



## Adolescent Pregnancy Prevention Behavior in Indonesia: Internal and External Factors Influencing

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### Abstract

**BACKGROUND:** The reasons behind teenage pregnancy among teenagers in Indonesia are the lack of life skills and low self-efficacy. Teenagers with a lack of life skills are more likely to be influenced by their peers, in this case, to have sex before marriage. Teenage pregnancy often leads to a high rate of maternal and infant mortality and high-risk infants. This study aimed to identify internal and external factors influencing adolescent pregnancy prevention behavior.

**METHODS:** This quantitative study with a cross-sectional design recruited 398 adolescents using a multistage sampling technique. Chi-square test and logistic regression test were employed with  $p < 0.05$ .

**RESULTS:** The odds ratio (OR) value from the exponent  $\beta$  with confidence interval 95%. More than half of respondents (64%) have behavior that might lead to teenage pregnancy, with both male and female respondents having equal risk ( $p = 0.920$ ). Variables of knowledge, attitudes, self-efficacy, life skills, and peer influence were associated with adolescent pregnancy prevention behavior as all of them have a  $p = 0.000$ . Moreover, peers were found to be the most influential variable of teenage pregnancy prevention behavior with the OR value of 3.84, the highest among other variables which meant adolescents receiving negative influence from their peers are 3.84 times more likely to conceive at a young age. Peers become the most dominant factor in determining adolescent behavior in preventing pregnancy.

**CONCLUSION:** Among the variables related to prevention behavior, peers were found to be the one that will primarily determine adolescent behavior in terms of pregnancy prevention.

### Introduction

Teenage pregnancy refers to a pregnancy that resulted from either a pre-marital or married process occurring between the ages of 14–19 years. Around 16 million girls aged 15–19 years and 2.5 million girls under 16 years gave birth and the number of babies born to adolescent mothers remains high in various countries [1], [2]. Data show, for example, that the childbirth rates were about 10.6 per 1000 girls in Massachusetts and 39.5 per 1000 girls in Arkansas in 2014 [3]. In Indonesia, the age-specific fertility rate for teens aged 15–19 years is 36 per 1000 women [4]. Moreover, about 13.1% women had their first pregnancy at ages 15–19, and 36.7% women at the age range had given birth once [5].

Sexual intercourse and an increase in active sexual behavior among adolescents contribute to teenage marriage and pregnancy. Figure shows that only 45% of young, unmarried women aged 15–19 years knew the right place to go for adolescent information and counseling, signaling a lack of innovative services and guidance on reproductive health. Moreover, the life skills and life-efficacy of Indonesian teenagers are relatively

poor, which renders them susceptible to risky behavior such as pre-marital sex among peer friends [4]. This is evident from a study concerning reasons for sexual intercourse. About 57.5% men said to have sex due to curiosity, while about 38% girls confessed that it just happened, and another 12.6% admitted being forced by their partner [5].

Teenage pregnancy leads to a high rate of maternal mortality, infant mortality, and various risks for babies. Therefore, strategies to prevent teen pregnancy, which include enhancing knowledge and building positive attitudes as well as personal development, are of prime importance [6]. These pregnancy prevention strategies were proven effective in reducing the risk of teenage pregnancy, as some individual states in the United States, for example, saw a successful reduction of 82% in the number of adolescent pregnancy [7]. The goal of the teen pregnancy prevention program in Indonesia is to improve understanding, abilities, and skills about adolescent reproductive health manifested through programs such as health promotion and adolescent counseling.

The programs should ideally be immediate to identify the most influential variable that brings about

teenage pregnancy. A study on the subject is, therefore, necessary so as to address the problem of adolescent pregnancy immediately and effectively. Based on the background, this research seeks to establish the effect of internal and external factors on teenage pregnancy prevention behavior. It was developed based on the theory of adolescent prevention strategies, which suggests if adolescents desire to graduate from high school and intend to continue to college, they need to consider the possibility of unplanned pregnancy resulted from a harmful relationship that may hamper the achievement of these desires [8]. The objective of this study was to investigate the most influential variable of adolescent pregnancy prevention behavior. The specific purpose is to determine the effect of knowledge, attitudes, self-efficacy, life skills, and peer influence on the said behavior.

## Methods

### Research location and participants

The population of this first phase of the study was all adolescents in Rumbai sub-district, Pekanbaru, Indonesia. Calculation of sample size used a sample size formula which resulted in a sample size of 398 adolescents. The samples were collected on the basis of multistage cluster sampling technique, which is a random selection of groups of individuals in the population that naturally exist in a region [9]. The sampling technique consisted of 3 stages. Stage 1: A sub-district was selected randomly from 12 sub-districts in the city of Pekanbaru. Stage 2: The selected sub-district consisted of 7 villages and one village was taken using a simple random sampling technique. Stage 3: From the selected village, the proportion of the respondents in each Hamlet of the village is determined based on the total number of samples.

### Instruments

A questionnaire was used as the instrument to collect data. It was developed from the illustrative questionnaire for interview-surveys with young people designed by Clealand, Ingham, and Stone (2001) [10]. The age, sex, religion, and ethnicity of the teenagers were taken into the questionnaire. Specifically, the authors aim to collect data on knowledge, attitudes, self-efficacy, life skills, and peer influence regarding sexual relations. The respondents were advised of the matter of consent and how to fill out the questionnaire before completing it. Afterward, the researchers waited in place until the respondents finished the questionnaire. As the issue of reproductive health is sensitive, teachers were not involved during the process of data collection, aiming to maintain the objectivity of the answers. The

questionnaire relies on the Likert scale with measurable indicators to ensure validity in designing questions or statements that require answers from respondents.

The validity and reliability of the data collection tool in this study were tested using Pearson Product Moment method. If the value of  $r$  of results is greater than  $r$  of table, the questions in the questionnaire are valid. In testing the reliability of the questions, the Cronbach's alpha method was used, whereby the value of alpha and value of table rare compared. If alpha is found to be greater than  $r$  of table, the questions are declared reliable. The value of  $r$  of table for 30 respondents with a 5% reliability level is 0.361. To assess whether the questions are valid and reliable, the questionnaire was handed to 30 adolescents required to answer six parts, namely: (1) Questionnaire about knowledge of reproductive health and prevention of teenage pregnancy with a validity value of 0.453–0.833 and a reliability value of 0.954; (2) questionnaire about attitudes toward pre-marital sexual behavior with a validity value of 0.469–0.792 and reliability value 0.935; (3) questionnaire about self-efficacy to prevent pregnancy and abortion with a validity value of 0.500–0.870 and reliability value 0.960; (4) life skills questionnaire on pregnancy prevention with a validity value of 0.564–0.819 and reliability value 0.888; (5) questionnaire about the influence of peers on reproductive health with a validity value of 0.381–0.818 and reliability value 0.940, and (6) teenage pregnancy prevention questionnaire with a validity value of 0.489–0.809 and reliability value 0.743.

The results of the validity test showed that all indicators on each variable studied have a value of  $r$  greater than the  $r$  of table, which means that all questions on the questionnaire are valid. Likewise, all indicators on each variable have a Cronbach's alpha value greater than 0.361, suggesting the reliability of the questions.

### Procedure

Data were collected by ten enumerators divided into five teams; all of them hold a Bachelor's degree in Nursing. Each team collected the data at different times, and researchers constantly monitored the process, received reports, and checked the completeness of each questionnaire from each team.

### Data analysis

Univariate analysis was carried out on the basis of demographic characteristics, knowledge, attitudes, self-efficacy, life skills, and peer influence on the reproductive health issue. The results of analysis were displayed in the form of proportions and frequency distributions for each variable. In addition, bivariate analysis was done to examine the relationship between these variables with adolescent pregnancy prevention behavior, with the statistical test being used as the tool. Finally, the researchers conducted

a multivariate analysis to establish the relationship between independent variables taken together with the dependent variable – which independent variables had the biggest contribution to the dependent variable. It was done by calculating the odds ratio (OR) with a logistic regression test.

### Ethics

The study was approved by the Health Research Ethics Committee, Faculty of Medicine Andalas University, Padang, Indonesia (approval no. 480/KEP/FK/2018) and written informed consent was obtained from each participant before data collection conducted.

### Results

Table 1 – Gender of the respondents was not significant to adolescent pregnancy prevention behavior with  $p = 0.920$ . It means both male and female have equally risky behavior that may lead to teenage pregnancy.

**Table 1: The relationship between characteristics with adolescent pregnancy prevention behavior (n = 398)**

Variable	Not risky		Risky		Total	%	p-value
	n	%	n	%			
Age (year)							0.001
Early teens (10 - 16)	75	46.6	86	53.4	161	100	
Late teens (17 - 25)	69	29.1	168	70.9	237	100	
Gender							0.920
Man	58	36.5	101	63.5	159	100	
Women	86	36.0	153	64.0	239	100	
Religion							0.021
Islam	110	40.7	160	59.3	270	100	
Catholic	20	23.5	65	76.5	85	100	
Protestant	9	26.5	25	73.5	34	100	
Hindu	3	75.0	1	25.0	4	100	
Buddha	2	50.0	2	50.0	4	100	
Confucius	0	0	1	100	1	100	
Ethnic							0.019
Minang	74	45.7	88	54.3	162	100	
Malay	37	27.2	99	72.8	136	100	
Java	23	32.4	48	67.6	71	100	
Batak	9	33.0	18	66.7	27	100	
Chinese	1	50.0	1	50.0	2	100	

Table 2 – The internal factors (knowledge, attitudes, self-efficacy, and life skills) and external factors (peer influence) were found to be associated with adolescent pregnancy prevention behavior with a value of  $p = 0.000$ .

**Table 2: The relationship between internal and external factors with adolescent pregnancy prevention behavior (n = 398)**

Variable	Not risky		Risky		Total	%	p-value	OR (CI 95%)
	n	%	n	%				
Knowledge								
Good	105	51.0	101	49.0	206	100	0.000	4.07 (2.61 - 6.36)
Poor	39	20.3	153	79.7	192	100		
Attitudes								
Positive	90	51.7	84	48.3	174	100	0.000	3.37 (2.20 - 5.16)
Negative	54	24.1	170	75.9	224	100		
Self-efficacy								
Able	102	50.2	101	49.8	203	100	0.000	3.67 (2.37 - 5.70)
Less able	42	21.5	153	78.5	195	100		
Life skills								
Skilled	91	50.3	90	49.7	181	100	0.000	3.12 (2.04 - 4.78)
Less skilled	53	24.4	164	75.6	217	100		
Peer influence								
Positive	90	56.6	69	43.4	159	100	0.000	4.46 (2.88 - 6.91)
Negative	54	22.6	185	77.4	239	100		

Table 3 – Of the five variables, it is clear that the peers have the greatest influence on the risk of adolescent pregnancy, as shown by its OR value which is the highest (3.84) compared to OR values of other variables. This implies adolescents receiving negative influence from peers are 3.84 times more likely to have a teen pregnancy. Similarly, in the variable of attitudes, teens having negative attitudes of pre-marital sexual behavior are 2.19 times more likely to conceive at a young age compared to those who have positive attitudes.

**Table 3: Results of analysis after final stage modeling**

No	Variable	p-value	OR	CI (95%)
1.	Knowledge	0.036	1.79	1.04 - 3.10
2.	Attitudes	0.006	2.19	1.25 - 3.84
3.	Self-efficacy	0.046	1.73	1.00 - 2.99
4.	Life skills	0.022	1.87	1.09 - 3.19
5.	Peer influence	0.000	3.84	2.26 - 6.51

### Discussion

Respondents' knowledge about reproductive health, in general, was almost partially stated to be low at 48.2%, although 51.8% were stated to have high knowledge, only 14 points drift. The findings on the variable of knowledge suggest that there was a relationship between knowledge of reproductive health with the risk of teenage pregnancy. This is consistent with Erikson's theory of psychosocial development that adolescents from 12 to 21 years old can face a psychosocial crisis known as identity confusion especially if they play a secondary role as a prospective mother due to adolescent pregnancy as they perceive the pregnancy as unintentional [11]. Pregnancy is often associated with individual characteristics such as knowledge, maturity, skills, and age when individuals have the first sexual intercourse [12]. Therefore, education plays an important role in developing self-confidence, increasing the age at which individuals have the first sex and thus delaying marriage. However, it also provides opportunities for pre-marital sexual activity that may lead to the risk of unwanted pregnancy, where knowledge of the body and contraception are insufficient [13].

When pregnancy occurs, girls and boys will generally be in the state of a dilemma over the pregnancy [14]. Permissive attitude to sex before marriage is closely related to teenage pregnancy as adolescents are exposed to activities that allow sexual intercourse to happen. The biological urge to do sex due to mutual attraction between two adolescents undeniably leads to sexual activities, thereby increasing the risk of pregnancy and sexual diseases. When they already have a firm belief and attitude to say no for pre-marital sex, the risks will be extremely unlikely to occur.

The term self-efficacy in this study is as a concept of faith of an individual adolescent that

determines whether or not they are able to prevent sexual intercourse. This belief is a parameter in determining the skills of a teenager, and this is related to teenage pregnancy prevention behavior. The actual problem occurring in the society is that teens are close to sex-related activities, for example, when they date with a friend of the opposite sex. In that instance, the risks of pre-marital sexual penetration, pregnancy, or contracting sexually transmitted diseases will automatically be present. It is the adolescents' belief of religious value that they can and should avoid sexual activity which should be fortified.

Basically, life skills are adaptive and positive behavior which allows individuals to cope with demands and challenges in life. They are an embodiment of the belief which is important in meeting the everyday demands of adolescent life. In this context, life skills are central to deter or control the urge for, for example, watching porn videos and rejecting activities that can lead to sexual arousal (hugging, kissing, and touching sensitive parts of body).

This study found that peers hold significant influence on the behavior of teenage pregnancy prevention, and this is consistent with the view that adolescence is a critical period during which individuals learn to develop and maintain intimate relationships with those of their age, explore desires, and negotiate sexual relations [15]. Nevertheless, this exploration period can also be a sexually risky period as they make critical decisions such as practicing unsafe sex and engaging in short-term intimacy that increases exposure to unwanted pregnancy and sexually transmitted diseases [16]. Understanding the susceptibility of each individual to peer influence is urgent to identify which adolescents are at risk of negative influences [17]. In fact, most teenage girls know at least one method of contraception, and the source of information is peer [13].

Compared to other examined variables, peer influence was the most influential in increasing or decreasing the risk of teenage pregnancy, with the highest OR value among all (3.84). This finding ultimately means that teens acquiring negative influence from peers have the possibility to conceive at a young age 3.84 times more than their counterparts who do not receive such influence. This is supported by the study which provides preliminary evidence on the central importance of peer influence in adolescent sexual behavior development. It also mentions that higher positive composite scores reflect greater vulnerability to peer influence regarding sex, while negative scores denote resistance to peer influence (Choukas-Bradley *et al.*, 2014) [18]. External variables in this study are limited to peers who influence the behavior of teenage pregnancy prevention while the role of parents, teachers, and health workers as facilitators and motivators are not included as determinant variables because of their indirect effect on adolescents.

## Conclusion

Pregnancy prevention behavior in adolescents closely relates to internal variables that include knowledge, attitudes, life skills, self-efficacy, and an external factor which is peer influence. Among these variables, peers were found to be the one that will primarily determine adolescent behavior in terms of pregnancy prevention. Furthermore, sexual stimuli such as pornography and activities that encourage sexual arousal need to be strictly avoided so that adolescents will have self-efficacy and life skills to control their sexual urge. Thus, early sexual initiation that might lead to sexual intercourse and that increases the risk of teenage pregnancy can be prevented by adolescents themselves.

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## Highlights

- Sexual stimuli and activities that encourage sexual arousal need to be strictly avoided
- Internal and external factors influence adolescent pregnancy prevention behavior
- Peers become the most dominant factor in adolescent pregnancy prevention behavior.

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