ORIGINAL ARTICLE

Factors associated with early marriage

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Abstract

Early marriage among adolescents is a significant social issue that is often linked to unintended pregnancies resulting from premarital sexual activity. This cross-sectional study aimed to identify the factors associated with early marriage among teenagers in Kelurahan Sari Rejo, Medan Polonia, Indonesia, from October 2023 to May 2024. A total of 65 early married adolescents aged 15-18 years were included in this study. The findings revealed that parental education, socioeconomic status, and parenting style were not significantly associated with early marriage. However, information source and peer influence were significant predictors. Adolescents who engaged in unhealthy peer relationships were 2.20 times more likely to marry early than those with healthy peer associations. These results underscore the importance of peer influence and the need for comprehensive sex education programs to address early marriages among teenagers.

Keywords: early marriage, adolescents, peer influence, parenting style

Introduction

Maternal and infant mortality rates serve as indicators of a population's health status and overall welfare. Mothers' age at pregnancy and childbirth is a significant factor influencing maternal and child health.[1] One of the causes of high maternal and infant mortality rates is early marriage.[2,3] Ages < 20 years are considered too young for pregnancy and can increase the risk of maternal death.[4] Indonesia's high prevalence of child marriage, ranking seventh globally and second in ASEAN, poses a serious threat to the country's progress towards the Sustainable Development Goals (SDGs) and may undermine efforts to enhance the Human Development Index (HDI).[5] In reality, early marriages frequently occur in remote or rural areas with limited access to reproductive health information, low levels of education, and poor economic conditions. Early marriage of offspring can reduce the financial strain on their parents.[6] Low-income parents tend to marry their children at a younger age. Additionally, economic factors often hinder children's ability to continue their education to a higher level.[7]

Child marriage has significant economic consequences, with research indicating it can reduce national income growth. Eliminating child marriage could increase long-term annual per capita real GDP growth in developing countries by 1.05 percentage points.[8] The practice impacts multiple domains, including fertility, health, education, labor force participation, and decision-making, resulting in substantial economic costs.[9] Interventions targeting child marriage and education can lead to significant reductions in marriage rates for girls aged 15-17, increased school attendance, and improved productivity, with an average benefit-cost ratio of 7.4 across 31 low- and middle-income countries.[10] Economic conditions also influence child marriage rates, with droughts increasing child marriage in Sub-Saharan Africa but decreasing it in India, due to differences in marriage payment systems.[11]

In spite of the economic impact, social and cultural factors also play an important role in child marriage. Unrestricted social interactions among adolescents, coupled with insufficient parental oversight, have been identified as key drivers of early marriage resulting from unplanned pregnancy.[12] This societal

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issue has far-reaching negative implications and disproportionately affects adolescent girls. Females in such situations are more likely to face substantial psychological burden.[13] Multiple studies have identified parental upbringing as a key predictor of early marriage. Factors such as parental education, income, and parenting style are strongly associated with early marriage rates.[14,15] Poor parent-child communication and relationship quality at age 12 significantly increase the likelihood of marriage before age 16.[16] Socioeconomic factors, including family income and parental occupation, also play a crucial role.[15,17] Inadequate sexual knowledge among adolescents, coupled with exposure to pornography, can lead to unintended pregnancies and early marriages. Studies in Ethiopia and Uganda reveal that young people often turn to pornography due to a lack of comprehensive sexuality education, potentially influencing their sexual identities and practices.[18] Research in Pakistan highlights the deficiency of authentic knowledge about sexual and reproductive health rights among adolescents.[19]

Given the substantial consequences of early marriage on multiple aspects of life, a comprehensive understanding of its causal factors is imperative. Such knowledge can inform effective interventions aimed at preventing and decreasing the incidence of early marriage. A preliminary study conducted in September 2023 among 12 respondents in Sari Rejo Village, Medan Polonia subdistrict revealed that three couples held positive perceptions, and seven couples held negative perceptions of early marriage. Based on these findings, this study focuses on the factors associated with early marriage in Medan Polonia subdistrict. This study is expected to provide information to the public to reduce maternal mortality rates and prevent early marriage.

Method

A quantitative cross-sectional study was conducted to examine the associations among educational attainment, parenting style, income, information sources, and peer group influence on early marriage. The data were collected at a single time point. This research was conducted in Sari Rejo Village, Medan Polonia subdistrict, from October 2023 to May 2024. This study included all early-married adolescents aged 15-18 years. The total population and sample consisted of 65 respondents, obtained through total sampling.

Primary data were collected directly from the source through distribution of a validated questionnaire. The questionnaire was administered to married respondents under the age of 20. Data were gathered using a self-administered questionnaire in which respondents provided answers in the designated spaces. Secondary data were obtained from existing documentation and reports provided by the local health center and Medan Polonia Subdistrict.

Early marriage is defined as marriage that occurs before the age of 19. For this study, the participants were categorized into two age groups: 15-16 years and 17-18 years. Parental education was measured based on the highest level of completed formal education. Data were collected using a questionnaire and categorized into two levels: low and medium. For this study, "low" was defined as having completed primary or junior secondary education, while "medium" was defined as having completed senior secondary or vocational education. Family economic status was assessed on the basis of the family's ability to meet daily living needs. Data were collected through a questionnaire and categorized based on income with a cutoff of IDR 3,769,082. This cutoff was determined based on [reason for choosing this specific amount, for example, regional minimum wage and poverty line]. Families with incomes below this threshold were classified as having a low economic status, while those above were classified as having a medium economic status.

The parenting style refers to the manner in which parents interact with their children, including nurturing, disciplining, and guiding them. Data were collected using a questionnaire and categorized into two types: authoritarian and non-authoritarian. Information sources were defined as ongoing interactions within a social group involving the exchange of information that is generally accessible. Data were collected using a questionnaire and categorized as either "poor" or "good". "Good" information sources were defined as those providing accurate and reliable information, while "poor" sources were characterized by inaccurate or misleading information. In this study, risky behavior refers to premarital sexual activity among adolescents, which can lead to teenage pregnancy. Data were collected using a questionnaire with a yes or no response. It is important to note that questions about sexual behavior are sensitive and should be phrased carefully to protect the participants' privacy.

Univariate analysis was used to describe the individual characteristics of each study variable. Frequency distributions and percentages were calculated for each category for each variable. The variables examined in this phase were education, parenting style, economic status, information sources, and peer influence. Bivariate analysis was conducted to explore the relationships or correlations between independent and dependent variables. Chi-square tests were used to determine statistically significant associations between categorical variables. A multivariate analysis was performed to identify the most influential factors associated with early marriage. Logistic regression analysis was used as an analytical method. Model development was conducted at a significance level of P < 0.05, considering the confidence interval (CI). Variables with p-values less than 0.25 in the previous analysis were considered as potential candidates for the model. Subsequently, a 95% confidence level (α = 0.05) was used to determine the statistically significant variables in the final model.

Results

A total of 65 participants were included in this study to identify the risk factors associated with early marriage (Table 1). The majority of the sample was female (92.3%), and the remainder was male (7.7%). Regarding parental education levels, 44.6% of respondents (n=29) had a low level of education (primary or junior high school), while 55.4% (n=36) had a medium level of education (senior high school or vocational school). The economic status of the respondents was relatively evenly distributed, with 46.2% earning ≤ IDR 3,769,082 and 53.8% earning > this amount. An authoritarian parenting style was reported by 9.2% of the participants, while the majority (90.8%) experienced a non-authoritarian parenting style. A significant proportion of respondents (55.4%) had limited access to information about early marriage, in contrast to 44.6%, who had adequate information. Peer influence was also found to be a significant factor, with 72.3% of participants involved in social circles that potentially encouraged early marriage and 27.7% not involved. In terms of age at marriage, majority of respondents (84.6%) were married between the age of 17-18, while 15.4% were married between the age of 15-16.

Table 2 presents the associations between various risk factors and early marriage. There was no significant correlation between education level and the risk of early marriage (p= 0.820). Although it appears that the proportion of early marriages is higher among those with lower levels of education, this difference was not statistically significant. Individuals with a low level of education (primary or junior high school) have an 82% higher risk of early marriage compared to those with a secondary level of education (high school or vocational).

Table 1. Univariate analysis (n=65)

Characteristic	n	%
Gender		
Male	5	7.7
Female	60	92.3
Education level		
Low (elementary or junior high school)	29	44.6
Medium (high school or vocational)	36	55.4
Economic status		
≤IDR 3.769.082	30	46.2
>IDR 3.769.082	35	53.8
Parenting style		
Authoritarian	6	9.2
Not authoritarian	59	90.8
Information sources		
Not good	36	55.4
Good	29	44.6
Peer influence		
Engage	47	72.3
Not engage	18	27.7
Early marriage		
Married at the age of 15-16	10	15.4
Married at the age of 17-18	55	84.6

Lower economic status (≤ IDR 3.769.082) was associated with a higher prevalence of early marriage compared to higher economic status (> IDR 3.769.082). However, this association was not statistically significant (p = 0.442). Families with an income of ≤ IDR 3.769.082 had a 0.5 times lower risk of having a child who married early than those with an income > IDR 3.769.082. Authoritarian parenting was associated with a higher prevalence of early marriage than a non-authoritarian parenting style. However, this association was not statistically significant (p = 1).

Participants with poor access to information sources were more likely to marry early than those with good access. This association was statistically significant (p = 0.019), with a 2.2-fold increased risk of early marriage among those with poor access to information. Adolescents who had access to good information sources had a 2.2 times lower risk of early marriage than those with poor information sources. Participants who engaged with peers who had early marriages were more likely to have early marriages. This association was statistically significant (p = 0.022), with a 2.25-fold increased risk of early marriage among those

engaged with peers who married earlier. Adolescents who were influenced by their peers had a 2.25 times higher risk of early marriage than those who were not.

Table 2. Risk factor for early marriage

| Risk factor | Early marriage (years) | | | | p | PR (95%CI) |
| | 15-16 | | 17-18 | | | |
	n	%	n	%		
Education level					1	0.820 (0.258 – 2.658)
Low (elementary or junior high school)	4	6.2	25	38.4		
Medium (high school or vocational)	6	9.2	30	46.2		
Economic status					0.442	0.500 (0.142 – 1.765)
≤IDR 3.769.082	3	4.6	27	41.4		
>IDR 3.769.082	7	10.8	28	43.2		
Parenting style					1	1.090 (0.165 – 7.215)
Authoritarian	1	1.5	5	7.8		
Not authoritarian	9	13.8	50	76.9		
Information sources					0.019	2.200 (1.046 – 8.876)
Not good	2	3.1	34	52.3		
Good	8	12.3	21	32.3		
Peer influence					0.022	2.250 (1.081 – 7.800)
Engage	4	6.2	43	66.2		
Not engage	6	9.2	12	18.4		

To identify the most influential factors, multivariate analysis using multinomial logistic regression was conducted. Variables with a p-value less than 0.25 were included in the analysis. Logistic regression analysis revealed that both information sources and peer influence had a significant impact on the occurrence of early marriages. Increases in information accessibility and level of peer influence were found to significantly increase the risk of early marriage. These findings suggest that early marriage prevention efforts should prioritize enhancing the quality of the information received by adolescents and fostering healthier social environments.

Table 3. Regression test results

Variable	B	Sig	PR	95%CI
Information sources	1,783	0,039	1,168	1,031-7,914
Peer influence	1,588	0,037	2,204	1,046-8,908

Discussion

While there was a trend suggesting that lower education levels (elementary or junior high school) were linked to a higher prevalence of early marriage, this association did not reach statistical significance. Research on education's impact on early marriage in Asia shows mixed results. In rural Indonesia, lower education levels were associated with higher risk of early marriage.[20] However, in Nepal, primary education only protected against marriage before age 14, while secondary education was protective across multiple adolescent age groups.[21] In rural lowland Nepal, primary and lower-secondary education had weak associations with delaying marriage, with stronger associations for secondary education.[22] India showed stronger protective effects of both primary and secondary education across all early marriage age categories.[21] These findings suggest that while education can play a role in delaying marriage, its effectiveness varies by country and education level.

Similarly, lower economic status, though associated with a higher prevalence of early marriage, also did not exhibit a statistically significant relationship. This finding is in contrast to some previous studies. Research in rural Nepal found that lower education, rather than poverty, was the main factor associated with early marriage across various age definitions. Surprisingly, neither poverty nor other markers of household disadvantage were linked to early marriage among uneducated women. However, poverty was associated with women being uneducated.[23] A study in rural India similarly found that poverty and early menarche did not predict early marriage.[24]

Authoritarian parenting style, while associated with a higher likelihood of early marriage, did not show a statistically significant relationship. Research on early marriage and parenting styles in Indonesia reveals complex relationships. While authoritarian parenting is associated with early marriage, it is not always statistically significant.[25] Parents who marry early tend to adopt authoritarian styles, potentially leading to poor child development.[26] However, authoritative parenting is the most common style among early-married mothers.[25] Parenting is more complete as a form of interaction between children and parents that includes not only meeting physical needs such as eating, drinking, clothing, and so on, but also

psychological needs (affection) and also the norms that apply in society so that children can live in harmony with their environment.

However, a significant association was found between access to information and early marriage. Adolescents with poor access to information were more likely to marry early, with a 2.2-fold increased risk compared to those with good access. Several findings suggest that access to information may impact may vary across different contexts and populations. Anita[27] found a significant association between information sources and early marriage among women in an Indonesian village. Similarly, Septianah et al.[14] reported a significant difference in information sources between those who married early and those who did not. Mehra et al.[28] demonstrated that access to mass media was associated with reduced likelihood of early marriage. Youth information centers also showed a significant effect in decreasing early marriages.

Peer influence emerged as a significant factor in early marriage. Adolescents who engaged with peers who had married early were 2.25 times more likely to marry early themselves. This finding underscores the powerful role of peer relationships in shaping adolescent decision-making, particularly regarding marriage. Peer group attachment significantly impacts early marriage motivation, with adolescents more likely to consider early marriage when their peers do so.[29,30] Lack of parental monitoring and education can contribute to risky sexual behaviors and early marriage.[31] Adolescence is a period of significant physical and psychological changes, making teenagers vulnerable to impulsive decisions regarding relationships and marriage.[32] Insufficient understanding of religious values and promiscuity with peers are also associated with early marriage.[33] Limited knowledge about sexual and reproductive health, coupled with socioeconomic factors and media influence, can lead to uninformed decisions and early marriage. Health education interventions have shown promise in increasing adolescents' awareness of the dangers of early marriage.[34]

Conclusion

In conclusion, while education level, economic status, and parenting style may influence the likelihood of early marriage, the most significant factors identified in this study were access to information and peer influence. These findings highlight the importance of providing adolescents with accurate and comprehensive information about the consequences of early marriage, as well as fostering supportive peer environments that promote healthy decision-making.

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