Risk

Based on the results of the analysis of the relationship between age and risk pregnancy at the Linggang Bigung Health Center, it was found that there were 12 out of 32 (22.2%) respondents who were not at risk and had low-risk pregnancies, while there were 10 out of 22 (18.5%) respondents who were at risk age and had very high-risk pregnancies. Statistical test results *Spearman Correlation* obtained a value of p=0.001, it can be concluded that the age factor is significantly related to pregnancy risk at the Linggang Bigung Health Center. These results are in line with the results of research conducted by Rangkuti & Harahap (2020) Regarding the relationship between age and high-risk pregnancy (P value 0.001).

Factors that affect the high maternal mortality rate are age, knowledge and parity. Researchers assume that there are still many mothers who think that pregnancy and childbirth are natural which means they do not require examination and treatment, and without them realizing that pregnant women are a high-risk group. Pregnant women have a 50% risk of dying from maternal mortality. Age affects high-risk pregnancy. A healthy and safe reproductive age is 16 - 35 years. Pregnancy at the age of less than 16 years and over 35 years can cause a high-risk pregnancy because at the age of less than 16 years old it is not biologically optimal, the emotions tend to be unstable, the mentality is immature so it is easy to experience shocks that increase maternal mortality and lack of attention to meeting the needs of nutrients during pregnancy. Meanwhile, at the age of 35 years related to the decline and decrease in immunity and various suspects of death that afflict at this age, the death of the old mother, the mother's age, there will be a progressive setback of the endometrium so that to meet the nutritional needs of the fetus, a wider placental growth is needed.

The Relationship Between Knowledge and Pregnancy Risk

Based on the results of the analysis of the relationship between knowledge and risk pregnancy at the Linggang Bigung Health Center, it was found that there were 6 out of 10 (11.1%) respondents who were well educated and had low-risk pregnancies, while

there were 2 out of 11 (3.7%) respondents who were poorly educated and had very high-risk pregnancies. The results of the Spearman Correlation statistical test obtained a value of p=0.001, so it can be concluded that the knowledge factor is significantly related to pregnancy risk at the Linggang Bigung Health Center. Research conducted by Rangkuti & Harahap (2020) showed that there was a knowledge association with high-risk pregnancies (P value 0.001).

Researchers assume that knowledge is one of the components of predisposing factors that are important for health behaviors. If a pregnant woman has more knowledge about the high risk of pregnancy, it is likely that the mother will think about preventing, avoiding or overcoming the problem of pregnancy risk, and the mother has the awareness to check her pregnancy, so that if there is a risk during pregnancy it can be handled early and appropriately by health workers.

A midwife not only provides services at health facilities, a midwife is also trained to be able to provide home care services with predetermined health standards. Prevention of Covid-19 transmission in pregnant women is to wear a mask while pregnant and breastfeeding can be done when outdoors or in a crowded place. Make sure you don't take your baby outside in crowded places, and make sure that your baby is not touched by strangers or people you may already know. In addition, eating food that is not thoroughly cooked can also have a bad impact on the health of the baby in the womb.

Parity Relationship with Pregnancy Risk

Based on the results of the analysis of the relationship between parity and risk pregnancy at the Linggang Bigung Health Center, it was found that there were as many as 10 out of 27 (18.5%) respondents who had no risk parity and low risk pregnancy, while there were as many as 2 out of 17 (3.7%) respondents who had risk parity and very high risk pregnancy. The results of the Spearman Correlation statistical test obtained a value of p=0.017, so it can be concluded that the parity factor is related to pregnancy risk at the Linggang Bigung Health Center. Yusuf's (2019) research obtained the results that there was a significant relationship between maternal parity and high-risk pregnancies with a p-value=0.001.

Researchers assume that prenatal care is essential. Mothers who do not receive prenatal care have a higher risk of maternal death and experience other pregnancy complications such as preeclampsia, anemia, diabetes, stunted fetal development, asymptomatic urinary tract infections

According to Rochjati (2013), grande multigravida has a greater risk than primigravida because watermelon maternal mortality is high maternal parity or gives birth to children 4 times or more. The dangers of grandemultigravida pregnancy are anemia, malnutrition, laxity in the abdominal wall, so that these conditions can cause uterine muscles to weaken and increase mortality due to weak uterine contractions and cause bleeding during and after childbirth

Conclusion

The high maternal mortality rate is caused by high-risk pregnancies that are influenced by various factors, such as age, knowledge, and parity. The study showed that the majority of respondents had a risk-free age (20-35 years), risk-free parity (2-3 children), and a sufficient level of knowledge, even though more than half of the respondents had high-risk pregnancies. Analysis using the Sperm Correlation test revealed a significant relationship between age, knowledge, and parity factors and high-risk pregnancies. Efforts to increase knowledge and early detection need to be carried out to reduce the risk of maternal mortality

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