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# DETERMINANTS OF PROBLEMS IN TEENAGE PREGNANCY

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## ABSTRACT

This study aims to determine the determinants or risk factors for pregnancy complications in adolescents. This type of research is quantitative analytical research with a case-control approach. The results of univariate analysis show that most respondents married at the age of 16-19 years (92%), and the remainder at the age of 12-15 years lived in rural areas (62%) and with their parents. (70). %), have low education (65.3%), have poor economic conditions (56%), and have anemia status (60%). The most frequently experienced pregnancy problems were constant vomiting and not wanting to eat (39.3%), while the least experienced were bleeding at the beginning or end of pregnancy and yellow eyes/skin (1.3% each). There are two variables related to teenage pregnancy problems, namely anemia status and knowledge about pregnancy. The most influential variable is anemia (p=0.000, OR: 3.995 (1.952-8.174). In conclusion, the impact of complications and deaths on women and children and the effect on future generations can be prevented.

Keywords: Determinants, Teenage Pregnancy, Problems

## INTRODUCTION

Social media had been shocked by the number of teenage couples in Ponorogo, East Java who were asking for dispensation for early marriage (under 19 years of age). 125 out of 176 couples (71%) were approved to receive dispensation since they were pregnant (Dewi et al., 2023). This condition is an actual phenomenon of teenage marriage in Indonesia, the cases of which were still quite high. In 2018, it was found that 9:1 women aged 20-24 or around 1,220,900 had married during adolesence.

South Kalimantan is one of the Provinces with the highest rate of teenage marriage. In 2019, marriage amonv teenagers aged ≤16 years reached 22.15%, then in 2020, there was a slight decrease to 21.39%. The percentage of early marriage by Districts in South Kalimantan Province revealed that Balangan District had the highest rate (33.27%), followed by Hulu Sungai Tengah District (30.86%) and Tapin District (30.84%). This situation had an impact on the rate of teenage pregnancies at age of ≤16 years in 2020 which reached 9.62% and at age of 17-18 years which reached 19.34% (Badan Pusat Statistik, 2020). Underage marriages are very vulnerable to divorce, as a result of early divorce in cases of underage marriages placing them in an unideal position. At a time when children should feel love and receive protection, they instead have to handle divorce cases caused by unprepared underage marriages (Oktarianita et al., 2022; Heryanti, 2021).

Early pregnancy has an impact on social, psychological as well as health aspects. The high rate of teenage marriage and pregnancies in South Kalimantan needs to be anticipated by early detection of risk factors, especially the causes of complications during pregnancy. Women aged less than 20 years are very susceptible to experiencing obstetric fistula. This obstetric fistula can also occur as a result of sexual intercourse at an early age (Kohno et al., 2020). Child

marriage is closely related to high fertility, short-term pregnancies, and unwanted pregnancies. Young age at first sexual intercourse also increases the risk of transmitting sexually transmitted diseases and transmitting HIV infection (Arikhman et al., 2019).

The result of a study conducted by Serilaila et al (2018) found that socio-economic factors, parity, birth spacing, history of complications, area of residence, place of delivery, and quality of ANC influenced the incidence of obstetric complications. Furthermore, factors identified in other studies involved economic condition, mental health problems, drug use during pregnancy, level of knowledge, role of parents, attitudes towards teenage pregnancy, role of peers, exposure to violence (OR: 5.82), family function (OR: 3.87), age of mother at first pregnancy (OR: 4.07), emotional situation of parents and maternal education (OR: 2.03) (Komariyah & Nugroho, 2020; Husna et al., 2021).

Based on the phenomenon described above, a study on risk factors that could lead to problems during teenage pregnancy in South Kalimantan was conducted. The results of this study are expected to be useful in efforts regarding early detection of complications and improve health, especially among pregnant teenagers.

## METHODS

This research was a quantitative analytical study using a case control approach to determine risk factors for teenage pregnancy in South Kalimantan. The population in this study were all pregnant teenagers who had given birth from 1 January to 30 August 2021 6 Districts/Cities in South Kalimantan Province namely Balangan, Hulu Sungai Tengah, Tapin, Banjar, Banjarbaru and Banjarmasin. A sample size of 150 respondents were assigned into the case group (50 respondents) and 100 the control group (100 respondents) (1: 2). Case criteria were pregnant teenagers aged ≤ 19 years who complained of severe problems and as experienced by many respondents. Control criteria were respondents in the same age group but had minor or no complaints during pregnancy. Data collection was carried out directly by visiting the homes of respondents who had given biwerth according to health protocols. The collected data were further processed and analyzed univariately and bivariately using the chi squre test with a confidence level of 95% (α=5%).

## RESULTS

Table. 1
Characteristics of Pregnant Teenagers

| Chracteristic | Frequency | Percentage |
|---|---|---|
| Age | | |
| - 12-15 years | 12 | 8 |
| - 16-19 years | 138 | 92 |
| Area of Residence | | |
| - Rural | 93 | 62 |
| - Urban | 57 | 38 |
| Independence | | |
| - Independent | 45 | 30 |
| - Lived with Parentsl | 105 | 70 |
| Education | | |
| - Low | 98 | 65,3 |
| - High | 52 | 34.7 |
| Economic Condition | | |
| - Poor | 84 | 56 |
| - Good | 66 | 44 |

| | | |
|---|---|---|
| Family Support | | |
| - No | 65 | 43,3 |
| - Yes | 85 | 56.7 |
| Pregnancy Check-ups | | |
| - Irregular | 63 | 42 |
| - Regular | 87 | 58 |
| Pregnancy Companion | | |
| - No | 31 | 20.7 |
| - Yes | 119 | 79.3 |
| Hemoglobin levels | | |
| - <11 gr% | 60 | 40 |
| - ≥ 11 gr% | 90 | 60 |
| Attitude towards Pregnancy | | |
| - Negative | 73 | 48.7 |
| - Positive | 77 | 51.3 |
| Knowledge on Pregnancy | | |
| - Poor | 36 | 24 |
| - Good | 114 | 76 |

Most of respondents were aged 16-19 years at the time of pregnancy (92%). Most of respondents lived in rural areas (62%) and lived with parents by 70%. The level of education and income of respondents was generally low (65.3% and 56%, respectively). Most of respondents had good family support (58%), performed regular pregnancy check-ups (56.7%) and had a pregnancy companion (79.3%). 60% of respondents did not experience anemia (Hb levels of ≥11 gr%). Attitudes and knowledge on pregnancy are generally quite good/positive by 51.3% and 76%, respectively.

Table. 2
Complaints During Pregnancy

| Complaint | Frequency | Percentage |
|---|---|---|
| Persistent vomiting and refusal to eat | 59 | 39.3 |
| High fever | 10 | 6.6 |
| The fetus was felt less mobile than before | 3 | 2 |
| Amniotic fluid came out prematurely | 11 | 7.3 |
| Swelling of feet, hands and face | 14 | 9.3 |
| Bleeding in early and late pregnancies | 2 | 1.3 |
| Headache/blurred vision/heartburn | 25 | 16.6 |
| Diarrhea | 6 | 4 |
| Sore throat/cough/runny nose | 18 | 12 |
| Pain when urinating or vaginal discharge or itching in the genital area | 21 | 14 |
| Heart palpitations or chest pain | 10 | 6.6 |
| Dizzy/weak/pale | 34 | 22.7 |
| Difficulty sleeping and excessive anxiety | 22 | 14.6 |
| Yellow eyes/skin | 2 | 1.3 |
| No significant problem | 57 | 38 |

The most experienced pregnancy problems were persistent vomiting and refusal to eat (39.3%) while the least experienced were bleeding in early or late pregnancies and yellow eyes/skin (1.3%, respectively).

Table. 3
Analysis Results Determinants of Problems in Teenage Pregnancy

| Variable | Case | | Control | | p | OR CI 95% |
|---|---|---|---|---|---|---|
| | f | % | f | % | | |
| Age | | | | | | |
| 12-15 years | 3 | 6 | 9 | 9 | 0.750 | 0.645 (0.167-2.498) |
| 16-19 years | 47 | 94 | 91 | 91 | | |
| | 50 | 100 | 100 | 100 | | |
| Area of Residence | | | | | | |
| Rural | 29 | 58 | 64 | 64 | 0.592 | 0.777(0.388-1.555) |
| Urban | 21 | 42 | 36 | 36 | | |
| | 50 | 100 | 100 | 100 | | |
| Independence | | | | | | |
| Independent | 15 | 30 | 30 | 30 | 1.00 | 1.00 (0.477-2.098) |
| Lived with Parents | 35 | 70 | 70 | 70 | | |
| | 50 | 100 | 100 | 100 | | |
| Education | | | | | | |
| Low | 29 | 58 | 69 | 69 | 0.249 | 0.620 (0.307-1.254) |
| High | 21 | 42 | 31 | 31 | | |
| | 50 | 100 | 100 | 100 | | |
| Economic Factor | | | | | | |
| Poor | 28 | 56 | 56 | 56 | 1.00 | 1.00 (0.505-1.982) |
| Good | 22 | 44 | 44 | 44 | | |
| | 50 | 100 | 100 | 100 | | |
| Family Support | | | | | | |
| No | 26 | 52 | 39 | 39 | 0.180 | 1.694 (0.854-3.362) |
| Yes | 24 | 48 | 61 | 61 | | |
| | 50 | 100 | 100 | 100 | | |
| Pregnancy Check-ups | | | | | | |
| Irreguler | 20 | 40 | 43 | 43 | 0.501 | 0.733 (0.360-1.493) |
| Reguler | 30 | 60 | 57 | 57 | | |
| | 50 | 100 | 100 | 100 | | |
| Hemoglobin Levels | | | | | | |
| <11 gr% | 31 | 62 | 29 | 29 | 0.000 | 3.995 (1.952-8.174) |
| ≥ 11 gr% | 19 | 38 | 71 | 71 | | |
| | 50 | 100 | 100 | 100 | | |
| Attitude towards Pregnancy | | | | | | |
| Negative | 28 | 56 | 45 | 45 | 0.272 | 1.556 (0.785-3.081) |
| Positive | 22 | 44 | 55 | 55 | | |
| | 50 | 100 | 100 | 100 | | |
| Knowledge on Pregnancy | | | | | | |
| Poor | 21 | 42 | 15 | 15 | 0.001 | 4.103 (1.871-8.999) |
| Good | 29 | 58 | 85 | 85 | | |
| | 50 | 100 | 100 | 100 | | |

There were two risk factors associated with pregnancy problems in pregnant teenagers, namely anemia status and the level of knowledge on pregnancy. The significance value for anemia status was p=0.000 or <α=0.05 with an OR value of 3.995, while the significance value for the level of knowledge was p=0.001 with an OR value of 4.103.

## DISCUSSION

Many factors can cause hyperemesis in pregnant women, including psychological factors (Sudaryo & Sam, 2022). It was reported that 14.6% of pregnant teenagers experienced difficulty sleeping and excessive anxiety. Such finding is supported by other study which showed that all

pregnant teenager experienced psychological disorders such as stress which led excessive nausea and vomiting. Then they became depressed and wanted to abort their pregnancy and commit suicide (Indarti et al., 2020).

Based on the results of statistical analysis, only two of the 10 variables (risk factors) tested had a significant relationship with pregnancy problems among pregnant teenagers. Therefore, relationships between each risk factor were analyzed one by one as follows. The assignment of respondents into groups of pregnant women at the age of 12-15 years and 16-19 years did not show a significant relationship with pregnancy problems. Based on table 3, in the 12-15 year age group, there were fewer respondents who had pregnancy problems compared to those with no pregnancy problems. The same trend was also found among respondents in the age group of 16-19 years. The Odds Ratio value of -0.645, indicated the age group of 12-15 years was actually protective and did not show a greater risk than the age of 16-19 years.

Urban areas are residential groups consisting of residences and agricultural workplaces, while rural areas are territorial units inhabited by a number of families who have their own government system. Even though they are different, cities and villages are two areas that are interconnected and related to each other. Without a reciprocal relationship between the two, it will certainly be difficult for economic growth to occur in both cities and villages. Therefore, the life of people in both urban and rural areas shows several different characteristics. The first difference lies in the lifestyle. Residents in urban areas have more heterogeneous or diverse lifestyle since many city residents come from different backgrounds. Meanwhile, village residents have a relatively homogeneous lifestyle or only have one type of background in common. Rural communities tend to find it easier to build interactions and relationships between communities with one another. Meanwhile, urban people tend not to have family ties with the surrounding community. This means that people who live in urban areas tend to be closed and have individualistic characteristics (Sinaga, 2021). Urban society has the characteristics of a system of customs and norms that are not too strong, in contrast to rural communities whose lives depend on nature and have a strong system of customs (Amalia, 2022; Sartika et al., 2021).

Differences in the characteristics between urban communities and rural communities had an effect on health status, including pregnant women. They can be the factors that can worsen the pregnancy condition. The study finding is in accordance with a study conducted by Saha et al., (2022) which revealed several studies conducted previously in Korea, Ghana, and Finland to determine rural and urban level differences regarding self-assessment of health. The studies found significant variations in health status based on residence. Pregnancy problems and the respondent's independence were not statistically related with an OR value of 1. This was proven by the equally large proportion of respondents who lived independently and those who lived with their parents. The condition of pregnant women who lived independently and lived with their parents did not affect the incidence of complaints during pregnancy and they were able to express emotions well. According to Pratiwi et al., (2019) parental support is one of the factors that plays an important role in early marriage.

The majority of respondents performed pregnancy check-ups, namely 60% in the case group and 57% in the control group. The result of statistical tests showed that pregnancy check-ups did not affect the problems experienced by pregnant teenagers. Most of pregnant women, whether they do pregnancy check-ups or not, will experience metabolic changes in their bodies, which may become a complaint and problem during pregnancy. A study conducted by Sudaryo & Sam (2022) revealed that there was a statistically significant relationship between ANC visits or pregnancy check-ups and the incidence of obstetric complications in Indonesia after being controlled by the variables of parity and place of delivery with PR=1.34 (95%CI 1.28-1.41).

Regular pregnancy check-ups and complete examinations can be early detection for the signs or symptoms of complications. In addition, women also often experience complications due to the poor quality of early detection and information provided by midwives.

Another study conducted by Husna, et al., (2021) proved that teenage pregnancy can increase complication in the form of anemia by 60% (p=0.013 OR=7.364). Anemia in pregnancy can have an impact on an increase in the risk of longer hospitalization and also the incidence of pre-eclampsia, placenta previa and cesarean delivery. In addition, anemia also has an impact on the neonatal in the form of premature birth, asphyxia, and the risk of neonatal and perinatal death.[25] Anticipatory measures should be performed by administering 90 tablets of iron supplementation during pregnancy, eventhough a study also proved that there were 23.3% of women who did not or rarely took these tablets due to nausea or forgot to take.

The result showed that 56% of mothers who had a negative attitude experienced pregnancy complications. However, the attitude of pregnant women was not proven to be significantly related pregnancy complications (p=0.204). In another study, it was found a significant relationship between the attitude of pregnant women and high-risk pregnancy with a p=0.02. 75% of pregnant women who had a negative attitude were at a high risk of experiencing pregnancy complications (Sinaga, 2021).

Negative attitudes were found in this study, especially agreeing that being pregnant under 20 years was good for pregnancy and childbirth. This condition should not occur and women arr intended try to prevent pregnancy before healthy reproductive age by delaying pregnancy. Efforts that can be made to overcome this condition are through health coaching for the mother of the bride and groom to delay pregnancy, for example by using contraception. The study finding is supported by the result of a study conducted among 33 teenagers who were sexually active and underwent health coaching and were followed for 6 months. As a result, a higher rate of contraceptive use could prevent unwanted pregnancies (Leekuan et al., 2022; Butler 2019).

The result of the analysis of the relationship between knowledge and pregnancy complications obtained a p value=0.001, which indicated a significant relationship between the two variables. The same finding was also shown in a study conducted by Komariah and Nugroho which found that there was a significant relationship between knowledge and pregnancy complications. Good knowledge will encourage pregnant women to detect their pregnancy so as to anticipate the risk factors for complications during pregnancy Komariah & Nugroho (2020). As previously described, two variables related to pregnancy complications among pregnant teenagers in South Kalimantan were the level of knowledge and anemia. Anemia was the most dominant variable with a p value=0.000 and OR=3.995, meaning that teenagers with anemia had 4.775 times higher posibility of complications of teenage pregnancy in South Kalimanta compared to those who were not anemic.

Pregnancy anemia occurs when the hemoglobin level is less than 11 gr%. This situation occurs more often in pregnant women under 20 years of age. Anemia can increase the incodence of preeclampsia, increase the length of post partum care and increase the incidence of infections in the form of postpartum infection, chorioamnionitis and postpartum urinary tract infection which needs antibiotics. Whereas in the fetus, low hemoglobin levels can increase the incidence of impaired fetal growth and LBW, premature, congenital abnormalities, sepsis, stillbirth and perinatal death (Smith et al., 2019).

## CONCLUSIONS

There is no significant relationship between the factors of age at pregnancy, area of residence, independence, level of education, economic conditions, family support, pregnancy checks, pregnancy companions, and attitudes towards pregnancy complications in South

Kalimantan. There is a significant relationship between anemia and knowledge and pregnancy complications in South Kalimantan. Anemia is the most dominant pregnancy complication factor in teenagers in South Kalimantan.

## RECOMMENDATIONS

The high rate of teenage pregnancy and the risks that occur require policies issued by various parties such as the Health Service, Ministry of Religion, and BKKBN as an effort to delay early marriage. If a woman gets pregnant, she must get more specific attention regarding health services, especially in areas prone to early marriage. Pregnant teenagers need more specific services that consider their physical, psychological and social conditions so that they can prevent pregnancy complications, especially those whith anemia.

In addition, health promotion regarding the impact of early marriage for the current and next generation among teenagers, prospective brides, and parents in areas prone to early marriage needs to be improved. This effort can be implemented by healthcare workers, KUA officers, and clerics or through the information media individually, in groups or in bulk. Health promotion methods for preventing/delaying early marriage or teenage pregnancy need to be developed through further researches to establish guidelines in managing teenage pregnancy.

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