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Relationship between Age and Pregnancy Distance with the Incidence of Miscarriage at the Sabang City Regional General Hospital

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ABSTRACT

Introduction: Pregnant women who experience miscarriage may experience health complications that lead to maternal morbidity or death. The incidence of miscarriage rose by 26% in women over 40 years old and by 12% in women under the age of 20. Due to their immature uteri, pregnant women under the age of twenty are particularly vulnerable to complications during pregnancy and childbirth, including miscarriage. In addition, women over 35 may be more susceptible to issues with their aging uterine organs, which raises the possibility of chromosomal abnormalities and pregnancy.

Material and Methods: This type of research is an analytic survey with a cross-sectional approach. This research was conducted in the Sabang City Regional General Hospital in May 2022. The population in this study was 320 people, while the sampling technique was total sampling.

Results: Test analysis of research results using the chi-square test. Based on the results of the study show a relationship between age and the incidence of miscarriage with a value of $p = 0.000 < 0.05$, and there is a relationship between pregnancy distance and the incidence of miscarriage with a value of $p = 0.000 < 0.05$.

Conclusion: There is a relationship between age and pregnancy distance to the incidence of miscarriage.

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INTRODUCTION

Pregnant women who experience miscarriage may experience health complications that lead to maternal morbidity or death [1,2]. Maternal age, parity, gestational age, education level, employment, marital status, economic status, various medical illnesses, maternal nutritional status, and history of miscarriage [3]. Miscarriage increased by 12% in women aged less than 20 years and increased by 26% in women aged more than 40 years due to their immature uteri; pregnant women under the age of twenty are particularly vulnerable to complications during pregnancy and childbirth, including miscarriage. In addition, women over 35 may be more susceptible to issues with their aging uterine organs, which raises the possibility of chromosomal abnormalities and pregnancy [4].

Indonesia ranks third highest in maternal death in Southeast Asia [5]. According to the Ministry of Health, 4,627 women in Indonesia lost their lives as a result of pregnancy in 2020 [6]. Meanwhile, in Aceh Province in 2021, the number of maternal deaths was 223 per 100.000 live births [7]. The maternal mortality rate of Sabang City in 2020 is based on data on maternal deaths in hospitals and health centers: 1 patient in 2020 and 3 in 2021. Meanwhile, data on miscarriage cases at the Sabang City Regional General Hospital in 2021 were 42 people out of 320 pregnant women.

Approximately 3 to 5 pregnant women each month underwent examinations at the Sabang City Regional General Hospital because of miscarriage. The data obtained from the maternity ward register book at the Sabang City Regional General Hospital shows that there are still many pregnant women aged >35 years, and the

pregnancy interval is <2 years. The risks experienced by pregnant women are obesity, closely spaced pregnancies, the mother's age is too old, the distance between children is too long, the mother's age is too young, anemia, history of miscarriage.

Based on this background, researchers feel it is necessary to conduct research that aims to determine the relationship between age and pregnancy interval with the incidence of miscarriage at the Sabang City Regional General Hospital. From the results of the research that has been carried out, it is hoped that this research can be used as a source of information and development of midwifery knowledge, especially regarding the risk of miscarriage in healthcare facilities.

MATERIAL AND METHODS

This kind of study uses a cross-sectional, analytical survey design to ascertain the relationship between miscarriage incidence and factors such as age and distance from pregnancy at the Sabang City Regional General Hospital. In May 2022, this study was carried out in the Regional General Hospital of Sabang City. Population in this study was 320 pregnant women who visited the Sabang City Regional General Hospital in 2021. Meanwhile, the sample in this study was a total sampling, namely all 320 pregnant women who visited the Sabang City Regional General Hospital in 2021.

The independent variable in this study is age and pregnancy distance, while the dependent variable is the incidence of miscarriage. The analytical test used to test the hypothesis of a relationship between the independent variable and the dependent variable, using a statistical test of chi-square interval (CI) 95% with a limit of significance (α = 0.05) and processed using a computer with the SPSS program.

RESULTS

Based on Table 1 shows that the majority of pregnant women who experience miscarriage at Sabang City Regional General Hospital are 20-35 years old, namely 250 people. The majority of pregnancies between mothers who experienced a miscarriage at the Sabang City General Hospital were not at risk (2-5 years), as many as 228 people. Table 2 shows that of the 250 respondents who were not at risk (20-35 years old), there were 229 respondents (91.6%) who did not experience a miscarriage and 21 respondents (30.0%) who experienced a miscarriage. Based on the chi-square test, a p-value of 0.000 was obtained (< α = 0.05), so it can be concluded that the hypothesis is accepted, meaning that there is a relationship between maternal age and the incidence of miscarriage. Table 3 shows that of the 228 respondents whose pregnancies were not at risk (2-5 years old), there were 214 respondents (93.9%) who did not experience a miscarriage, and as many as 14 respondents (6.1%) experienced a miscarriage. Based on the chi-square test analysis, the p-value was 0.000 (< α = 0.05), so it can be concluded that the hypothesis is accepted, meaning that there is a relationship between pregnancy distance and the incidence of miscarriage.

DISCUSSION

The majority of pregnant women who miscarry are not at danger, as indicated by Table 1 (20-35 years), namely 250 people. Pregnant women less than 20 years old can harm the mother's health and the growth and development of the fetus because the reproductive organs are not yet mature enough to get pregnant. Complications in teenage pregnancies (<20 years) are higher compared to a healthy reproductive period of between 20-30 years. This situation will become even more difficult if added to psychological, social, and economic stress, making it easier for miscarriages to occur [8,9]. The age that influences miscarriage is <20 years and >35 years; the time for healthy reproduction is 20-30 years. Miscarriage can occur at a young age because, at a young/adolescent age, the reproductive organs are not yet mature and not ready for pregnancy [10].

Table 1 indicates that the bulk of pregnancies between mothers who experienced miscarriage were not at risk (2-5 years), as many as 228 people. A good

Table 1. Distribution of Miscarriage Risk at Sabang City Regional General Hospital

No	Risk	Frequency *(n)* Total (n=320)	Percentage (%)
1	Maternal Age		
	• <20 years old and >35 years old	70	21,9
	• 20-35 years old	250	78,1
2	Pregnancy Spacing		
	• <2 years or >5 years apart from the previous pregnancy	92	28,8
	• 2-5 years apart with previous pregnancy	228	71,3

Table 2. The Relationship between Maternal Age and the Incidence of Miscarriage at the Sabang City Regional General Hospital

No	Maternal Age	Miscarriage Incident				Total		p-value
		Yes		No				
		f	%	f	%	f	%	
1	<20 years old and >35 years old	21	30,0	49	70,0	70	100	0,000
2	20-35 years old	21	8,4	229	91,6	250	100	

Table 3. Relationship between Pregnancy Distance and Miscarriage Events at the Sabang City Regional General Hospital

No	Pregnancy Spacing	Miscarriage				Total		p-value
		Yes		No				
		f	%	f	%	f	%	
1	Risk (<2 years old or >5 years old)	28	30,4	64	69,6	92	100	0,000
2	No Risk (2-5 years old)	14	6,1	214	93,9	228	100	

pregnancy interval is > 2 years between the last delivery and the start of the current pregnancy. If the distance is too close, then the uterus and the mother's health have not recovered properly. In this situation, you need to be aware of the possibility of poor fetal growth, prolonged labor, or bleeding [11,12].

Pregnancies <2 years often experience complications in pregnancy. The mother's physical health and uterus still need enough rest. There is a possibility that the mother is still breastfeeding. Apart from that, the child still needs the care and attention of his parents [13]. Dangers that may occur for the mother include bleeding after the baby is born because the mother is still weak, premature babies/born not yet full term before 37 weeks, and babies with low birth weights <2500 grams [14].

Based on Table 2 shows that of the 250 respondents who were not at risk (20-35 years old), there were 229 respondents (91.6%) who did not experience a miscarriage and 21 respondents (30.0%) who experienced a miscarriage. Based on the chi-square test, a p-value of 0.000 was obtained (< α = 0.05), so it can be concluded that the hypothesis is accepted, meaning that there is a relationship between maternal age and the incidence of miscarriage. The results of this research are supported by the results of a study on factors related to the incidence of miscarriage at Raden Mattaher Regional Hospital, Jambi Province. The chi-square test was employed for data analysis, with a significance level of (α) = 0.1. The study's findings indicate that there is a p = 0.005 correlation between a pregnant woman's age and the likelihood of miscarriage [15].

Pregnant women who are younger than 20 or older than 35 are more vulnerable because the uterus and pelvis of mothers aged <20 years have not yet grown to adult size, so if pregnancy and childbirth occur, complications will occur more easily, including miscarriage, and at the age of more than 35 years. By the year the uterine organs are old, it is easy for pregnancy complications to occur, and the incidence of chromosomal abnormalities will also increase [16]. Apart from that, this is due to the occurrence of marriage at the age of less than 20 years or early marriage due to socio-cultural conditions in the environment, which still allow marriage at a young or underage age. In women who marry late, many women tend to get pregnant at an old age [17].

Miscarriage can occur at a young age because, at a young/adolescent period, the reproductive organs are not yet mature and not ready for pregnancy. Maternal pregnancies in women who are pregnant and give birth at the age of <20 years are 2-5 times higher than maternal deaths that occur at the age of 20-29 years. Maternal deaths again increase > age 30-35 years [18]. Women who become pregnant at a young age (<20 years) from a biological perspective do not have optimal development of their reproductive organs. From a physical perspective, they are not yet mature enough to face the demands of moral and emotional burdens, and from a medical perspective, they often experience problems [19]. Meanwhile, at the age of > 45 years, the elasticity of the pelvic and surrounding muscles, as well as the reproductive organs, generally declines, and women at this age are more likely to experience antenatal complications, including miscarriage [20].

Based on Table 3 shows that of the 228 respondents whose pregnancies were not at risk, there were 214 respondents (93.9%) who did not experience a miscarriage and 14 respondents (6.1%) who experienced a miscarriage. Based on the chi-square test analysis, the p-value was 0.000 (< α = 0.05), so it can be concluded that the hypothesis is accepted, meaning that there is a relationship between pregnancy distance and the incidence of miscarriage.

The results of this research are in line with the results of a study conducted by Salsabila (2020), which shows

that the results of the bivariate test using chi-square obtained a p-value of 0.015<0.05, which means there is a significant relationship between the distance between pregnancies and the incidence of miscarriage at RSUD Dr. Achmad Mochtar High hill [21]. Pregnancy spacing that is too close can cause endometrial infertility because the uterus is not ready for implantation and fetal growth, thereby causing miscarriage. Weakening of the strength of the uterine and pelvic muscle functions. Apart from that, this can be influenced by the mother's non-participation in the Family Planning program, so the mother cannot monitor the pregnancy interval [22].

A good distance between the previous pregnancy and the next pregnancy is between 2-5 years. A pregnancy distance that is too long will increase the incidence of abortion, and conversely, a distance that is too close will also increase the incidence of abortion [23,24]. This is due to the fact that younger women have a longer reproductive period, so they can determine the number of children they want. The incidence of abortion in pregnancy has a significant relationship with shorter pregnancy intervals [25].

CONCLUSION

There is a relationship between maternal age and the incidence of miscarriage at the Sabang City Regional General Hospital with a p-value of 0.000 (< α = 0.05), and there is a relationship between pregnancy distance and the incidence of miscarriage at the Sabang City Regional General Hospital with a value of p 0.000 (< α = 0.05).

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CONFLICT OF INTEREST

There is no conflict of interest in this research.

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