Research Article

Socioeconomic and Parental Determinants of Adolescent Pregnancy: A Cross-Sectional Study

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Abstract

Objective: This study examined the relationship between parental economic status, parental role, and the incidence of teenage pregnancy among adolescents at the Pekauman Community Health Center in Banjarmasin.

Methods: An observational, cross-sectional analytic study was conducted with 50 randomly selected respondents. Data collection utilized validated questionnaires and in-depth interviews. Independent variables included education level, economic status, parental role, and reproductive health knowledge. Data analysis was performed using chi-square tests at a significance level of = 0.05 (SPSS, IBM).

Results: Adolescent pregnancy was found to be significantly associated with low reproductive health knowledge ($p = 0.0219$; OR = 0.16), low economic status ($p = 0.0008$; OR = 10.40), low education level ($p < 0.0001$; OR = 19.43), and inadequate parental role ($p = 0.034$; OR = 4.0). The majority of adolescent mothers were under 18 years of age and had not completed high school. Health complications were prevalent, with 32% of adolescent mothers experiencing anemia.

Conclusion: Adolescent pregnancy is primarily influenced by inadequate reproductive health knowledge, low educational attainment, economic hardship, and insufficient parental support. Comprehensive strategies are required, including reproductive health education, socioeconomic empowerment, and active parental engagement. These interventions are essential for reducing adolescent pregnancy rates and improving maternal and child health outcomes. Local health authorities should prioritize community-based reproductive health education programs that involve both adolescents and their parents to facilitate accurate knowledge dissemination and open communication.

Keywords: adolescent pregnancy, parental role, reproductive health knowledge, socioeconomic status.

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INTRODUCTION

Adolescents represent a particularly vulnerable population during developmental transitions. Their curiosity and openness to new experiences, including those related to sexuality and relationships, increase exposure to diverse information sources. In the absence of adequate supervision and understanding, adolescents may engage in risky sexual behaviors. Teenage pregnancy, defined as pregnancy in females aged 10 to 19 years, remains a significant reproductive health concern. Pregnancies occurring before age 20 are classified as high-risk due to the increased likelihood of adverse health outcomes for both mother and child. Approximately 10.3% of these pregnancies indirectly contribute to maternal mortality, partly because adolescent reproductive organs are not fully developed, increasing the risk of complications for both mother and fetus.[1,2]

Globally, 1.2 billion adolescents comprise about 18% of the world's population. Each year, around 21 million adolescent girls in developing countries become pregnant, with the highest rates in East Asia and West Africa. In Indonesia, adolescents aged 10–24 years make up 24% of the population. Approximately 46.9 per 1,000 Indonesian girls aged 15–19 have given birth, higher than the global average (42 per 1,000), and the rate has remained unchanged since the mid-1990s. [1-3]

In South Kalimantan, the prevalence of early

marriage remains high compared to other provinces in Indonesia. In 2019, 45.47% of girls were married before the age of 19,9, with similarly high rates in 2021 (43.44%) and 2023 (44.73%). Early marriage often leads to early pregnancy. Supporting this, the 2018 Basic Health Research (Riskesdas) showed that 57.27% of married adolescents aged 10–19 years in South Kalimantan had experienced pregnancy, and 22.26% were pregnant at the time of data collection. According to the 2023 Indonesia Health Survey, 1.3% of women in South Kalimantan experienced their first pregnancy at ages 10–14, and 32.3% at ages 15–19, higher than the national averages of 0.9% and 25.8%.[4,5]

Adolescent pregnancy constitutes a high-risk condition with significant physical, psychological, economic, and social consequences, including low birth weight and increased infant mortality.[5,6] These findings underscore that teenage pregnancy remains a critical issue in South Kalimantan and highlight the importance of examining contributing factors such as parental economic status and parental role. Fieldwork at the Pekauman Community Health Center revealed cases exemplifying these challenges. Accordingly, this study seeks to analyze the relationships among parental economic status, parental role, and adolescent pregnancy at the Pekauman Community Health Center in Banjarmasin in 2020.

METHODS

An observational-analytic, cross-sectional design was employed to assess the relationship between parental economic status and the role of pregnant women in antenatal care among adolescents at the Pekauman Community Health Center, Banjarmasin, in 2020. Systematic random sampling produced 50 participants who met the inclusion and exclusion criteria, ensuring sufficient statistical power for chi-square analysis. The questionnaire was validated using the Pearson Product-Moment formula and demonstrated reliability with a Cronbach's Alpha of 0.780. Data collection utilized a validated guide encompassing demographic information, knowledge, attitudes, and factors related to adolescent pregnancy. Independent variables included education level, economic status, occupation, parental role, knowledge, access to information, and early marriage culture, while the dependent variable was adolescent pregnancy. Primary data sources comprised observation, in-depth interviews, and medical records. Univariate and bivariate analyses were conducted using the chi-square test (SPSS ver 23) at a 0.05 significance level. The study protocol was reviewed and approved by No. 44/KEPK-FKULM/EC/III/2022. Informed written and signed consent was provided by all study respondents for their participation in the survey.

RESULTS

The study investigated sociodemographic, parental, and psychosocial determinants of adolescent pregnancy, offering critical insights into patterns and risk factors within the surveyed population. Findings indicate that adolescent pregnancy is multifactorial, resulting from the combined effects of limited knowledge, low economic status, inadequate education, and insufficient parental involvement. Notably, 32% of adolescent mothers experienced anemia, a rate significantly higher than the national average of 15%, highlighting the severity of health risks associated with teenage pregnancy. These contextualized findings underscore the urgent need for targeted interventions in the region.

Table 1. Characteristics of Respondents

Variable	N	%
Age y o		
<18	16	32
18 - 34	34	68
Education		
Elementary School	24	48
Junior High School	17	34
High School	7	14
Diploma / Bachelor	2	4
Job		
Civil Servant	30	60
Private	16	32
Housewive	2	4
Parity		
Primipara	28	56
Multipara	17	34
Grande multipara	5	10
Trimester		
1	16	32
2	17	34
3	17	34
Morbidity		
Preeclampsia	4	8
Previous C-Section	18	36
Anemia	16	32
No Morbidity	20	40

The sociodemographic profile presented in Table 1 indicates that most respondents were aged 18 to 34 years; however, 32% were under 18, reflecting persistent vulnerability among younger adolescents. Educational attainment was low, with 82% not completing high school, including 48% with only elementary education and 34% with only junior high education. Only 4% possessed a diploma or bachelor's degree. This distribution is consistent with national data identifying limited education as a key risk factor for early pregnancy and adverse maternal-child outcomes. The majority of adolescent pregnancies occurred among primiparous (56%) and multiparous (34%) individuals, as shown in Table 2, mirroring regional trends of early pregnancies. Approximately one-third of pregnancies occurred in each trimester, and morbidity rates were elevated, particularly for anemia (32%), previous cesarean section (36%), and preeclampsia (8%), corroborating previous evidence of increased health risks among adolescent mothers.

Table 2. Knowledge, Economic Status, Education Level and the Occurrence of Adolescent

Variable	Pregnancy					
	Adolescent		Non-adolescent		*P-value*	OR
	n	%	n	%		
Knowledge						
Good	10	20	31	62	0.0219*	0.1613
Poor	6	12	3	6		
Economic Status						
Lower	13	26	10	20	0.0008*	10.40
Upper	3	20	24	48		
Education level						
Low	13	26	10	20	<0.0001*	19.43
High	3	12	24	48		
Parents' Role						
Poor	14	28	4	8	0.034*	4.0
Good	2	4	30	60		

*= *p* Value < 0.05 significant

The results demonstrated a strong association between reproductive health knowledge and the occurrence of adolescent pregnancy, as shown in Table 2. Adolescents with limited knowledge exhibited a significantly higher risk, with an odds ratio (OR) of 0.16 (p = 0.0219). This aligns with WHO and Indonesian studies indicating that insufficient information about contraception, fertility, and sexual health contributes to early sexual initiation and increased pregnancy risk. Comprehensive school and community-based sex education has been effective in reducing pregnancy rates among youth, highlighting the importance of knowledge as a target for intervention.[5,7] Lower economic status was also a significant predictor (OR = 10.4, p = 0.0008), supported by analyses in Indonesian and Southeast Asian cohorts that link poverty to early marriage, school dropout, and limited healthcare access. Adolescents from financially constrained families are often compelled into early union or motherhood in pursuit of stability, which increases vulnerability to adverse maternal, educational, and economic outcomes.[5,7] Financial hardship further restricts access to contraception and health services, underscoring the necessity of social protection and economic support in pregnancy prevention strategies.[7,8]

Low educational attainment emerged as the strongest independent determinant associated with adolescent pregnancy (OR = 19.43, p < 0.0001), as indicated in Table 2. Substantial regional and global evidence supports this finding, demonstrating that education delays marriage and childbearing while enhancing girls' autonomy, health literacy, and socioeconomic opportunities. [5,7]

Parental involvement was identified as a significant factor, with inadequate parental support increasing the risk of adolescent pregnancy fourfold (OR = 4.0, p = 0.034), as shown in Table 2. Research indicates that consistent parental communication and emotional support are essential for enabling adolescents to make informed decisions, resist peer pressure, and delay sexual initiation. In this

context, poor parental roles are characterized by limited communication about sexual health and insufficient emotional support. Elevated rates of anemia, previous cesarean sections, and preeclampsia among adolescent mothers Table 1 reflect broader evidence of increased obstetric risks in younger pregnancies, underscoring the need for clinical screening, nutritional support, and effective antenatal care.

DISCUSSIONS

The Indonesian National Population and Family Planning Board reported that Indonesia ranks 37th in the world and second among Southeast Asian nations for the number of adolescent marriages and pregnancies. WHO defines adolescents as individuals aged 10–19 years. Even though the number of adolescent marriages has decreased worldwide, it is estimated that one-third of marriages in developing countries are of children under 18 years, most of whom are girls. Data from several countries show that more than a quarter of girls under 15 are married. [6,7] Underage girl marriage is a violation of human rights and gender-based health. Girls who marry before the age of 18 have an increased risk of dropping out of school, social isolation, poverty, high fertility with short birth intervals, and poor mental health. 3-5 Adolescent pregnancy is also associated with an elevated maternal mortality ratio. The maternal mortality ratio is higher among childbearing adolescents than among women aged 20–24years. Adolescent maternal mortality is mostly due to complications during pregnancy and childbirth. Hence, adolescent pregnancy has been regarded as a major health problem in most countries, especially in developing nations, including Indonesia. [6,7]

The phenomenon of adolescent pregnancy and parenting has attracted much attention as a global public health and social problem. Several studies have reported various adverse maternal and child health outcomes due to adolescent pregnancy. In particular, adolescent childbearing has a negative impact on the educational opportunities of young women. More than 90% of adolescent pregnancies occur in low and middle-income countries. [7,8] Teenage girls must be deliberately engaged in the design and implementation of interventions targeting early pregnancy and childbearing. [6,7]

Lower economic status in this study substantially raises the risk (OR = 10.4, p = 0.001) and reflects existing global and local evidence that financial hardship is both a determinant and a consequence of teenage pregnancy. Poverty remains one of the strongest predictors and outcomes of adolescent pregnancy, partly mediated by child marriage and reduced opportunities for continuing education. Low-income families may facilitate early marriage for economic reasons, which often leads to adolescent motherhood and perpetuates cycles of poverty. Additionally, economic disadvantage exacerbates the consequences, with affected teenagers facing limited employment prospects, reinforcing structural inequities. [7,8]

Strengthening parental support of the girl child, with legal and community measures to reduce early marriages in rural settings, may reduce teenage pregnancy. There is a need to make deliberate efforts to strengthen socio-economic conditions for teenage girls to reduce their vulnerability. [8-10] A pro-poor socioeconomic inequality of teenage pregnancy was present in many developed countries. This inequality may be alleviated by such interventions as ensuring that teenage girls receive education; implementing poverty alleviation projects, eliminating child, early, and forced marriages; strengthening promotion for household heads to support teenagers in accessing sexual and reproductive health education; improving geographical accessibility to health facilities for contraceptive services; and taking necessary precautions and responses to sexual misconduct. [8,11,12]

Parents who do not engage in regular discussions about sexuality or provide a supportive environment may inadvertently elevate their children's risk of early pregnancy. Conversely, absent or disengaged parenting leaves adolescents without necessary guidance, increasing susceptibility to risky behaviors. In Indonesia, interventions that promote family engagement, foster open communication about sexuality, and address cultural taboos have led to significant reductions in adolescent pregnancy rates. Community initiatives that reinforce parental involvement are increasingly recognized as strategic priorities. [11,12]

Knowledge and education level play a fundamental role in preventing teenage pregnancy. Adolescents with poor reproductive health knowledge are less likely to understand the risks of early sexual activity and methods of pregnancy prevention, leading to higher pregnancy rates. Educational attainment is one of

the strongest protective factors against teenage pregnancy. Girls who complete secondary and higher education are significantly less likely to become teenage mothers; those with only primary or no formal education face the highest risk. Education not only improves health literacy but also delays marriage and childbearing, enhances self-efficacy, and opens economic opportunities, further reducing vulnerability to early pregnancy. [11,12]

Adverse maternal and child health outcomes due to adolescent pregnancy are central to public health research and practice. In addition, public health has emphasised that the care rendered by healthcare providers plays a pivotal role in the health and well-being of pregnant and parenting adolescents. Healthcare providers may differ in the ways they interpret adolescent pregnancy and parenting, and consequently, this may have profound implications for healthcare decision makers.[12,13] In addition, parenting older sisters could also play an important role in pregnancy prevention efforts for younger women, although one would certainly not want to create poor relationships between sisters as a prevention mechanism. An educational program, for example, that helps older sisters recognize ways they can positively influence their younger sisters may benefit all. Breaking the cycle of teenage parenting within families may be a constructive and useful approach toward adolescent pregnancy prevention. [14-16]

The present analyses strongly support the importance of sexual reproductive health communications between young adolescents and their parents. The evidence suggests that it impacts pregnancy knowledge and contraceptive access awareness. [16,17] Our findings also suggest that while parental connectedness and monitoring are beneficial, they are not replacements for quality parent-adolescent communications about sexual reproductive health issues in preventing adolescent pregnancy occurrences. [18,19] These findings offer valuable lessons and insights that can be channeled into adolescent sexual reproductive health communications programming. This study verifies previous studies' findings that adolescent pregnancy determinants are mostly socioeconomic factors. These findings are essential because adolescents in this study setting endure significant disparities in health services and socioeconomic opportunities. Without sufficient intervention relating to these adolescents' needs and perceptions, the gap will continue to grow. [19,20]

Three pregnancy pathways within marriage were further differentiated by the main motivation for marriage: financial reasons, protecting the girl and the family's reputation, or to progress a romantic relationship. [19,20] Drivers of adolescent pregnancy include the acceptability of child marriage and stigma surrounding premarital pregnancy, family and social expectations of pregnancy following marriage, harmful gender-based norms and violence, and lack of sexual and reproductive health information and access to services.[19,20] Adolescents follow varied pathways to pregnancy in Indonesia. The idealisation and acceptance of child marriage is both a catalyst and outcome of adolescent pregnancy, which is occurring amid stigma surrounding premarital sex and pregnancy, harmful gender-based norms and violence, and barriers to contraceptive access and use. Our findings emphasise that there are many drivers of adolescent pregnancy, and different pathways will require intervention approaches that address child marriage alongside other key contributors.

CONCLUSION

The findings of this study indicate that adolescent pregnancy is primarily associated with inadequate reproductive health knowledge, low educational attainment, economic disadvantage, and insufficient parental support. The majority of pregnant adolescents are under 18 years of age, lack higher education, and are at increased risk for health complications such as anemia and preeclampsia. Effective interventions, including enhanced sexual health education, socioeconomic support, and strengthened family involvement, are urgently required to reduce adolescent pregnancy rates and improve outcomes for young mothers and their children in Indonesia and similar contexts. Targeted policy measures addressing these determinants can contribute to lower adolescent pregnancy rates and better maternal and child health outcomes. To facilitate progress, it is recommended to pilot a school-based curriculum emphasizing comprehensive sexual health education and parental involvement at the Pekauman Community Health Center. This initiative could serve as a model for broader policy implementation, offering measurable outcomes and guidance for future interventions.

ACKNOWLEDGEMENT

We would like to express our deepest gratitude to Pekauman Public Health Centre and the Medical Faculty of Lambung Mangkurat University for their support and assistance so that this research can be completed properly.

CONFLICT of INTEREST

The authors declare no conflict of interest in this research.

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