

Risk Of Occurrence: Analysis Of Maternal And Perinatal Outcomes In Teenage Pregnancy At Rsi Aminah Blitar

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ABSTRACT

Teenage pregnancy remains a leading cause of maternal and neonatal mortality, posing significantly higher risks compared to pregnancies in the standard reproductive age. This study aimed to investigate the influence of teenage pregnancy on maternal and perinatal outcomes at RSI Aminah Blitar. A retrospective cross-sectional design was employed using purposive sampling of secondary data from 52 medical records. The independent variable was teenage pregnancy, while the dependent variables were maternal and perinatal outcomes. Data were analyzed using the Chi-square statistical test. High frequencies of complications were observed: anemia (87%), preeclampsia (85%), and premature rupture of membranes (PROM) (73%). Perinatal outcomes included prematurity (60%), low birth weight (LBW) (52%), and asphyxia (56%). Chi-square analysis revealed that teenage pregnancy significantly influenced maternal outcomes such as anemia ($p=0.001$), preeclampsia ($p=0.000$), and PROM ($p=0.000$). However, no significant correlation was found with instrumental delivery ($p=0.887$), prolonged labor ($p=0.636$), or postpartum hemorrhage ($p=0.168$). Regarding perinatal outcomes, teenage pregnancy significantly affected prematurity, LBW, and asphyxia (all $p=0.000$). Teenage pregnancy is strongly associated with adverse maternal and neonatal outcomes. There is an urgent need for collaborative support from healthcare providers and families to ensure high-quality midwifery care, aiming to mitigate complications from gestation through delivery.

Keywords: Maternal Outcome, Midwifery Care, Perinatal Outcome, Teenage Pregnancy

INTRODUCTION

Teenage pregnancy, defined as pregnancy occurring in individuals aged 15–19 years, remains a critical global health phenomenon with profound implications for maternal and neonatal well-being (Mukhopadhyay, 2010). Beyond its clinical impact, teenage pregnancy is a complex issue driven by various socio-economic factors, including early marriage and sexual abuse, which frequently result in unintended pregnancies among young girls (WHO, 2023).

The physiological and psychological immaturity associated with this age group significantly elevates the risk of obstetric complications. Statistically, complications during pregnancy and childbirth are the second leading cause of death among females aged 15–19 years globally. Furthermore, infants born to teenage mothers face a substantially higher mortality risk compared to those born to women in their early twenties (Socolov et al., 2017). Previous studies have established a strong correlation between teenage pregnancy and adverse outcomes, including poor educational attainment, anemia, gestational hypertension, postpartum hemorrhage, fetal distress, and meconium aspiration syndrome (Aseel, 2017).

A critical factor in these adverse outcomes is the nutritional competition between the growing teenage body and the developing fetus. During teenage, the body undergoes rapid

growth and development; when pregnancy occurs, nutritional intake must be partitioned between maternal growth and fetal requirements. This competition often leads to maternal malnutrition and intrauterine growth restriction, significantly increasing the prevalence of Low Birth Weight (LBW), a major contributor to perinatal mortality in Indonesia. Research by Kheir et al. (2017) highlighted this disparity, showing that the incidence of LBW was significantly higher among teenage mothers (26%) compared to the non-teenage group (9%).

At the local level, preliminary data from RSI Aminah Blitar in 2022 recorded 32 cases of pregnancy in women under 20 years of age. A significant portion of these cases involved severe complications, most notably Premature Rupture of Membranes (PROM), accounting for 25% of the cases, in addition to incidences of preeclampsia. Given the high prevalence of these complications and their long-term impact on public health, it is imperative to analyze the specific maternal and perinatal outcomes associated with teenage pregnancy in this clinical setting. This study aims to evaluate these influences to provide a basis for improved midwifery care and preventive strategies.

METHODS

Study Design and Setting

This study employed an observational analytical design with a retrospective cross-sectional approach. The research was conducted at RSI Aminah Blitar, specifically within the labor ward, from January 22, 2024, to February 22, 2024. This design allowed for a point-in-time analysis of the relationship between teenage pregnancy and clinical outcomes by reviewing historical medical data.

Ethical Considerations

Ethical approval for this study was granted by the Health Research Ethics Committee with certificate number 000726/EC-KEPK/I/01/2024. Additionally, an institutional ethical clearance statement was obtained from RSI Aminah Blitar under reference number 04/TKEH-RSIAB/EC/I/2024. All data were handled with strict confidentiality in accordance with ethical standards for secondary data research.

Population and Sampling

The study population included all women who underwent delivery at RSI Aminah Blitar between 2022 and 2023. A purposive sampling technique was applied to select respondents based on specific criteria. The inclusion criteria were teenage mothers aged 15–19 years at the time of delivery. The exclusion criteria included incomplete medical record documentation or missing data regarding the maternal and perinatal variables under investigation. A total of 52 respondents met these criteria and were included in the final analysis.

Data Collection

Data were gathered through a retrospective review of secondary sources, specifically the labor ward registers and hospital medical records from the 2022–2023 period. The independent variable was identified as teenage pregnancy, while the dependent variables were categorized into maternal outcomes (anemia, preeclampsia, PROM, mode of delivery, prolonged labor, and hemorrhage) and perinatal outcomes (prematurity, low birth weight, and asphyxia).

Statistical Analysis

Data were processed using Statistical Product and Service Solutions (SPSS) software. To determine the association between the categorical independent and dependent variables, the Chi-Square test was utilized (Sugiyono, 2021). The significance level was set at $\alpha = 0.05$. A P-value of 0.05 was considered statistically significant, indicating a substantial influence of teenage pregnancy on the observed outcomes.

RESULT

1. Demographic and Clinical Profiles

The study analyzed a total of 52 cases of teenage pregnancy. As illustrated in Table 1, the distribution shows a higher prevalence in late teenager.

Table 1 Age Frequency Distribution of Teenage Pregnancy at Aminah Islamic Hospital, Blitar

| Age | Frequency | Percentage |
|-----------------------------------|-----------|------------|
| Early teenager 10-14 years old | 30 | 42% |
| Late teenager 15-19 years old | 22 | 58% |
| Total | 52 | 100% |

2. Analysis of Maternal Outcomes

Maternal outcomes were evaluated based on six clinical indicators. The data revealed that teenage pregnancies are predominantly associated with high-risk conditions such as anemia preeclampsia and PROM (KPD).

Table 2. Cross-tabulation and Chi-Square Analysis of Maternal Outcomes

| Maternal outcome | Frequency (n) | Percentage (%) | p-value | Conclusion |
|--------------------------|------------------|-------------------|---------|-----------------|
| Anemia | 45 | 86.5 | 0.001 | Significant |
| Preeclamsia | 44 | 44 | 0.000 | Significant |
| PROM (KPD) | 38 | 73.1 | 0.000 | Significant |
| Spontaneous Labor | 43 | 82.7 | 0.887 | Not Significant |
| Prolonged Labor | 10 | 19.2 | 0.208 | Not Significant |
| Postpartum Hemorrhage | 8 | 15.4 | 0.209 | Not Significant |

3. Analysis of Perinatal Outcomes

The neonatal impact of teenage pregnancy showed critical levels of morbidity, particularly in terms of birth weight and respiratory stability.

Table 3. Cross-tabulation and Chi-Square Analysis of Perinatal Outcomes

| Perinatal outcome | Frequency (n) | Percentage (%) | p-value | Conclusion |
|----------------------------|------------------|----------------|---------|-------------|
| Prematurity (<37 weeks) | 31 | 31 | 0.000 | Significant |
| Low Birth Weight (LBW) | 27 | 27 | 0.000 | Significant |
| Asphyxia (Apgar <7) | 29 | 55.8 | 0.000 | Significant |

DISCUSSION

Maternal Outcomes: Analysis of Pathophysiological Factors

The statistical analysis in this study indicates a significant correlation between teenage pregnancy and maternal complications, specifically anemia ($p=0.001$), preeclampsia ($p=0.000$), and Premature Rupture of Membranes (PROM) ($p=0.000$).

The high prevalence of anemia (86.5%) observed at RSI Aminah Blitar aligns with the findings of Indarti et al. (2020), which established that mothers aged 12–19 years are 2.42 times more likely to be anemic during labor (AOR: 2.42; 95% CI: 1.60–3.67). This phenomenon is fundamentally linked to the biological competition for nutrients; since the teenager mother is still in a phase of physiological growth, the iron and nutritional intake is divided to support both maternal development and fetal requirements. This condition is often worsened by poor dietary habits and inadequate iron supplementation, as also noted by Najim (2017), who reported significantly higher anemia rates in early teenagers compared to adult cohorts.

Furthermore, the significant incidence of preeclampsia (84.6%) reflects a complex interplay between biological and psychological stressors. According to Peres et al. (2018), the teenager reproductive system often faces incomplete vascular adaptation, which predisposes young mothers to hypertensive disorders.

In addition to biological factors, the high stress levels often associated with unintended teenage pregnancies trigger a neuroendocrine response that increases stress hormones, further elevating blood pressure. This is consistent with Indarti et al. (2020), who documented a fourfold increase in eclampsia risk among teenagers. Similarly, the high rate of PROM (73.1%) suggests that the structural immaturity of the cervix and uterine tissues in teenagers makes them less resilient to mechanical intrauterine pressure, a theory supported by Azevedo et al. (2020), whose research indicated a 5.81-fold higher risk of PROM in this demographic.

In contrast, the study found no significant influence ($p > 0.05$) of maternal age on the mode of delivery, prolonged labor, or postpartum hemorrhage. This suggests that the physiological elasticity of teenager connective tissues and flexible pelvic joints, combined with the typically smaller birth weight of their infants, facilitates spontaneous vaginal delivery. These findings are supported by Socolov et al. (2017) and Septiani (2017), who observed that teenager mothers do not necessarily face higher rates of instrumental or surgical interventions compared to reproductive-age women.

Perinatal Outcomes: The Consequences of Physiological Immaturity

The perinatal data revealed a highly significant relationship ($p=0.000$) between teenage pregnancy and adverse outcomes, including prematurity, Low Birth Weight (LBW), and asphyxia.

The high frequency of prematurity (59.6%) and LBW (51.9%) underscores the impact of maternal health on fetal development. Kheir et al. (2017) previously identified that LBW incidence is significantly higher in teenage mothers (26%) than in older groups (9%). The mechanism behind this involves maternal anemia, which induces placental hypoxia and limits the transfer of oxygen and nutrients to the fetus, as described by Figueredo et al. (2019).

The subsequent high rate of asphyxia (55.8%) is directly correlated with these factors. Infants born prematurely often lack sufficient lung surfactant, preventing spontaneous and stable respiration at birth. This is consistent with the findings of Narukhutrpicchai et al. (2022) and Socolov et al. (2017), who reported significantly lower Apgar scores in neonates born to teenage mothers. The combination of chronic intrauterine hypoxia and the physiological stress of early labor leaves the newborn with minimal reserves, resulting in respiratory failure and requiring intensive neonatal intervention.

Ultimately, the results confirm that while the teenager body may facilitate the physical process of labor, it remains highly vulnerable to systemic complications. The clinical evidence points to an urgent need for specialized midwifery care and early nutritional intervention to mitigate the predictable maternal and perinatal risks associated with teenage pregnancy.

CONCLUSION

This study concludes that teenage pregnancy at RSI Aminah Blitar is predominantly characterized by late adolescence (15–19 years) and is significantly associated with adverse maternal and perinatal outcomes. Statistical analysis confirms that teenage pregnancy exerts a significant influence on maternal complications, specifically anemia ($p=0.001$), preeclampsia ($p=0.000$), and Premature Rupture of Membranes (PROM) ($p=0.000$). However, it does not significantly affect the mode of delivery, incidence of prolonged labor, or postpartum hemorrhage ($p>0.05$).

Regarding perinatal outcomes, teenage pregnancy significantly impacts gestational age (prematurity), birth weight (LBW), and Apgar scores (asphyxia), with all variables showing a strong statistical significance ($p=0.000$). The high prevalence of these complications underscores the physiological and psychological vulnerability of teenager mothers.

To mitigate these risks, it is imperative to strengthen the role of healthcare providers and family support systems. Integrated midwifery care, early detection of high-risk pregnancies, and intensive nutritional interventions are essential to improve maternal and neonatal health outcomes among the teenager population.

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