

Analysis Of Factors Affecting The Incidence Of High-Risk Pregnancies In The Working Area Of The Mubune Health Center, Northern Minahasa District

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ABSTRACT

High-risk pregnancy refers to any condition associated with pregnancy where there is an actual or potential risk to the mother or fetus. Observations in North Minahasa Regency in 2022 showed a total of 1,015 detected cases of high-risk pregnancies in Community Health Centers. Based on data, Mubune Community Health Center has the highest number of high-risk pregnancy cases, totaling 193 cases. Therefore, efforts are needed to reduce these high-risk pregnancies through this research. The research design used in this study is an observational analytic study with a cross-sectional approach. The study was conducted in the working area of Mubune Community Health Center, North Minahasa, from April to July 2023. The sample in this study consisted of all pregnant women recorded in Mubune Community Health Center, totaling 225 patients, with 82 pregnant women classified as high-risk based on the data. The research variables consist of independent variables (maternal age, maternal knowledge, and maternal attitude) and the dependent variable (occurrence of high-risk pregnancy). Data collection was done through interviews using a questionnaire. The data from this study were analyzed using univariate analysis, bivariate analysis, and multivariate analysis. The analysis results showed that there is a relationship between maternal age ($p = 0.000$), maternal knowledge ($p = 0.007$), and maternal attitude ($p = 0.033$) with the occurrence of high-risk pregnancy in the working area of Mubune Community Health Center, North Minahasa. The multivariate analysis results showed that the $\exp \beta$ value of maternal age variable in the category of <20 years and >35 years is 21.6 times the occurrence of high-risk pregnancy. Based on the Nagelkerke R-square value of 0.763, it means that maternal age, knowledge, and attitude collectively influence 76% of the occurrence of high-risk pregnancy in pregnant women, while the remaining 23.7% (100-76.3) is influenced by other variables not examined in this study.

Keywords: high risk pregnancy, knowledge, attitudes, age

1. INTRODUCTION

A high-risk pregnancy is any condition associated with pregnancy where there is actual or potential risk to the mother or fetus (Holness, 2018). Women with risk factors for high-risk pregnancies have a one in four chance of experiencing complications compared to women with low-risk high-risk pregnancies who have almost one in ten (Lennox, 2014). A major focus of maternal and child care programs is detecting at-risk pregnancies to prevent women from experiencing obstetric complications during childbirth (Prual et al., 2010; De Groot et al., 2013). Risk assessment is a key component of antenatal care (ANC) and has demonstrated benefits in improving maternal and perinatal outcomes (Jordan & Murphy, 2019; Kolluru & Reddy, 2016).

Currently, Indonesia is still characterized by a level of health insecurity for mothers and children, especially pregnant, giving birth, and postpartum women and newborns, which causes the high maternal mortality rate

(MMR), infant mortality rate (IMR). There is a relationship between education, employment, parity, maternal attitudes towards antenatal care (Mahmud, 2020).

High-risk pregnancies also have an impact on the delivery process such as bleeding, partus stuck, and even death. In addition to having an impact on pregnancy and childbirth, high-risk pregnancy also has an impact on the postpartum period, namely the mother experiencing postpartum hemorrhage. The impact of high-risk pregnancy on newborns is that the baby is born prematurely, low weight or overweight and newborn death (Utama, 2021).

Maternal Mortality Rate (MMR) is one of the following indicator that can describe the welfare of the people in a country. According to WHO, MMR is death during pregnancy or the period 42 days after the end of pregnancy, due to all causes associated with or aggravated by pregnancy or its management, but not caused by accident or injury. The results of the Indonesian Basic Health Survey (SDKI) in 2018 said that the MMR experienced a significant increase from 228 per 100,000 live births to 359 per 100,000 live births. Meanwhile, the infant mortality rate (IMR) in the world in 2018 was estimated at 41 per 1000 KH (Ministry of Health, 2018).

The number of maternal deaths collected from the family health program records at the Ministry of Health increases every year. In 2021 it showed 7,389 deaths in Indonesia. This number shows an increase compared to 2020 of 4,627 deaths (MOH RI, 2022). Based on cause, most maternal deaths in 2021 were related to COVID-19 with 2,982 cases, bleeding with 1,330 cases, and hypertension in pregnancy with 1,077 cases (MOH RI, 2022).

Efforts to accelerate the reduction of MMR are carried out by ensuring that every mother is able to access quality health services, such as maternal health services, delivery assistance by trained health workers at health service facilities, postpartum care for mothers and babies, special care and referral in case of complications, and family planning services, including postpartum family planning (KB) (Kemenkes RI, 2022). Risk factors for high-risk pregnancies can be divided into 3 main factors, namely maternal, fetal, and other factors. Maternal factors such as knowledge, attitude, maternal age during pregnancy, namely over 35 years or under 18 years, first pregnancy after 3 years or more of marriage, fifth pregnancy or more, pregnancy with a gap of more than 5 years / less than 2 years, maternal height is less than 145 cm and the mother has never given birth to a full-term baby and normal weight, pregnancy with disease, pregnancy with certain conditions, pregnancy with anemia, pregnancy with a history of previous cesarean section. Fetal factors such as fetal location abnormalities, large fetuses, multiple fetuses, fetuses with, fetuses less months, fetuses with congenital defects / congenital abnormalities, fetuses die in utero. Other factors include premature rupture of membranes, antepartum bleeding, and placenta previa (placenta covering the birth canal) (Kusumaningsih, 2015).

Maternal knowledge is associated with the incidence of high-risk pregnancies. Low knowledge causes pregnancy to be at risk. Some studies prove that there is a significant relationship between knowledge and the incidence of high-risk pregnancy. Research conducted by Katili, et al (2022) proved that there was a significant relationship between maternal knowledge and the incidence of high-risk pregnancy, which obtained a p value = 0.002. Research conducted by Rukina and Pangastuti (2022) proved that lack of knowledge was associated with the incidence of high-risk pregnancies, which obtained a p value = 0.000. In addition to knowledge, another factor associated with the incidence of high-risk pregnancy is the quality of the mother. The results of research conducted by Katili, et al (2022) prove that there is a significant relationship between maternal quality and the incidence of high-risk pregnancies, which obtained a p value = 0.001.

Calou et al. (2018) also outlined factors that influence the quality of life of pregnant women with high-risk pregnancies, namely age, education, marital status, employment, depression and economic status. The relationship between age and quality of life is very complex. Age is opposite to the physical domain, the older a person is, the more the body functions decrease, and the risk of pregnancy also increases (Mehari et al., 2020). In this study, the majority of respondents were in the non risk age range, and statistically not associated with quality of life. Formal education history is statistically associated with the quality of life of pregnant women with high-risk pregnancies. A high level of education in formal education history is often associated with good knowledge of health examination compliance and acceptance of health information (Sariyati, 2019; Zuchro et al., 2022). Pregnant women's knowledge about quality of life provides a depth of mindset can, behavior and decision making, this can certainly reduce anxiety and even depression (Calou et al., 2018).

Maternal attitudes are associated with the incidence of high-risk pregnancies. A bad mother's attitude can

cause her pregnancy to be at risk. Sinaga (2021) who analyzed using the chi-square test and the meaning limit = 0.05 obtained a p-value = 0.02 < 0.05, this shows that there is a significant relationship between maternal attitude and the incidence of high-risk pregnancy. Pregnant women who have a positive attitude mostly do not experience high-risk pregnancies because mothers check their pregnancies at health workers or at other health facilities, so that pregnant women get good counseling from health workers about the prevention of high-risk pregnancies.

Maternal age is associated with the incidence of high-risk pregnancies. Maternal age at the time of pregnancy is above 35 years or below 18 years causing pregnancy to be high risk. The age of the mother at the time of pregnancy is relatively young (<20 years) can be at risk of anemia, this is because at that age there is still growth that requires more nutrients than the age above. If nutrients are not met, there will be compensation of nutrients between the mother and her baby (Wijianto et al., 2022). The age of a woman at the time of pregnancy should not be too young and not too old, age less than 20 years and more than 35 years of high risk for childbirth. A woman's readiness to become pregnant also includes physical, emotional, psychological, social and economic readiness (Depkes RI, 2014; Sjahriani and Farida, 2019).

Observations in North Minahasa Regency showed that in 2022 there were 1015 cases of high-risk pregnancy detected at the health center. The highest health centers with high risk pregnancy cases were Mubune Health Center with 193 cases, Kema Health Center with 138 cases, Kauditan Health Center with 119 cases. The lowest cases were found in Tinongko Health Center with 17 cases, Batu Health Center with 32 cases and Likupang Health Center with 47 cases (North Minahasa District Health Office, 2023). Based on this data, it can be seen that Mubune Health Center has the most cases of high-risk pregnancies with 193 cases. Therefore, efforts are needed to reduce this risky pregnancy through this study.

2. LITERATUR REVIEW

a. High Risk Pregnancy

Women with high-risk pregnancies are pregnant women who experience greater risk or danger during pregnancy and childbirth, when compared to normal pregnant women. Pregnant women who fall into the category of high risk pregnancy are: Mother with height less than 145 cm, abnormal pelvic shape, thin pale body, age less than 20 years or more than 35 years, number of children more than 4 people, child birth spacing less than 2 years, there are difficulties in the past pregnancy or childbirth, frequent previous miscarriages, severe headache, swollen legs, bleeding during pregnancy, discharge of amniotic fluid during pregnancy. High risk pregnancy is a pathology pregnancy that can affect the condition of the mother and fetus. Promotive and preventive efforts are needed until the time is taken with a firm and fast attitude to save the mother and fetus (Manuaba, 2009).

b. Knowledge and High Risk Pregnancy

Knowledge is the result of human sensing or the result of someone knowing objects through their senses. Sensing occurs through the five senses, namely the senses of sight, hearing, smell, taste and touch. Most of a person's knowledge is obtained through the sense of hearing (ear). A person's knowledge of objects has different intensities or levels. Knowledge is a very important domain in shaping a person's actions (Notoatmodjo, 2010; Adam et al., 2022).

c. Attitudes and High Risk Pregnancy

Attitude is a person's opinion or assessment of the environment and its relationship to health. Notoatmodjo (2003) states that before people adopt a new behavior, a sequential process occurs within a person, namely awareness (awareness), interest (interested), evaluation (considering the good and bad effects of the stimulus on him), trial (starting to try new behaviors), and adoption (the subject has a new behavior in accordance with his knowledge, awareness, and attitude towards the stimulus). Notoatmodjo (2012) explains that behavior is influenced by factors within the individual, including the attitude of the individual. Individual attitudes are the beginning of the realization of individual actions or behaviors.

d. Maternal Age and High Risk Pregnancy

Age is a period of time since a person's existence and can be measured using units of time viewed in chronological terms, normal individuals can be seen to have the same degree of anatomical and physiological development. Age is also the duration of life or existence (since birth or held) (Sjahriani and Farida, 2019). Pregnancy is high risk if the mother's age is <20 years and >35 years. The age of the mother at the time of

pregnancy is relatively young (<20 years) can be at risk of anemia, this is because at that age there is still growth that requires more nutrients than the age above. If nutrients are not met, there will be compensation of nutrients between the mother and her baby (Wijianto et al., 2012). The age of a woman at the time of pregnancy should not be too young and not too old, age less than 20 years and more than 35 years of high risk for childbirth. A woman's readiness to become pregnant also includes physical, emotional, psychological, social and economic readiness (Depkes RI, 2014; Sjahriani and Farida., 2019).

e.. Theoretical Framework

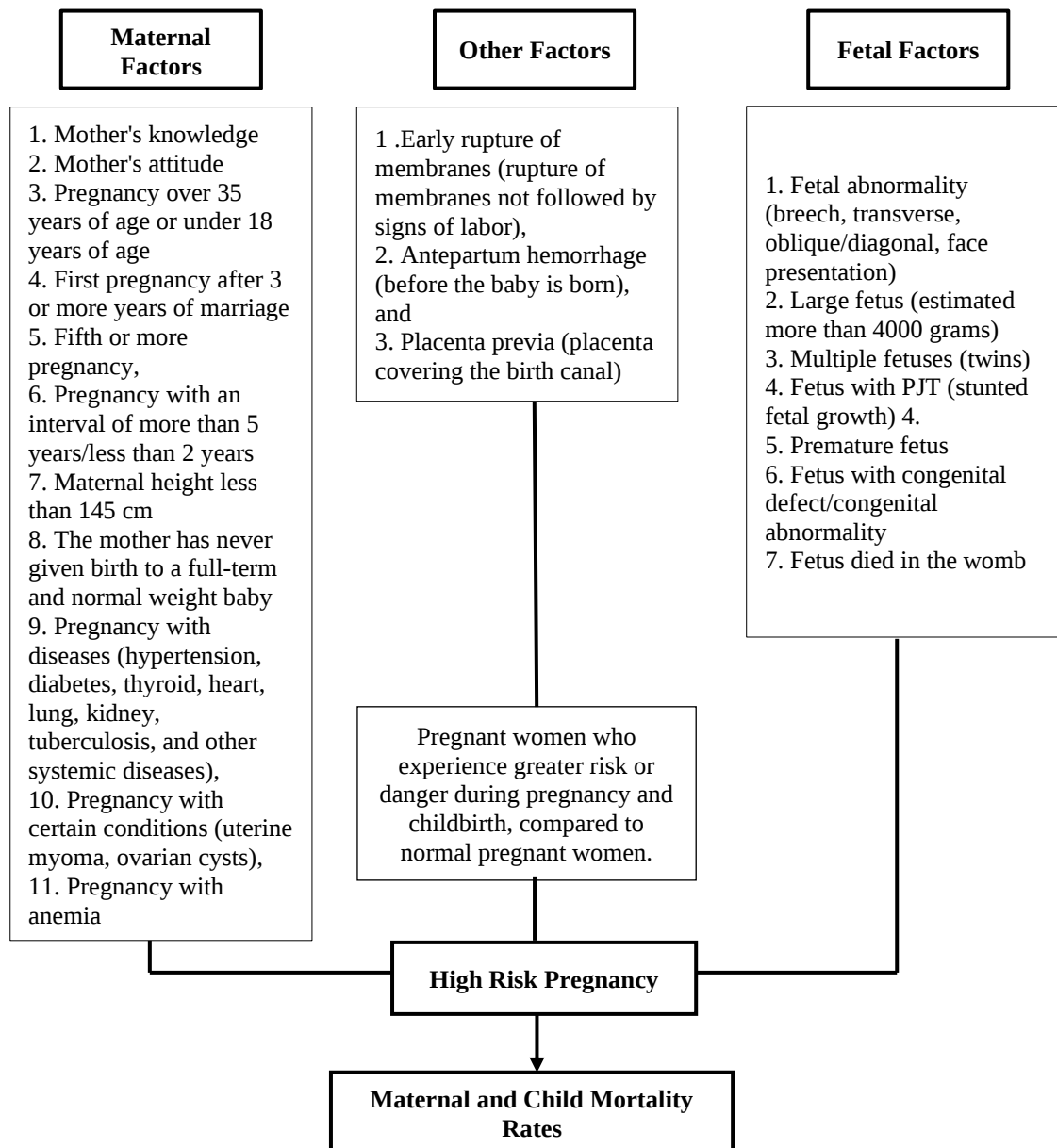


Figure 1
Theoretical Framework

F. Research Conceptual Framework

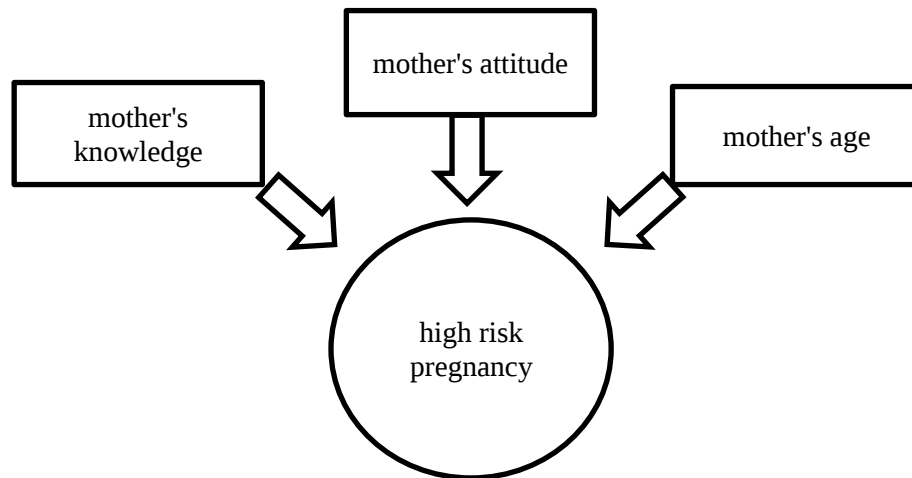


Figure 2
Research conceptual framework

3. RESEARCH METHOD

The research design used in this study was observational analytic with a cross sectional approach. The research was conducted in the work area of the North Minahasa Mubune Health Center in April-July 2023. The sample in this study were all pregnant women recorded at the Mubune Health Center, namely 225 patients with high risk data as many as 82 pregnant women. The study variables consisted of independent variables (age of pregnant women, maternal knowledge, and maternal attitudes) and dependent variables (incidence of high-risk pregnancy). Data were collected by interview using a questionnaire. The data were analyzed using univariate analysis, bivariate analysis, and multivariate analysis.

4. RESULTS AND ANALYSIS

Univariate analysis based on risky pregnancy, age of pregnant women, knowledge of pregnant women, and attitudes of pregnant women can be seen in tables 3-6. The results of bivariate tests in this study can be seen in tables 7-9. The results of multivariate analysis in this study can be seen in table 10.

Table 1. Distribution of Respondents Based on Education Level

Education Level	n	%
Did not pass primary education	65	79,3
Passed Primary Education	10	12,2
Passed Secondary Education	7	8,5
Total	82	100,0

Table 2. Distribution of Respondents Based on Type of Work

Type of Work	n	%
Farmer/Fisherman/Laborer/Merchant	44	53,7
Private	34	41,5
Civil Servant	4	4,9
Total	82	100,0

The distribution of respondents based on education level obtained results in which respondents who had an education level not graduating from primary education had the highest value of 65 people (79.3%), followed by graduating from primary education as many as 10 people (12.2%) and graduating from secondary education as few as 7 people (8.5%). The distribution of respondents based on occupation obtained results where respondents who had farmer / fisherman / laborer / trader jobs had the highest value of 44 people (53.7%), followed by private sector as many as 34 people (41.5%) and the least civil servants as many as 4 people (4.9%).

Table 3. Distribution of Respondents Based on Pregnancy at Risk

Risky Pregnancy	n	%
Has High Risk	51	62,2
Has Low Risk	31	37,8
Total	82	100,0

Table 4. Distribution of Respondents Based on Age of Pregnant Women

Age of Expectant Mother	n	%
High Risk	49	59,8
At Risk	33	40,2
Total	82	100

Table 5. Distribution of Respondents Based on Knowledge of Pregnant Women

Knowledge of Pregnant Women	n	%
Not good	51	62,2
Good	31	37,8
Total	82	100,0

Table 6. Distribution of Respondents Based on the Attitude of Pregnant Women

Attitude of Pregnant Women	n	%
Not good	53	64,6
Good	29	35,4
Total	82	100,0

Table 3 explains the distribution of respondents based on risky pregnancies obtained results in which respondents who have high risk are 51 people (62.2%), and respondents who have risks are 31 people (37.8%). Table 4 explains the distribution of respondents based on the age of pregnant women obtained results in which respondents who are at risk of high risk pregnancy events are 49 people (59.8%), while respondents who are not at risk are 33 people (40.2%). Table 5 explains the distribution of respondents based on the knowledge of pregnant women obtained results in which respondents who have poor knowledge are 51 people (62.2%), while respondents who have good knowledge are 31 people (37.8%). Table 6 explains the distribution of respondents based on the attitude of pregnant women obtained results in which respondents who have a poor attitude are 53 people (64.6%), while respondents who have a good attitude are 29 people (35.4%).

Table 7. Cross Tabulation between Age of Pregnant Women and High Risk Pregnancy Incidence

Incidence of High Risk Pregnancy							Continuity Correction
Age of the Pregnant Mother	High Risk		Has Risks		Total		
	n	%	n	%	n	%	
High Risk	46	30,5	3	18,5	49	58,8	0,000
At Risk	5	6,1	28	34,1	33	40,2	
Total	51	62,2	31	37,8	100	100	

The results of the cross tabulation showed that respondents who had high-risk maternal age and had a high risk based on the treatment diagnosis were 46 people (30.5%), while for respondents who had high-risk maternal age but had a risk based on the treatment diagnosis were 3 people (18.5%). Respondents who have the age of pregnant women at risk and have a high risk based on the diagnosis of care are 5 people (6.1%), while respondents who have the age of pregnant women at risk but have a high risk based on the diagnosis of care are 28 people (34.0%). The bivariate results obtained from the chi square test showed a p value of 0.000 (<0.05). This concludes that between the variables of the age of pregnant women and the incidence of high-risk pregnancies have a relationship.

Table 8. Cross tabulation between knowledge of pregnant women and the incidence of high-risk pregnancy

Incidence of High Risk Pregnancy							Continuity Correction
Knowledge of Pregnant Women	Has High Risk		Has risk		Total		
	n	%	n	%	n	%	
Not so good	38	46,3	13	15,9	51	62,2	0,007
Good	13	15,9	18	22,0	31	37,8	
Total	51	62,2	31	37,8	100	100	

The results of cross tabulation show that respondents who have poor knowledge and have a high risk based on treatment diagnosis are 38 people (46.3%), while for respondents who have poor knowledge but have a risk based on treatment diagnosis are 13 people (15.9%). Respondents who have good knowledge and have a high risk based on treatment diagnosis are 13 people (15.9%), while respondents who have good knowledge but have a risk based on treatment diagnosis are 18 people (22.0%). Bivariate results obtained from the chi square test showed a p value of 0.007 (<0.05). This concludes that between the variables of knowledge of pregnant women and the incidence of high-risk pregnancies have a relationship.

Table 9: Cross tabulation between the attitude of pregnant women and the incidence of high-risk pregnancy

Incidence of High Risk Pregnancy							Continuity Correction
Attitudes of Pregnant Women	Has High Risk		Has risk		Total		
	n	%	n	%	n	%	
Not so good	28	34,1	25	30,5	53	64,6	0,033
Good	23	28,0	6	7,3	29	35,4	
Total	51	62,2	31	37,8	100	100	

The results of cross tabulation show that respondents who have a poor attitude and have a high risk based on treatment diagnosis are 28 people (34.1%), while for respondents who have a poor attitude but have a risk based on treatment diagnosis are 25 people (30.5%). Respondents who have a good attitude and have a high risk based on treatment diagnosis are 23 people (28.0%), while respondents who have a good attitude but have a risk based on treatment diagnosis are 6 people (7.3%). The bivariate results obtained from the chi square test showed a p value of 0.033 (<0.05). This concludes that between the variables of the attitude of pregnant women and the incidence of high-risk pregnancies have a relationship.

Table 10. Multiple Logistic Regression Results

Variabel	B	Sig	Exp (B)	95%	
				Lower	Upper
Age of Expectant Mother	5,379	0,000	21,676	1,643	32,294
Knowledge	0,908	0,783	1,270	0,232	6,956
Attitude	2,437	0,014	0,057	0,006	0,559
Nagelkerke R Square= 0,763					

Based on table 10, it can be seen from the results of logistic regression simultaneously or together that the age variable of pregnant women is the most influential variable on the incidence of high-risk pregnancies, where the age of pregnant women who are in the < 20 years and > 35 years category has a risk of 21.6 times the incidence of high-risk pregnancies. Based on the Nagelkerke R-Square value of 0.763, which means that the age of pregnant women, knowledge and attitudes together have an effect of 76% on the incidence of high-risk pregnancy in pregnant women and the remaining (100-76.3) of 23.7% is influenced by other variables not examined in this study.

DISCUSSION

Relationship between the Age of Pregnant Women and the Incidence of High Risk Pregnancy Based on the results of research conducted by researchers, it was found that there was a relationship between the age of pregnant women and the incidence of high-risk pregnancies at the North Minahasa Mubune Health Center. The age of pregnant women is an important factor that can affect the incidence of high-risk pregnancies. Various studies have been conducted to identify the relationship between the age of pregnant women and the higher risk of pregnancy.

The first study that supports these findings is from Asrifah (2018) with the title *The Relationship Between Knowledge and Age of Pregnant Women With High Risk Pregnancy at the Benua Health Center, South Konawe Regency in 2018*. The results of univariate analysis on the variable age of pregnant women showed that the majority of pregnant women who had ages ≤ 20 years and ≥ 35 years were at high risk, namely 33 people (53.2%) and 29 people (46.8%) who had ages 20-35 years of pregnant women who had high risk. The results of the analysis of the relationship between age and high risk pregnancy obtained that of the 29 respondents who had 20-35 years of age who had a low risk pregnancy as many as 17 people (58.6%) and who had a high risk pregnancy as many as 12 people (41.4%). Then from 33 respondents who have age ≤ 20 years and ≥ 35 years, who have low risk as many as 11 people (33.3%) and who have high risk pregnancy as many as 22 people (66.7%).

Based on the results of the Chi-square statistical test with the level of significance $\alpha = 0.05$, the value of $p = 0.046$ was obtained, which means that there is a relationship between age and high risk pregnancy. The better or older the mother's age in the process of pregnancy, the less likely the occurrence of high risk in a mother's pregnancy. Research from Wulan Sari (2016) with the results of her research also showed a relationship between the age of pregnant women with high risk pregnancies. The age of a woman during pregnancy is not too young and not too old because of the high risk of childbirth (Ruswana, 2006).

Another study was conducted by Nur Aliyah Rangkuti and Mei Adelina Harahap (2020) with the title *Relationship between Knowledge and Age of Pregnant Women with High Risk Pregnancy at the Labuhan Rasoki Health Center*. The results of univariate analysis on the variable age of pregnant women showed that the majority of pregnant women who had ages ≤ 20 years and ≥ 35 years were at high risk, namely 33 people (53.2%) and 29 people (46.8%) who had ages 20-35 years of pregnant women who had high risk. The results of the analysis of the relationship between age and high risk pregnancy obtained that of the 29 respondents who had 20-35 years of age who had a low risk pregnancy as many as 17 people (58.6%) and who had a high risk pregnancy as many as 12 people (41.4%). Then from 33 respondents who have age ≤ 20 years and ≥ 35 years, who have low risk as many as 11 people (33.3%) and who have high risk pregnancy as many as 22 people (66.7%). Based on the results of the Chi-square statistical test with the level of significance $\alpha = 0.05$, the value of $p = 0.046$ was obtained, which means that there is a relationship between age and high risk pregnancy. The better or older the mother's age in the process of pregnancy, the less likely the occurrence of high risk in a mother's pregnancy.

The discussion shows that there is an association between the age of pregnant women and the incidence of high-risk pregnancies. Pregnant women who are under 20 years old or over 35 years old have a higher risk of experiencing complications during pregnancy. Therefore, it is important for healthcare providers to pay special attention to pregnant women in these age groups and implement appropriate prevention and treatment measures to reduce the risk of high-risk pregnancies..

Researchers suggest that maternal age has an association with the incidence of high-risk pregnancies. Biological factors come into play, with pregnancy at a young age (under 20 years old) or an advanced age (over 35 years old) increasing the risk of complications such as preeclampsia, gestational diabetes and preterm birth. Social factors also play a role, with young women facing greater social and economic challenges, while older women may have pre-existing health conditions. Lifestyle is also influential, with some cases of young women tending to have environmentally influenced bad habits (smoking, drinking alcohol) and older women may be more likely to use assistive reproductive technologies that could potentially affect pregnancy risk.

In this context, the age of the expectant mother becomes an important factor in high pregnancy risk, and it is important for expectant mothers of all ages to get proper prenatal care, follow health guidelines, and have adequate support to minimize risks dan memastikan kelahiran yang sehat.

The Relationship between Knowledge of Pregnant Women and the Incidence of High Risk Pregnancy

Based on the research that has been conducted by researchers, it is found that there is a relationship between the knowledge of pregnant women and the incidence of high-risk pregnancies at the North Minahasa Mubune Health Center. Knowledge of pregnant women plays an important role in determining the success of pregnancy and the health of the mother and fetus..

Research conducted by Nur Aliyah Rangkuti and Mei Adelina Harahap (2020) supports these findings. The results of univariate analysis on the knowledge variable showed that the majority of pregnant women had insufficient knowledge about high-risk pregnancy, namely 33 people (53.2%) and the fewest pregnant women who had good knowledge, namely 29 people (46.8%). The results of the analysis of the relationship between knowledge and high risk pregnancy obtained that of the 29 respondents who had good knowledge, 19 respondents (65.5%) with low risk pregnancy and 10 respondents (34.5%) with high risk pregnancy. Then from 33 respondents who have less knowledge, who have low risk pregnancy as many as 9 people (27.3%) and who have high risk pregnancy as many as 24 people (72.7%). Based on the results of the chi-square statistical test with the level of significance $\alpha = 0.05$, the value of $p = 0.03$ was obtained, which means that there is a relationship between knowledge and high risk pregnancy. The better the knowledge of pregnant women about high-risk pregnancy, the less likely the risk of a mother's pregnancy.

The results of research by Hidayah, R. N. et al. (2017) conducted at the Banjarmasin Pekauman Health Center on 32 respondents most had good knowledge as many as 15 people (46.9%), enough as many as 12 people (37.5%) while the smallest respondents had a category of less knowledge, namely as many as 5 people (15, 6%). Based on the results of research conducted at the Banjarmasin Pekauman Health Center, many mothers do not know the problem of Pre-Eclampsia seen in statement no. 4 pregnant women with swelling of the face, legs, protein in the urine, and high blood pressure are not among the signs and symptoms of pregnancy poisoning (pre-eclampsia). A total of 16 respondents (50%) who did not answer correctly about the signs and symptoms of pre-Eclampsia. Pregnant women with slight swelling of the lower legs or feet at 6 months of pregnancy and above may still be normal because the legs are hanging a lot or lack of Vitamin B1, but swelling of the face, hands accompanied by high blood pressure, and protein in the urine means there is Pre-Eclampsia. This is because the mother does not know about the problem of complications of pre-Eclampsia symptoms and does not care about herself, it can cause the occurrence of 3 Late (late recognizing danger signs and making decisions, late getting to the referral place, late getting treatment). in the mother. This can endanger pregnancy and childbirth, for the mother and fetus and other complications, including causing fetal growth disorders, fetal death in the womb, and even death in the mother and baby at birth.

Syukrianti Syahda's research (2018) at the Kampar Health Center states that of the 79 respondents who were less knowledgeable about high risk pregnancy, there were 24 (30.4%) pregnant women who did not experience high risk pregnancy. Of the 66 respondents who had good knowledge about high risk pregnancy, there were 29 pregnant women (43.9%) who experienced high risk pregnancy. Based on statistical tests, the value of $p = 0.003$ ($p < 0.05$) was obtained, with a degree of significance ($\alpha = 0.05$). This means that there is a relationship between knowledge and high risk pregnancy in the Kampar Health Center work area in 2018. From the results of the study it is also known that the POR value = 2.924, this means that respondents who are less knowledgeable about high risk pregnancy have a 3 times chance of experiencing high risk pregnancy..

The above studies consistently support the finding that pregnant women's knowledge has a significant association with the incidence of high-risk pregnancies. Good knowledge about pregnancy makes an important contribution in reducing risks and maintaining maternal and fetal health during pregnancy.

The researcher assumes that the knowledge of pregnant women is associated with the incidence of high-risk pregnancies. Adequate knowledge about prenatal care, health practices, and nutrition during pregnancy can help pregnant women make wise decisions and prevent serious complications. An understanding of the signs and symptoms of high-risk pregnancy also allows for early recognition of potential problems, thereby reducing the risk of dangerous complications. Limited access to health information and resources, low levels of education, and social and economic constraints can affect the level of knowledge of pregnant women. Lack of knowledge can increase the risk of high-risk pregnancies due to the inability to identify and address health problems that may arise. In this context, pregnant women's knowledge is key to making informed decisions regarding maternal and fetal health, as well as early recognition of danger signs that require immediate medical intervention.

Relationship between the Attitude of Pregnant Women and the Incidence of High Risk Pregnancy

Based on the research that has been conducted by researchers, it is found that there is a relationship between the attitude of pregnant women and the incidence of high-risk pregnancies at the North Minahasa Mubune Health Center. Research involving the attitudes of pregnant women and the incidence of high-risk pregnancies provides important insights in understanding the role of mental and psychological attitudes of

pregnant women on maternal and infant health.

Attitudes of pregnant women include their perceptions, beliefs and attitudes towards prenatal care and factors that affect maternal and infant health. Several relevant studies and book sources have made important contributions in explaining this relationship.

The first research conducted by Veronika Sinaga (2021) on the Relationship between Maternal Knowledge, Maternal Attitudes and Social Support with the Incidence of High Risk Pregnancy at UPTD Puskesmas Batumarta VIII Regency.

High Risk Pregnancy at UPTD Puskesmas Batumarta VIII Regency

East OKU Regency. From the results of univariate analysis, it was found that of the 37 respondents, 26 respondents (70.3%) had a positive attitude compared to 11 respondents (29.7%) who had a negative attitude. From the results of bivariate analysis obtained from 26 respondents who had a positive attitude and experienced high risk pregnancy events as many as 1 person (3.8%), less than respondents who had a positive attitude and did not experience high risk pregnancy events as many as 25 people (96.2%). Meanwhile, of the 11 respondents who had a negative attitude and experienced high risk pregnancy events, 4 people (36.4%) were fewer than respondents who had a negative attitude and did not experience high-risk pregnancy events as many as 7 people (63.6%). Based on the Chi-square test and the limit of significance = 0.05, the p value = 0.02 < 0.05, this shows that there is a significant relationship between maternal attitudes and the incidence of high-risk pregnancies, thus the hypothesis that there is a relationship between maternal attitudes and the incidence of high-risk pregnancies is statistically proven..

Research from Yolla Asmaul Nufra and Yusnita (2021) also showed similar findings. The results showed that the majority of respondents had a positive attitude towards the high risk of 4T in pregnancy. Based on cross-examination of 42 respondents, the majority of respondents who had a positive attitude experienced a high risk of 4T in pregnancy, namely 3 respondents (7%) and 25 respondents (60%) who did not experience a high risk of 4T. While respondents who had a negative attitude experienced a high risk of 4T as many as 6 respondents (14%) and those who did not experience high risk were 8 respondents (19%). The results of the chi square test with a confidence level of 95% ($\alpha = 0.05$) the calculation results show the p value (0.041) < α (0.05) means H_a is accepted and H_0 is rejected. From these results it can be concluded that there is a relationship between attitude and high risk of 4T in pregnancy.

Based on the results of Syukrianti Syahda's research (2018) at the Kampar Health Center, it can be seen that of the 89 respondents who had a negative attitude about high risk pregnancy, there were 28 pregnant women (45.9%) who did not experience high risk pregnancy. Of the 56 respondents who were positive about high risk pregnancy, there were 23 pregnant women (27.4%) who experienced high risk pregnancy. Based on statistical tests, the value of $p = 0.002$ ($p < 0.05$) was obtained, with a degree of significance ($\alpha = 0.05$). This means that there is a relationship between attitude and high risk pregnancy in the Kampar Health Center work area in 2018. From the results of the study it is also known that the POR value = 3.126 this means that respondents who have a negative attitude about high risk pregnancy have a 3 times chance of experiencing high risk pregnancy.

Mothers who have a positive attitude about high risk pregnancy will have the awareness to make antenatal visits to check their pregnancy, so that if there is a risk during pregnancy it can be handled early and appropriately by health workers (Damayanti, 2016). The existence of a positive attitude of pregnant women results in changes in maternal behavior to anticipate undesirable possibilities during pregnancy such as the desire to conduct ANC checks (Kartika, 2016).

Researchers assume that the attitude of pregnant women has an association with the incidence of high-risk pregnancies. Negative attitudes or lack of concern for health and care during pregnancy can increase the risk of complications. Psychological factors, such as stress and anxiety, can reduce pregnant women's attention to prenatal care. Low social support and lack of understanding from the surrounding environment can also affect pregnant women's attitudes. Lack of knowledge about health practices during pregnancy can also affect pregnant women's attitudes and awareness of the risks involved. Physical environmental factors, such as limited access to quality health services, can also impact pregnant women's attitudes. Therefore, it is important for pregnant women to have emotional support, accurate health information and a supportive environment to promote positive and proactive attitudes in maintaining their health and reducing the risk of pregnancy complications. Positive attitudes, including active engagement in prenatal care, good knowledge, acceptance of physical changes, and adequate social support, can help reduce the risk of higher pregnancy and improve maternal and infant health. In this context, it is important for healthcare providers to understand and facilitate positive maternal attitudes to improve the quality of prenatal care and reduce the incidence of high-risk pregnancies.

Influential Variables

Based on the results of multivariate analysis of multiple logistic regression test obtained a value of 21.6 times the incidence of high-risk pregnancy, the variable age of pregnant women is the most influential variable on the incidence of high-risk pregnancy, where the age of pregnant women who are in the category < 20 years and > 35 years are at risk. The age of the pregnant woman is an important factor affecting the incidence of high-risk pregnancies. In this context, there are two age categories that have different risks: adolescence (less than 20 years) and old age (above 35 years). Adolescent pregnancies may carry a higher risk compared to older pregnancies. Some of the reasons that make teenage age a risk factor include:

- a. reproductive health: In adolescence, the reproductive organs are still developing, which increases the risk of pregnancy and childbirth complications.
- b. Inadequate nutrition: Pregnant teenagers may not get enough nutrition to support fetal development, as they are still growing themselves.
- c. Lack of access to prenatal care: Adolescents often face barriers in accessing appropriate and quality prenatal care, which can increase the risk of pregnancy complications.
- d. Low reproductive health knowledge: Adolescents may have limited knowledge about reproductive health and lack understanding of healthy practices during pregnancy.

Older pregnancies (above 35 years of age) also carry a higher risk. Some of the reasons that make advanced age a risk factor include:

- a. Decreased fertility: Women tend to experience a decline in fertility as they age. This makes it difficult for them to conceive naturally and increases the risk of problematic pregnancies.
- b. Risk of genetic abnormalities: The risk of genetic abnormalities in the fetus, such as down syndrome, increases with maternal age. Older eggs are more prone to genetic mutations.
- c. Increased risk of pregnancy complications: In advanced age, the risk of complications such as pregnancy hypertension, gestational diabetes, and preeclampsia increases. The risk of premature birth and stunted growth is also higher.
- d. Possibility of more intensive medical care: Older pregnant women may require more intensive medical care and close monitoring during pregnancy (WHO, 2014 and ACOG 2018).

5. CONCLUSION

There is a significant relationship between the age of pregnant women and the incidence of high-risk pregnancies at the North Minahasa Mubune Health Center. There is a significant relationship between the knowledge of pregnant women and the incidence of high-risk pregnancies at the North Minahasa Mubune Health Center. There is a significant relationship between the attitude of pregnant women and the incidence of high-risk pregnancies at the Mubune Health Center, North Minahasa. The age variable of pregnant women is the most influential variable on the incidence of high-risk pregnancies, where the age of pregnant women who are in the < 20 years and > 35 years category has a risk of 21.6 times the incidence of high-risk pregnancies. Based on the Nagelkerke R-Square value of 0.763, which means that the age of pregnant women, knowledge and attitudes together affect 76% of the incidence of high-risk pregnancies in pregnant women and the remaining (100-76.3) of 23.7% is influenced by other variables not examined in this study.

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