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CORRELATION BETWEEN ADOLESCENT PREGNANCY WITH PREGNANCY COMPLICATIONS AT PUSKESMAS GALIS BANGKALAN REGENCY

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Abstract

Background: Adolescent pregnancy is a pregnancy that occurred between the age of 10-19 years. The survey in 2019 in Indonesia showed that the number of pregnant women aged 15-19 years reached 47 per 100 pregnancies. The anatomy of adolescent's body is not ready yet for pregnancy or childbirth so complications can occur during pregnancy. This study aims to analyze the relationship between adolescent pregnancy and pregnancy complications at Puskesmas Galis Kabupaten Bangkalan. **Method:** This research used observational analytic with case control design. The population in this study were all women who had given birth in Puskesmas Galis Kabupaten Bangkalan in January-December 2022. The number of samples used was 42 people who were divided into case and control groups. The sampling technique used was consecutive sampling. The indipendent variable in this study was adolescent pregnancy and the dependent variable were pregnancy complications which included anemia, nutritional deficiency. Data collection was obtained from medical records. Statistical data analysis using chi square test. **Result:** The results showed that pregnancy complications in the adolescent group were 38,1% and in the reproductive age group 19%. The results of chi square test obtained a p value of 0,172 (p>0,05) which means that the test results were not significant. **Conclusion:** There is no relationship between adolescent pregnancy and pregnancy complications at Puskesmas Galis Kabupaten Bangkalan.

Keywords : adolescent, pregnancy, complications

INTRODUCTION

Adolescent pregnancy has become a global problem that occurs in many developed and developing countries. Adolescent pregnancy is a pregnancy that occurs in women aged 10-19 years. About 11% of babies born in the world are born from adolescent women. About 2 million girls under the age of 16, and 16 million between the ages of 15-19 become pregnant each year (Ghose and John, 2017). In addition, about 3,9 million unsafe abortions are performed each year, contributing to the high maternal mortality rate (Kiani *et al.*, 2019).

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Early marriage has the potential for adolescent pregnancy which will lead to complications during pregnancy. In 2018, 11,21% of women were married before they were 18 years old (Badan Pusat Statistik, 2020). Indonesia still has the 4th highest rate of adolescent giving birth at an early age. About 48 out of 1000 adolescents are recorded to have given birth to a child. The percetage of women in East Java who married less than 17 years is 20,64%. Bangkalan regency is one of the regencies in Madura, East Java. Around 14,48% of women in Bangkalan regency were married at the age of less than 17 years (Badan Pusat Statistik, 2019).

Early pregnancy among adolescents has major health consequences for both mother and baby. It is stated that girls aged 10-14 years are at 5 times the risk of dying during pregnancy or childbirth compared to the 20-24 years group, while the risk doubles in the 15-19 years age group. Maternal mortality rates under the age of 16 in middle and low income countries are even higher at up to 6 times (Badan Pusat Statistik, 2020).

When giving birth at a young age, the mother herself has not fully completed her own growth and development, and may still be at a height and weight that is not ideal (Jeha *et al.*, 2015). The anatomy of adolescent body is not ready for the process of conceiving or giving birth, so complications can occur during that time (Badan Pusat Statistik, 2020). Pregnancy in adolescent carries the risk of anemia due to iron deficiency, bleeding, abortion, prolonged and difficult labor (Parra-Pingel *et al.*, 2017). In addition, pregnancy in adolescent causes several problems for the mother and fetus. Maternal mortality, lack of nutrition, economic and social problems, depression are more common in adolescent pregnancies compared to adult women (Çift *et al.*, 2017).

Complications from pregnancy and childbirth are the leading cause of death among adolescent girls. The purpose of this research is to analyze the correlation of adolescent pregnancy and pregnancy complications at Puskesmas Galis Bangkalan Regency.

METHOD

This research method was observational analytics with a case control design. The population in this study were pregnant women who had given birth in

Puskesmas Galis work area in January-December 2022. The sample obtained was 42 people who were divided into case groups and control groups. Sampling technique uses consecutive sampling, selecting samples that have met inclusion criteria for giving birth ≤ 35 years, primiparous, complete medical record data and exclusion criteria for multiple pregnancies and have a history of illness. The indipendent variabel was adolescent pregnancy and the dependent variabel was pregnancy complications. Data collection used secondary data, namely medical records which was then processed and analyzed using univariate and bivariate analysis using Chi Square test. This research has obtained a certificate of ethical eligibility from Health Research Ethics Committee, Faculty of Medicine, Airlangga University with letter number No.101/EC/KEPK/FKUA/2023.

RESULT AND DISCUSSION

Table 1. Sample distributions based on characteristics

Characteristic	Category of age			
	Adolescent		Reproductive	
	n	%	n	%
First ANC				
Trimester I	14	66,7	18	85,7
Trimester II	4	19	0	0
Trimester III	3	14,3	3	14,3
Total	21	100	21	100
IMT				
<18,5 (underweight)	3	14,3	1	4,8
18,5 - 24,9 (normal)	12	57,1	14	66,7
25 - 29,9 (pre-obesity)	5	23,8	4	19
30 - 34,9 (obesity class 1)	1	4,8	2	9,5
Total	21	100	21	100

Sample distribution data based on table 1 shows that the adolescent group mostly did K1 in the first trimester, namely 14 people (66.7%), while in the reproductive age group also did the most K1 in the first trimester, namely 18 people (85.7%). It also shows that the adolescent group with normal BMI was 12 people (57.1%), while in the reproductive group with normal BMI was 14 people (66.7%).

Table 2. Frequency distributions of pregnancy complications

Variable	Category of age			
	Adolescent		Reproductive	
	n	%	n	%
Anemia Status				
Anemia	6	28,6	3	14,3
Not anemia	15	71,4	18	85,7
Total	21	100	21	100
Nutritional Deficiency				
CED	6	28,6	1	4,8
Not CED	15	71,4	20	95,2
Total	21	100	21	100

Based on table 2, the distribution of data shows that anemia in the adolescent age group was found to be 6 people (28.6%) and at reproductive age as many as 3 people (14.3%). Pregnant women with nutritional deficiency complication at adolescent age were 6 people (28.6%) and reproductive age were 1 person (95.2%).

Table 3. Distributions of pregnancy complications

Compliaction status	Category of age				p value	OR (95% CI)
	Adolescent		Reprodutive			
	n	%	n	%		
Complications	8	38,1	4	19	0,172	-
No complications	13	61,9	17	81		
Total	21	100	21	100		

Based on table 3 shows that of the 21 samples of the adolescent group, 8 people (38.1%) experienced pregnancy complications, while of the 21 samples of the reproductive group, 4 people (19%) experienced pregnancy complications. The results of cross tabulation analysis between adolescent pregnancy and pregnancy complications using Chi Square obtained a p value of 0.172 (p> 0.05), which means the test results are not significant. This shows that there is no relationship between adolescent pregnancy and pregnancy complications at Puskesmas Galis Bangkalan Regency.

Pregnancy complications in this study were determined if there were one or more complications in pregnancy. The pregnancy complications found in both age groups were anemia and nutritional deficiencies. The results of the study after the Chi Square statistical test stated that there was no relationship between teenage pregnancy and pregnancy complications at the Galis Health Center, Bangkalan Regency. These results are not in line with previous research conducted by

Noviana, which states that there is a relationship between age and pregnancy complications (Noviana, 2021).

Anemia in pregnancy is not only caused by young age, but can be influenced by poor eating habits, rarely doing antenatal checks makes pregnant women more prone to anemia (Ghose and John, 2017). This is in line with a research which states that many factors can affect anemia in teenage pregnancy, including maternal adherence to taking Fe tablets, regularity of antenatal check-ups, and diet (Putri *et al.*, 2015).

Although the highest percentage of anemia was found in the 15-24 years age group, this study showed that maternal age was not associated with pregnancy complications. Of the 21 teenage mothers, 15 had normal Hb levels, 5 of them had mild anemia and 1 had moderate anemia. Most respondents have normal Hb levels, this may be due to the mother's good nutritional intake and diligently taking of blood supplement tablets since before pregnancy.

The more obedient pregnant women consume Fe tablets, the less likely they are to experience anemia in their pregnancy. Pregnant women of adolescent age with a diet less than the nutritional adequacy rate are likely to be anemic 6.321 times greater than pregnant women whose diet is more than equal to the nutritional adequacy rate (Putri *et al.*, 2015).

Another pregnancy complication found in this study is nutritional deficiency. Nutritional deficiencies in this study used upper arm circumference (LILA) data on pregnant women to calculate chronic energy deficiency. Chronic energy deficiency is determined if LILA < 23.5 cm. The results of research conducted by Pamungkas showed that there was no relationship between adolescent pregnancy and the incidence of Chronic Energy Deficiency (p value 0.78), but seen from the OR which is 1.27, indicating that adolescent pregnancy has a 1.2x greater risk of chronic energy deficiency (Pamungkas *et al.*, 2022). However, another research shows that there is a relationship between age characteristics and the incidence of chronic energy deficiency. The younger and older the pregnant woman, it will affect the fulfillment of the necessary nutrients (Ernawati, 2018).

In this study, most respondents did not experience CED. This can be influenced by a good diet such as staple foods supplemented with vegetables and

fruits so that the nutritional needs of the mother during pregnancy have been met, because diet is the most important behavior that can affect nutritional conditions. With the fulfillment of the nutritional needs of the mother, the nutritional status of the mother and fetus will also be good and have a low potential for pregnancy complications caused by poor nutritional status. This is supported by research conducted by Zaidah & Maisuroh (2022) which states that there is a relationship between the diet of pregnant women with CED.

CONCLUSION AND SUGGESTION

This research shows that there is no correlation between adolescent pregnancy and pregnancy complications. However adolescent pregnant women still need greater nutritional needs compared to pregnant women of reproductive age because in adolescence mothers still need nutrients for their own bodies. Poor diet and unmet nutritional needs will lead to anemia and CED in pregnancy. For future researchers, it is hoped that they can examine adolescent marriages to see if there are complications during the pregnancy.

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