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The Relationship Between Maternal Age and Gestational Age with the Incidence of Low Birth Weight in Kalisat General Hospital, Jember

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ABSTRACT
Introduction: Low birth weight (LBW) is a significant health problem in developing countries, with a global prevalence of 15.5% and reaching 10% in Indonesia in 2015. At Kalisat Regional General Hospital, Jember Regency, the incidence of LBW increased from 236 cases in 2022 to 381 cases in 2023 (61.44%). This study aims to analyze the relationship between maternal age and gestational age with the incidence of LBW at Kalisat Regional General Hospital.
Methods: The study design used correlational analytics with a retrospective cross-sectional approach. The population consisted of 334 mothers who gave birth spontaneously through the vagina, with a sample of 182 respondents selected using proportional random sampling. Data analysis was performed using the Chi-Square test.
Results: The results show a significant relationship between maternal age (p=0.001) and gestational age (p=0.000) with the incidence of LBW (p<0.05). Most mothers gave birth at a non-risky age and with a full-term gestational age, and the majority of babies were born with normal weight.
Conclusion: Planning for pregnancy during healthy reproductive years and regular prenatal checkups can help prevent complications during childbirth.

***Keywords**: Maternal Age; Gestational Age; LBW*

Introduction

Low birth weight (LBW) is one of the health indicators that is a major concern in maternal and neonatal health. This is because LBW is one of the leading causes of infant mortality. One of the parameters used to assess the level of public health is the infant mortality rate (IMR). IMR is the most important indicator for determining the

level of health in children. In addition, IMR is also a form of representation of the public health status.

LBW is one of the health issues that requires special attention in various countries around the world, especially in developing countries or countries with low socio-economic status. According to data from the World Health Organization (WHO, 2014), the global prevalence of low birth weight or LBW is 15.5% (approximately 20 million cases), with 95% of these cases occurring in developing countries. Data on the prevalence of LBW cases in Indonesia based on WHO data from 2015 shows a rate of 10%. Based on the 2022 East Java provincial health profile, the total number of infant deaths in East Java in 2022 was 3,171, with the highest number occurring in Jember Regency. Based on the causes of death, the most common cause of death in the neonatal age group was LBW (36%). The number of LBW cases in Jember in 2022 was the highest in the East Java region, with 1,724 out of 33,479 live births (34.3%) (East Java, 2022). Based on MPDN Jember data, the highest contributor to neonatal deaths in Jember Regency in 2023 was LBW, with 69 cases (MPDN, 2023).

Kalisat Jember Regional Hospital is a regional hospital in Jember that serves as a referral hospital for community health centers in the northern Jember region, with most of its working area being rural. The percentage of LBW in rural areas is 13.37 percent, higher than in urban areas, which is 11.43 percent. (Hardianto, 2023) The incidence of LBW in 2023 was 381 cases, compared to 236 cases in 2022. This represents an increase of 61.44% from 2022.

According to Behrman (2020), LBW in newborns can be caused by many factors (multifactorial), including maternal factors such as parity, maternal education, maternal occupation, birth spacing, medical history, passive smoking, maternal age at delivery, lack of nutritional intake during pregnancy, unwanted pregnancy, the quality of antenatal care (ANC) and the completeness of iron and folic acid supplementation (IFAS) during pregnancy, environmental factors such as socioeconomic status, placental and fetal factors such as placenta previa, placental abruption, antepartum hemorrhage, multiple or twin pregnancies, and prematurity or gestational age.

The mother's age during pregnancy is one of the factors that influence the baby's weight. The best age for a woman to become pregnant is between 20 and 35 years old.

A high-risk age is under 20 years old because the uterus is not yet mature, and over 35 years old because at this age the uterus weakens, resulting in poor placental insertion. Another factor is gestational age; based on research, gestational age <37 weeks carries a higher risk of giving birth to a low birth weight baby compared to gestational age >37 weeks or more (Manuaba, 2019).

Low birth weight (LBW) can cause short-term and long-term effects on babies. Short-term effects include metabolic disorders, immune disorders, respiratory disorders, circulatory system disorders, and fluid and electrolyte disorders. Babies with LBW are also at risk of weak muscle tone, weak movement, and ineffective or incomplete nerve function. Long-term effects include psychological disorders such as developmental and growth disorders, speech and communication disorders, and neurological and cognitive disorders. The long-term effects of LBW also affect physical problems such as visual impairment, chronic lung disease, congenital abnormalities, and stunting. Babies with LBW also have a higher risk of death than babies with normal weight. (Khoiriah, 2017) Therefore, it is important to prevent LBW by monitoring the health of pregnant women and providing adequate nutrition to improve infant growth.

Preventive measures that can be taken include increasing access to and understanding of the factors that cause LBW during pregnancy, as well as preventive measures, which need to be emphasized in efforts to prevent LBW. For the age factor, the government has set the minimum age for marriage at 19 years old in Article 7 paragraph (1) of Law Number 16 of 2019. This must be followed by socialization to community and religious leaders so that they comply with government regulations. Government efforts to mitigate the risk of health complications for pregnant women and newborns include the Childbirth Planning and Complication Prevention Program (P4K). This program provides midwife services that encourage childbirth planning and complication prevention. The Family Hope Program (PKH) is a program that provides social assistance to pregnant women. Direct Cash Assistance (BLT) for Pregnant Women provides direct cash assistance to pregnant women by the Ministry of Social Affairs. This includes monitoring high-risk pregnancies by promoting the importance of pregnancy, childbirth, and monitoring high-risk pregnancies. Coordination and cooperation between government, non-profit, and private institutions to improve access

to and quality of health services. As well as the Healthy Pregnant Women Movement program: Connecting pregnant women with integrated health services that include health checks, blood pressure measurements, and laboratory tests. All of these efforts aim to reduce the risk of health complications for pregnant women and newborns, as well as optimize their health.

The issue of LBW is one that needs to be addressed in order to improve the quality of future generations. Furthermore, at Kalisat Hospital, the incidence of LBW has increased by 61.44% from the previous year. Based on the background described above, the author is interested in conducting research on the effect of maternal age and gestational age on the incidence of LBW at Kalisat Regional General Hospital in Jember.

Method

This study used an analytical correlational design with a retrospective cross-sectional approach to examine the relationship between maternal age and gestational age with low birth weight (LBW) at Kalisat Regional Hospital, Jember, from September to December 2023. The study population consisted of 594 mothers who gave birth spontaneously vaginally, and a sample of 182 respondents was selected using proportionate random sampling. Data collection was conducted through medical records using a checklist as a measuring tool. The independent variables were maternal age and gestational age, while the dependent variable was LBW. Data were analyzed using the chi-square test to examine the relationship between two variables, with the contingency coefficient used to assess the strength of the relationship. Research ethics were applied through anonymity and data confidentiality, with research permission obtained from the Ethics Committee of Poltekkes Malang and Kalisat Regional Hospital.

Results

Table 1. Frequency distribution of respondent characteristics based on parity in the delivery room at Kalisat Regional General Hospital, Jember

Parity	Frequency	Percentage (%)
0	93	51
1	59	32
2	22	12
3	8	4
Total	182	100

Source: Primary Data, 2023

Table 1 shows the characteristics of respondents based on parity. It can be seen that most mothers who gave birth at Kalisat Regional General Hospital had a parity of 1, namely 59 respondents (66%). A total of 89 respondents were multigravida out of 182 respondents, while the remaining 93 respondents were primigravida.

Table 2. Frequency Distribution of Respondent Characteristics Based on Mother's Education in the Birthing Room of Kalisat Regional General Hospital, Jember.

Education	Frequency	Percentage (%)
Unschooling	17	9%
Elementary School	62	34%
Junior High School	35	19%
High School	66	36%
Higher Education/University	2	1%
Total	182	100

Source: Primary Data, 2023

Table 2 on the characteristics of respondents based on their highest level of education shows that 66 respondents (36%) who gave birth at Kalisat Regional General Hospital were high school graduates, 17 respondents (9%) had no schooling, and only 2 respondents (1%) out of 182 respondents had attended college.

Table 3. Frequency Distribution of Respondent Characteristics Based on Mother's Occupation in the Birthing Room of Kalisat Regional General Hospital, Jember

Occupation	Frequency	Percentage (%)
Housewife	164	90
Farm Worker	9	5
Farmer	4	2

Employee	1	0,5
Merchant	1	0,5
Nurse	1	1
Entrepreneur	2	1
Total	182	100

Source: Primary Data, 2023

Table 3 shows the characteristics of respondents based on occupation. There were 164 respondents (90%) who gave birth at Kalisat Regional General Hospital and did not work, most of whom were housewives, while 18 respondents (10%) out of 182 respondents worked.

Table 4. Frequency Distribution of Respondent Characteristics Based on Diagnosis of Admission to the Birthing Room at Kalisat Regional General Hospital, Jember, 2023.

Diagnosa	Frequency (f)	Percentage (%)
Premature Rupture Of Membranes (KPD)	82	46
Prolonged Labor	40	22
Partus Prematurus Imminens (PPI)+Prm	32	18
Breech Presentation	10	6
Lain-lain	14	8
Total	182	100

Source: Primary Data, 2023

Table 4. Regarding respondents based on admission diagnosis, it can be seen that the most common diagnosis among mothers who gave birth at Kalisat Regional General Hospital was Premature Rupture of Membranes (KPD) with 82 respondents (46%).

Table 5. Frequency Distribution of Respondent Characteristics Based on Maternal Age in the Maternity Ward of Kalisat Regional General Hospital, Jember, 2023.

Age	Frequency (f)	Percentage (%)
Risk	36	19.8
No Risk	146	80.2
Total	182	100

Source: Primary Data, 2023

Table 5 shows the characteristics of respondents based on age. It can be seen that most of the respondents who gave birth at Kalisat Regional General Hospital were not at risk, totaling 146 respondents (80.2%).

Table 6. Frequency Distribution of Respondent Characteristics Based on Age at Risk for Mothers in the Maternity Ward of Kalisat Regional General Hospital, Jember

Age	Frequency (f)	Percentage (%)
<20 Years Old	23	64
>35 Years Old	13	36
Total	36	100

Source: Primary Data, 2023

Based on Table 6 regarding the characteristics of respondents based on age at risk, it can be seen that most of the respondents who gave birth at Kalisat Regional General Hospital were under the age of 20, namely 19 years old, with 12 respondents (33%), while for those over 35 years old, the majority were 36 years old, with 4 respondents (11%).

Table 7. Frequency Distribution of Respondent Characteristics Based on Gestational Age in the Maternity Ward of Kalisat Regional General Hospital, Jember

Gestational Age	Frequency (f)	Percentage (%)
Preterm	40	22.0
Aterm	135	74.2
Posterm	7	3.8
Total	182	100%

Source: Primary Data, 2023

Table 7 shows the characteristics of respondents based on gestational age, it can be seen that most mothers who gave birth at Kalisat Regional General Hospital had full-term pregnancies, totaling 135 people (74.2%).

Table 8. Frequency Distribution of Characteristics Based on Birth Weight in the Delivery Room of Kalisat Regional General Hospital, Jember, 2023.

Birth Weight	Frequency (f)	Percentage (%)
Low Birth Weight (LBW) or BBLR	36	19.8
Normal Birth Weight (NBW) or BBLN	146	80.2
Total	182	100

Source: Primary Data, 2023

Table 8 shows that 36 (19.8%) of the 182 respondents gave birth to babies with birth weights categorized as LBW.

Table 9. Cross-tabulation of maternal age and LBW R BBLR incidence at Kalisat General Hospital, Jember.

The Mother's Age	LBW or BBLR%(n)	NBW or BBLN%(n)	Total%(n)	*p value*
Risk	41,7(15)	58,3(21)	100(36)	0,001
Non-risk	14,4(21)	85,6(125)	100(146)	
Total	19,8(36)	80,2(146)	(182)	

Source: Primary Data, 2023

Based on the results of data analysis using the chi-square test, it was found that there were 21 LBW babies born to mothers of non-risk age with a percentage of 14.4% and 15 LBW babies born to mothers of risk age with a percentage of 41.7%. Overall, there were 146 babies born to mothers of non-risk age and 36 babies born to mothers of risk age. Based on the p-value table obtained from this analysis, which was 0.001, Ho was rejected, indicating that there is a relationship between maternal age and LBW at Kalisat Regional General Hospital. The researchers then proceeded with data analysis using contingency coefficients. The correlation coefficient value obtained was 0.435, which means that the strength of the relationship between variables is moderate or quite significant, with a positive or unidirectional relationship.

Table 10. Cross-tabulation of the Relationship Between Gestational Age and LBW at Kalisat Hospital, Jember.

Gestational Age	LBW or BBLR%(n)	NBW or BBLN%(n)	Total	*p value*
Preterm	62,5(25)	37,5(15)	100(40)	0,000
Aterm	7,4(10)	92,6(125)	100(135)	
Posterm	14,3(1)	85,7(6)	100(7)	
Total	19,8(36)	80,2(146)	100(182)	

Source: Primary Data, 2023

Based on the results of data analysis using the chi-square test, it was found that the highest number of LBW babies (25) were born to mothers with preterm

gestational age, with a percentage of 62.5%. There were 10 LBW babies born to mothers with term gestational age, with a percentage of 7.4%. and 1 LBW baby born to a mother with a postterm gestational age, with a percentage of 14.3%. The p-value obtained from this analysis was 0.000, which means that Ho was rejected, indicating that there is a relationship between gestational age and LBW at Kalisat Regional General Hospital.

The researcher then continued with data analysis using the contingency coefficient. The correlation coefficient value obtained was 0.495, which means that the strength of the relationship between variables is moderate or quite significant, with a positive or unidirectional relationship.

Discussion

This study shows that pregnant women who gave birth spontaneously vaginally at Kalisat Regional General Hospital from September to December 2023 were not at risk, with a percentage of 80.2%. However, there were still pregnant women of high-risk age, accounting for 19.8%. Of these, 64% were women under 20 years old, and the remaining 36% were women over 35 years old.

A mother is considered to be of high-risk age if she is under 20 or over 35 years old. The safest age for pregnancy and childbirth is between 20 and 35 years old because it falls within the healthy reproductive age group. Mothers who fall within the healthy reproductive age group have reproductive organs that are capable of pregnancy and childbirth and have not experienced a decline in reproductive organ function that can cause complications during pregnancy or childbirth. (Sembiring, 2019).

Based on the data obtained from Table 4.5, researchers can analyze that the majority of mothers who gave birth spontaneously vaginally at Kalisat Regional General Hospital in September-October 2024 were mostly respondents who gave birth at a healthy reproductive age. The mother's education also had an influence, with the highest number of mothers having a high school education, where the average age of graduation is 18 years. High school students generally have better abstract thinking skills than students with lower levels of education, enabling them to understand complex concepts, solve logical problems, and make generalizations. They are also

better able to make mature decisions based on in-depth analysis, considering various factors and consequences, and critically evaluating information with the ability to identify and question assumptions. At this level of education, mothers or prospective mothers are able to receive good information and participate in decision-making.

The results of this study show that mothers who give birth at a risky age above 35 years are an indication of the success of family planning programs. This is evidenced by the table of characteristics of mothers who give birth with a parity of 3, amounting to 4%, and there are no grandemultipara or women who have given birth to more than 5 children. Indicators of the success of family planning programs in a region usually include several aspects that can be measured quantitatively and qualitatively, one of which is by calculating the total fertility rate (TFR) or the average number of children born to a woman during her reproductive period. Based on the data, it appears that mothers who give birth at the Kalisat Regional General Hospital are able to space their pregnancies.

Most mothers who give birth at a non-risk age have a very positive impact on the incidence of Low Birth Weight (LBW) or BBLR, because women of non-risk age are more likely to give birth to babies with normal birth weight. Therefore, researchers argue that improving women's education levels is very important, so it is hoped that the government can also focus on this issue and continue to promote family planning programs to regulate pregnancy spacing.

This study found that the gestational age of mothers who gave birth spontaneously vaginally at Kalisat Regional General Hospital from September to December 2023 was dominated by pregnant women with a term gestational age of 74.2%, 22% for mothers who gave birth with a preterm gestational age, and 3.8% with a postterm gestational age. Based on the data obtained, it can be concluded that there are still mothers who give birth with preterm and postterm gestational ages, but the prevalence is not high.

Gestational age or pregnancy age is the time span between conception and the birth of the baby, usually measured in weeks. Gestational age is calculated from the first day of the mother's last menstrual period (LMP) to the present and is used to estimate fetal development and determine the estimated date of delivery (EDD). Generally, normal gestational age is around 40 weeks, although birth is considered full-term at a

gestational age between 37 and 42 weeks. Preterm or premature gestational age refers to births that occur before 37 weeks of pregnancy. Meanwhile, postterm or postmature gestational age refers to pregnancies that continue beyond 42 weeks. Both premature and postterm births can increase the risk of complications for both the mother and the baby (Cunningham, 2015).

According to researchers, most mothers give birth at full term because the majority of them are of an age that is not considered risky for childbirth, whereby the age at which a woman becomes pregnant and gives birth can affect the health of both mother and fetus. The majority of respondents had a high school education, making them receptive to information so that if problems arise during pregnancy, they are able to find information and solutions.

Regarding the birth weight of babies at Kalisat General Hospital in Jember from September to December 2023, it was found that 19.8% of babies were born with low birth weight (LBW) or BBLR, while 80.2% of babies had normal birth weight (NBW) or BBLN. Based on this data, it shows that there were more babies with normal birth weight born at Kalisat Regional General Hospital than babies born with low birth weight. The proportion of babies with LBW or BBLR, which is also quite significant, may reflect the existence of risk factors that affect the health of mothers and babies during pregnancy.

Low birth weight (LBW) or BBLR is defined as a birth weight of less than 2,500 grams regardless of gestational age. Birth weight is the weight of the baby measured within 1 hour after birth. Babies with LBW or BBLR are highly susceptible to hypothermia and hypothermia (Maternity, 2018). According to Behrman, LBW or BBLR in newborns can be caused by many factors (multifactorial), including maternal age, parity, maternal education, maternal occupation, birth spacing, medical history, passive smoking, maternal age at delivery, lack of nutritional intake during pregnancy, unwanted pregnancy, quality of antenatal care (ANC), multiple pregnancies, and prematurity.

The birth weight of babies born to mothers who gave birth spontaneously vaginally was dominated by normal birth weights >2500g. According to researchers, this can be linked to the age of the mothers giving birth, most of whom were not at risk

and most of whom gave birth at term. However, there are still a number of babies with low birth weight, with the number of cases increasing each year at Kalisat Regional General Hospital.

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Researchers found that based on the data, mothers who gave birth spontaneously vaginally at Kalisat Regional General Hospital were predominantly primigravida (first-time mothers), followed by mothers with a parity of 1. First-time mothers or mothers with one child tend to pay more attention to the well-being of their pregnancy. Conversely, mothers with higher parity may experience a decrease in uterine elasticity, which can affect the quality of subsequent pregnancies. In addition, there are still mothers with a parity of 3, meaning they are pregnant with their fourth child, which can affect the birth weight of the baby.

According to the researchers' analysis, this is also influenced by the gestational age of the mother at delivery. Based on the researchers' data, most mothers give birth at term gestational age, but the incidence of preterm birth contributes most to the LBW rate. This is clear because gestational age is the most significant factor in birth weight. Organ development corresponds to the gestational age of the baby; the closer to term, the more likely the baby will have a normal birth weight.

The results of BBLR according to researchers are also inseparable from sociodemographic factors, where most mothers do not work and are therefore affected by the family's economic needs, which are centered on the husband. Demographically, the Kalisat Regional General Hospital area is a rural area with low incomes from farming or trading, while the nutritional needs of mothers, both in terms of vitamins and food, can be better met with a good economic status.

Based on data analysis using the chi-square test, a relationship was found between maternal age and low birth weight (LBW). Of the 182 infants studied, 21 infants

(14.4%) born with LBW were from mothers of non-risk age, while 125 infants (85.6%) from the same group were born with normal birth weight (NBW). Conversely, mothers of risky age gave birth to 15 babies (41.7%) with LBW and 21 babies (58.3%) with normal birth weight (NBW). Overall, 146 babies were born to mothers of non-risky age, while 36 babies were born to mothers of risky age. The p-value obtained was 0.001 < 0.05, meaning that the null hypothesis (Ho) was rejected, indicating that there is a relationship between maternal age and the occurrence of LBW.

Age is an important factor in the risk of giving birth to a baby with Low Birth Weight (LBW). Pregnancy at a young age often receives less attention and adequate care, as well as high physical risks due to immature reproductive organs (Kusparlina, 2016). Meanwhile, women aged 35 years and above experience a decline in reproductive organ function due to degenerative processes that can inhibit the delivery of nutrients to the fetus, which can lead to LBW (Sarwono, 2020). The decline in estrogen hormones at this age also affects blood flow to the uterus and endometrial development, which can disrupt placental function. As a result, nutrient intake for the fetus decreases, potentially inhibiting fetal growth.

Research shows that maternal age is associated with low birth weight (LBW) because many mothers give birth at a young age, especially those who have only completed high school or elementary school. At the age of under 20, women who have completed basic education tend to choose to marry and become pregnant, which often occurs before their bodies are fully mature for pregnancy. Pregnancy at a young age increases the risk of LBW because the mother's body is not yet physically ready to support optimal fetal growth.

In contrast, mothers who continue their education to secondary school or higher tend to delay marriage and pregnancy until a more mature age. Higher education provides better knowledge and awareness of the importance of health care during pregnancy, as well as better access to health resources and services. This contributes to the birth of babies with normal birth weight and demonstrates the importance of education in improving maternal and infant health.

Mothers over the age of 35 still become pregnant and give birth. This can be caused by contraceptive failure, where long-term contraceptive methods (MKJP) and

permanent contraception are less popular. This data is reinforced by data from the National Population and Family Planning Agency (BKKBN) in 2023, which shows that 3.2% of women use the MOW contraceptive method.

Obstetric factors also have an important role, where each one-week increase in gestational age can reduce the risk of low birth weight (LBW), indicating that preterm birth is a major risk factor, as seen from the data showing that there are still mothers with preterm labor.

Antenatal care (ANC) visits also have an impact, whereby the more frequently a mother visits ANC services, the greater the likelihood of her baby being born with a normal birth weight. Higher hemoglobin levels in mothers during pregnancy are also associated with a lower risk of LBW, emphasizing the importance of treating anemia in pregnant women. The nutritional status of mothers also plays an important role in determining fetal growth and development.

The results of data analysis using the chi-square test found a relationship between gestational age and low birth weight (LBW) with a p-value of 0.000 <0.05. These data indicate that gestational age affects LBW at Kalisat Regional General Hospital. Distribution of low birth weight (LBW) and normal birth weight (NBW) based on gestational age Among 40 preterm infants, 62.5% (25 infants) were born with LBW and 37.5% (15 infants) were born with NBW. Number of gestational ages At term: Of 135 at-term infants, only 7.4% (10 infants) were born with LBW, while 92.6% (125 infants) were born with NBW. At postterm gestational age, data showed that out of 7 postterm infants, 14.3% (1 infant) was born with LBW and 85.7% (6 infants) was born with LBW.

Gestational age is defined as the most significant factor in a baby's birth weight. It also has a major influence on pregnancy, namely organ maturity and the fulfillment of nutritional and oxygen needs to the placenta required by the fetus for optimal growth. In pregnancies of less than 37 weeks, the growth of the baby's organs is better, so that the baby is born with a normal weight (Sembiring, 2019).

The results of the study show that preterm gestational age contributes to most cases of LBW. According to the researchers' analysis, this may be due to the continued existence of risky pregnancies, where maternal age <20 years is one of the predisposing

factors for the birth of preterm babies with low birth weight (LBW). Teenage pregnancies tend to focus on nutrition for fetal growth, which can lead to low birth weight. The age of the mother during pregnancy is related to the mother's pregnancy status, as it is linked to psychology as well as reproductive maturity. Poor nutrition in pregnant adolescents can also increase the risk of preterm birth and low birth weight (Siregar et al., 2020).

According to researchers, pregnancy in adolescents is also influenced by education level, with only a small proportion of pregnant women completing high school and very few continuing on to college. Most pregnant women have a lower level of education, with some of them never having received formal education. This level of education is closely related to the understanding of the importance of maintaining health during pregnancy. Pregnant women with a low educational background often find it difficult to understand health information, so health management during pregnancy may not be carried out optimally.

The results of data collection in the study reviewed from the parity factor show that most primigravida categories experience preterm labor more frequently in their first pregnancy. Pregnant women with their first pregnancy often experience a lot of fear during their pregnancy. This can increase the effects of stress on the mother, which can trigger preterm labor. This is in line with Carmo et al (2016), who stated that the number of previous deliveries is related to low birth weight in babies.

Fetal growth restriction during pregnancy can also be caused by infections that occur during pregnancy. Based on data obtained by researchers, the most common diagnoses among mothers giving birth at Kalisat Regional General Hospital were premature rupture of membranes (PROM) and imminent premature labor (IPL), most of which were caused by premature rupture of membranes. This is in line with Sulastri's (2020) research, which found that mothers who experienced PROM had a 2.8 times higher chance of having a Low Birth Weight baby (LBW) compared to mothers who did not experience PROM.

Although most preterm infants tend to have LBW, there are cases where preterm infants still achieve normal birth weight (NBW). Genetic and hereditary factors, as well as good maternal health and nutrition, can support optimal fetal growth even if the baby

is born prematurely. Based on the researcher's data, mothers who are of non-risk age and have a secondary education can still give birth to babies with normal birth weight. Intensive and quality medical care also plays a role in helping babies reach normal birth weight even if they are born early. This shows that in addition to gestational age, many other factors influence fetal growth, including maternal health, socioeconomic status, and care during pregnancy.

Based on data from researchers, mothers who are pregnant at a non-risk age and have a secondary education can still give birth to babies with normal birth weight in cases of premature birth. Intensive and quality medical care also plays a role in helping babies reach normal birth weight even if they are born early. This shows that in addition to gestational age, many other factors influence fetal growth, including maternal health, socioeconomic status, and care during pregnancy.

Babies with a full-term gestational age can still have low birth weight (LBW) due to various factors that affect fetal growth. These factors include the mother's health conditions, such as malnutrition, anemia, or chronic diseases such as hypertension and diabetes, which can inhibit fetal growth even if the pregnancy reaches full term. In addition, socioeconomic factors such as limited access to quality prenatal care, chronic stress, and unsupportive lifestyles, such as smoking or exposure to serious substances, can also contribute to LBW in full-term babies. This shows that not only gestational age, but also the mother's health and environment play an important role in a baby's birth weight.

Conclusion

The results of research on the relationship between maternal age and gestational age with LBW incidence at Kalisat General Hospital in Jember show that most mothers who gave birth spontaneously vaginally were in the non-risk age group, and the majority gave birth at term. A small proportion of babies born spontaneously had low birth weight. There is a significant relationship between maternal age and LBW, indicating that maternal age is a factor that influences the risk of LBW. In addition, gestational age also has a significant relationship with LBW, confirming that gestational age affects the birth weight of babies.

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