

Factors Associated with Pre-Marital Sexual Behavior Among Adolescents in Bima, West Nusa Tenggara: Theory of Planned Behavior

Mulya Tarmidi¹⁾, Argyo Demartoto²⁾, Eti Poncorini Pamungkasari³⁾

¹⁾Masters Program in Public Health, Universitas Sebelas Maret

²⁾Faculty of Social and Political Sciences, Universitas Sebelas Maret

³⁾Faculty of Medicine, Universitas Sebelas Maret

ABSTRACT

Background: Adolescent reproductive health is a major global challenge. Studies have reported around 16 million women 15–19 years old give birth each year, 11% of all births worldwide. 95% of these births occur in low- and middle income countries. This study aimed to examine factors associated with pre-marital sexual behavior among adolescents in Bima, West Nusa Tenggara, using Theory of Planned Behavior (TPB).

Subjects and Method: This was a cross-sectional study conducted in Bima, East Nusa Tenggara, Indonesia, from April to June 2018. A sample of 200 senior high school students was selected by proportional stratified random sampling. The dependent variable was healthy pre-marital sex behavior. The independent variables were intention, attitude, maternal education, subjective norm, peer norm, perceived behaviour control (PBC), and reproduction health information center (PIK-KRR). The data were analyzed by path analysis.

Results: Healthy pre-marital sex behavior was directly increased with intention ($b= 0.56$; $SE= 0.03$; $p<0.001$) and PBC ($b= 0.07$; $SE= 0.03$; $p= 0.025$). Healthy pre-marital sex behavior was indirectly affected by subjective norm, attitude, maternal education, subjective norm, peer norm, and health information center.

Conclusion: Healthy pre-marital sex behavior is directly increased with intention and PBC. Healthy pre-marital sex behavior is indirectly affected by subjective norm, attitude, maternal education, subjective norm, peer norm, and health information center.

Keywords: pre-marital sex behaviour, reproduction health information center, Theory of Planned Behavior, path analysis

Correspondence:

Mulya Tarmidi. Masters Program in Public Health, Universitas Sebelas Maret, Jl. Ir. Sutami No. 36 A, Surakarta 57126, Central Java. Email:bluedaeng@gmail.com. Mobile: +6285238609735.

BACKGROUND

The World Health Organization (WHO) estimates that 1.3 million teenagers die in 2012 and generally the deaths can actually be prevented or handled. The main causes of adolescent death are HIV, suicide, lower respiratory tract infections, and interpersonal violence (WHO, 2014). Teen pregnancy is the most common problem worldwide in 2015 in low and middle income countries. It is estimated that approximately 4 million girls aged 15 to 19 years and

<15 years of birth each year, and for about 3 million girls aged 15-19 years have unsafe abortions. Several studies have shown that adolescents aged 15 to 19 who deliver babies and whose babies are born are at greater risk of complications than women ages 20 to 24 (WHO 2014; Omar et al., 2010).

Demographic data show the large population of teenagers in the world. Almost a fifth (17.5%) of the world's population are teenagers, and this age group has

a higher proportion (23%) in developing countries (United Nations, 2011).

Adolescents need serious attention because adolescents are the next generation of the nation that vulnerable to various problems. According to BKKBN (2006), teenagers are at risk of experiencing reproductive health problems, such as premarital sexual behavior and HIV/AIDS. Teen premarital sexual behavior is all sexual behavior that is driven by sexual desire with the opposite sex, which is done by teenagers before they get married (Soetjningsih, 2010).

Premarital sexual behavior in adolescents is influenced by a number of complex factors of interaction from biological factors, genetic factors, individual perceptions, attitudes, intentions, subjective norms, personal characteristics, sociocultural values and norms (Sieving and Jennifer 2017). One of the efforts that needs to be done to reduce and prevent the problems of adolescents is the provision of places for adolescent reproductive health services that are easily accepted and affordable. Indonesia's government programs in addressing and preventing adolescent problems include through adolescent reproductive health information and counseling center (PIK-KRR) (BKKBN, 2012).

The 2013 RPJMN data show that 29% of teenagers in Indonesia have been exposed to PIK-KRR activities (BKKBN, 2013). The research conducted by Afrima (2011) explained that only 50% of all adolescents in Bima city high school, West Nusa Tenggara (NTB) are utilizing PIK-KRR. Based on this, the researchers are interested in conducting research related to factors related to premarital sexual behavior in adolescents in Bima, using Theory of Planned Behavior.

SUBJECTS AND METHOD

1. Study Design

This was an analytic observational study with a cross-sectional design. The study was conducted in Bima, West Nusa Tenggara, from April to June 2018.

2. Population and Samples

The source population in this study was all high school adolescents in Bima. A sample of 200 adolescents was selected by stratified random sampling.

3. Study Variables

The dependent variable was defined as premarital sexual behavior. The independent variables were maternal education, peer norm, PIK-KRR program, attitude, subjective norm, perceived behavior control, and intention.

4. Operational Definition of Variables

Premarital sexual behavior was defined as a form of sexual behavior carried out by unmarried teenagers such as kissing, touching the opposite sex, touching sensitive areas of the opposite sex, and having sex with them. The data were collected by questionnaire. The measurement scale was continuous.

Attitude was defined as teenage beliefs about the consequences of premarital sexual behavior. The data were collected by questionnaire. The measurement scale was continuous.

Peer norm was defined as the judgments, responses, behaviors, and habits of the teenager's closest friends who influence teenagers to perform or not engage in the premarital sexual behavior. The data were collected by questionnaire. The measurement scale was continuous.

The subjective norm was defined as a belief or adolescent's belief in the expectations of others that can influence a adolescents decision not to engage in premarital sexual behavior. The data were

collected by questionnaire. The measurement scale was continuous.

The PIK-KRR program was defined as the extent of students' understanding of the PIK-KRR program. The data were collected by questionnaire. The measurement scale was categorical, coded 0 for no and 1 for yes.

Perceived behavior control was defined as the adolescent's belief in the supporting or inhibiting factors for not doing premarital sexual behavior. The data were collected by questionnaire. The measurement scale was continuous.

Intention was defined as the tendency of teenagers to choose to do or not to do premarital sexual behavior. The data were collected by questionnaire. The measurement scale was continuous.

Maternal education was defined the last formal education level that is pursued to get a diploma. The data were collected by questionnaire. The measurement scale was categorical, coded 0 for <senior high school and 1 for ≥ senior high school.

5. Data Analysis

Univariate analysis was conducted to see the frequency distribution and percentage

Table 1. The Characteristics of Subjects

Variable	Frequency (n)	Percentage (%)
Gender		
Male	104	52.0
Female	96	48.0
Maternal Education		
<senior high school	89	44.5
≥senior high school	111	55.5
Paternal Education		
<senior high school	50	25.0
≥senior high school	150	75.0
Media Informasi Exposure		
Low	81	40.5
High	119	59.5

2. Bivariate Analysis

Bivariate analysis was used to examine the relationship of maternal education, peer

characteristics of research subjects. Bivariate analysis was done to study the relationship between pre marital sexual behavior and the independent variable using Pearson product moment test. Multivariate analysis was done using path analysis with amos 22.

6. Research Ethics

The research ethics includes an informed consent, anonymity, confidentiality and ethical clearances. The ethical clearance in this research was conducted at FK UNSDr. Moewardi hospital, Surakarta, 26 february 2018. Number: 241 / H / HREC / 2018.

RESULTS

1. Study Subjects Characteristics

The frequency distribution of the study subjects characteristics was described in Table 1.

Table 1 shows that most of the adolescents were male (104, 52.0%) and exposure to media information were 110 (59.5%). Half of maternal education was ≥senior high school (111, 55.5%). Half of paternal education was ≥senior high school (150 or 75.0%).

norm, PIK-KRR program, attitude, subjective norm, perceived behavior control, and intention, and pre-marital sex

behavior). The result of bivariate analysis was showed in table 2.

Table 2 shows that the correlation test of pearson product moment about intentional relationship ($r= 0.83, p<0.001$), perception of behavioral control ($r= 0.28, p=$

0.001), subjective behavior ($r= 0.14, p= 0.042$), peer group ($r= 0.22, p= 0.002$), PIK-KRR program ($r= 0.14, p= 0.046$), maternal education ($r= 0.20, p= 0.004$) with premarital sexual behavior.

Table 2. Bivariate analysis of the relationship between maternal education, peer norms, PIK-KRR programs, attitudes, subjective norm, perceived behaviour, and intention, on the pre-marital sexual behavior

Independent Variable	r	p
Intention	0.83	<0.001
The perception of behavior control	0.28	0.001
Subjective Norms	0.14	0.042
Attitude	0.19	0.007
Peer's Norms	0.22	0.002
PIK-KRR Program	0.14	0.046
Maternal Education	0.20	0.004

3. The results of path analysis

Path analysis model was depicted in Figure 1. The result of path analysis was showed in Table 4.

The indicator that shows the suitability of the path analysis model, which is in table 4 also shows the goodness of fit measure

that the CMIN fit index was 11.50, with $p = 0.717$; $NFI = 0.96 \geq 0.90$; $CFI 1.00 \geq 0.95$; $RMSEA = <0.001 \leq 0.08$ which means that the empirical model meets the specified criteria and is stated in accordance with empirical data.

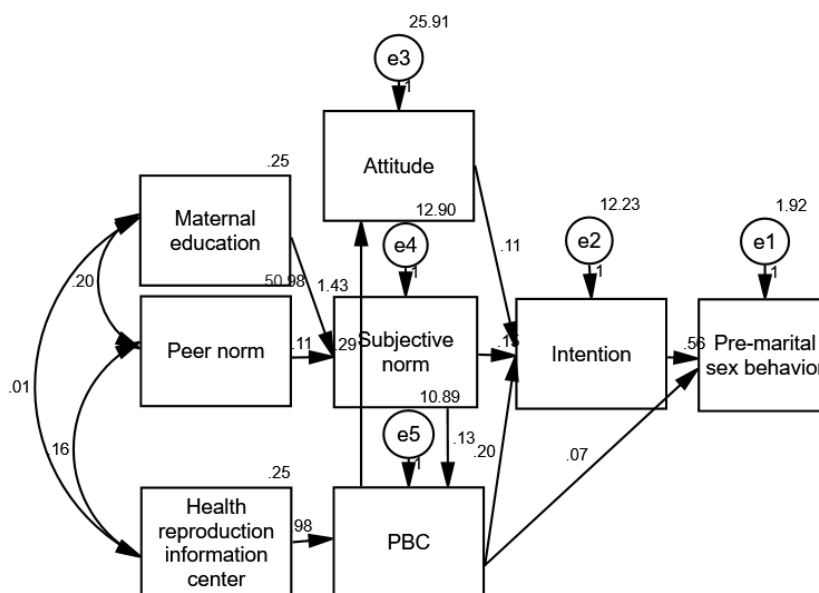


Figure 1. Structural Model of Path Analysis

Table 4 showed that pre-marital sex behavior was directly affected by perceived behavior control ($b= 0.07; SE= 0.03; p=$

0.025) and intention ($b= 0.56; SE= 0.03; p<0.001$).

Pre-marital sex behavior was indirectly affected by attitude, subjective

norm, maternal education, peer norm, and health reproduction information center.

Intention was affected by perceived behavior control (b= 0.20; SE= 0.76; p= 0.010), subjective norm (b= 0.15; SE= 0.07; p= 0.025), attitude (b= 0.11; SE= 0.05; p= 0.027).

Attitude was affected by perceived behavior control (b= 0.29; SE= 0.11; p=

0.006). Perceived behavior control was affected by subjective norm (b= 0.13; SE= 0.06; p= 0.035) and PIK-KRR program (b= 0.98; SE= 0.47; p= 0.039).

Subjective norm was affected by maternal education (b= 1.43; SE= 0.51; p= 0.005) and peer norm (b= 0.11; SE= 0.04; p= 0.002).

Table 3. The Results of Path Analysis

Dependent Variable	Independent Variable	b*	SE	β**	p
Direct Effect					
Positive pre-marital sex behavior	← Strong intention	0.56	0.03	0.81	<0.001
Positive pre-marital sex behavior	← Strong perceived behavior control	0.07	0.03	0.09	0.025
Indirect Effect					
Intention	← Positive attitude	0.11	0.05	0.15	0.027
Intention	← Positive subjective norm	0.15	0.07	0.15	0.025
Intention	← Strong PBC	0.20	0.08	0.18	0.010
Positive attitude	← Strong PBC	0.29	0.11	0.19	0.006
Strong PBC	← PIK-KRR	0.98	0.47	0.14	0.039
Strong PBC	← Positive subjective norm	0.13	0.06	0.15	0.035
Positive subjective norm	← Positive peer norm	0.11	0.04	0.21	0.002
Positive subjective norm	← Maternal Education ≥senior high school	1.43	0.51	0.19	0.005
N observation= 200	CFI = 1.00				
CMIN = 11.50	GFI = 0.99				
p = 0.717	RMSEA <0.01				
NFI = 0.96					
*b= non-standardized path coefficient					
**β= standardized path coefficient					

DISCUSSIONS

1. The association between attitude and pre-marital sex behavior

The result of this study showed that there was a significant relationship between attitude and pre-marital sex behavior through intention.

Azwar (2012) stated that media information as a means of communication has a major effect in the formation of opinions and beliefs of a person, the existence of new information about something provided a new cognitive foundation which affected the formation of attitudes with various other factors.

Pre-marital sex behavior among adolescents was affected by a number of complex factors of interaction from biological, genetic, individual perceptions through intention, personal characteristics, socio-cultural values, and norms, therefore, the existence of intention which could affect the attitude could reduce the incidence of pre-marital sexual behavior (Sieving and Jennifer 2017). Adolescents with a good attitude were more likely to attain or behave well (Solikhah and Nurdjannah, 2015).

2. The association between subjective norm and pre-marital sex behavior

The result of this study showed that there was a significant relationship between subjective norm and pre-marital sex behavior through intention.

Adolescents' subjective norms could be affected by the environment and themselves. Some cultures supported pre-marital sex behavior. Adolescents would have a permissive subjective norm if they live in an environment that supported pre-marital sex behavior. Interaction within the family (parents) and peers affected the subjective norms in adolescents that would affect whether they would engage in sexual behavior or when they should do sexual activity for the first time (Suwarni *et al.*, 2015).

Intention was assumed as a factor that motivated the formation of changes in good or bad behavior, therefore, the influence of the environment was expected to encourage the teenagers to have good intentions to prevent themselves from pre-marital sex behavior (Mathews *et al.*, 2009; Suwarni *et al.*, 2015).

3. The association between perceived behavior control and pre-marital sex behavior

The result of this study showed that there was a significant relationship between perceived behavior control and pre-marital sex behavior through intention.

Intention was a major predictor of pre-marital sex behavior among adolescents. Intention indicated how to behave. Intentions were assumed to be motivating factors in behavior (Suwarni *et al.*, 2015). The result of a study by Asare (2015) showed that perceived behavior control was significantly related to the intention and sexual behavior among adolescents, which in this case was the use of condoms.

4. The association between peer norm and pre-marital sex behavior

The result of this study showed that there was a significant relationship between peer norm and pre-marital sex behavior through intention.

Physical changes in adolescents would lead to changes in the overall sexual behavior of adolescents. They have started to find out information about sex either from school, friends, family, or other sources (Kusmiran, 2012).

Sexual behavior in adolescents was affected by the role of social networks or peers (Fletcher, 2007), however, the choice of adolescents' behavior was partly determined by how acceptable the behavior to be around them. Adolescents' perception of pre-marital sex behavior among their peers have been identified as important predictors of the incidence of pre-marital sex behavior (Teitler and Weiss, 2000). The results of the study indicated that peer pre-marital sex behavior could affect pre-marital sex behavior in adolescents (Ali and Dwyer 2011).

5. The association between PIK-KRR program and pre-marital sex behavior

The result of this study showed that there was a significant relationship between PIK-KRR program and pre-marital sex behavior through intention.

It is suggested to provide a reproductive health center for adolescent which acceptable and affordable. The Government of Indonesia's program in addressing and preventing adolescent problems was through the Center for Information and Counseling on Reproductive Health of Adolescents (PIK-KRR) (State Ministry for Population, 2012).

Most adolescents have used PIK-KRR services. The National Medium Term Development Plan data for 2013 showed

that 29% of adolescents in Indonesia have been exposed and participated in PIK-KRR(State Ministry for Population, 2013). This was in line with a study conducted by Afrima (2011) which stated that only 50% of all adolescents in Bima High School, West Nusa Tenggara (NTB) who used PIK-KRR.

6. The association between maternal education and pre-marital sex behavior

The result of this study showed that there was a relationship between maternal education and pre-marital sex behavior through intention.

Highly-educated mothers were more likely to have children who did not do pre-marital sex behavior. Families have an important role in providing models to formed children's values, beliefs, and characters. Parental role in the formation of behavior was needed in adolescence which known as a difficult period. This was because adolescence was a stage of transition between children to adulthood, this transition period often confronted adolescents in confusing situations and these confusing situations were overcome by uncontrolled behavior (Aula, 2010).

Hong *et al.* (2015) also explained that someone who has a mother with higher education would get a broader view and the mother would be more easily to provide information, including the importance of adolescence that must avoid the promiscuity and pre-marital sex behavior.

Based on the results of this study, it can be concluded that there was a direct effect of perceived behavior control and intention, and indirectly affected by maternal education, peer norm, PIK-KRR program, attitudes, and subjective norms on pre-marital sex behavior among adolescents.

REFERENCES

- Ali MM, Dwyer DS (2011). Estimating Peer Effects in Sexual Behavior among Adolescents. *Journal of Adolescence*, 34(1): 183–190.
- Asare M (2015). Using the Theory of Planned Behavior to Determine. *Am J Health Stud*, 30(1): 43–50.
- Badan Kependudukan dan Keluarga Berencana (BKKBN) (2006). *Panduan Pengelolaan Pusat Informasi dan Konseling Kesehatan Reproduksi Remaja*. Jakarta: BKKBN.
- BKKBN (2012). *Pedoman Pengelolaan Pusat Informasi dan Konseling Remaja dan Mahasiswa (PIK Remaja/ Mahasiswa)*. Jakarta: BKKBN.
- _____ (2013). *Survei Demografi dan Kesehatan Indonesia 2012 Kesehatan Reproduksi Remaja*. Jakarta: BKKBN.
- Fletcher J (2007). Social Multipliers in Sexual Decision among U.S. High School Students. *Demography*, 44(2): 373–388.
- Kusmiran E (2012). *Kesehatan Reproduksi Remaja dan Wanita*. Jakarta: Salemba Medika.
- Mathews C, Aaro LE, Flisher AJ, Mukoma W, Wubs AG, Schaalma H (2009). Predictors of Initiation Sexual Behavior on Adolescent. *Health Education Research*, 24: 1-10.
- Omar K, Hasim S, Muhammad NA, Jaffar A, Hashim SM, Siraj HH (2010). Adolescent Pregnancy Outcomes and Risk Factors in Malaysia. *International Journal of Gynecology & Obstetrics*, 111(3): 220–223.
- Sieving RE, Jennifer AO, Blum RW. (2017). Adolescent Sexual Behavior and Sexual Health. *Pediatrics in Review*. 23(12): 407-416.
- Soetjningsih (2010). *Tumbuh Kembang Remaja dan Permasalahannya*. Jakarta: Sagung Seto.

- Solikhah, Nurdjanah S (2015). Knowledge and Behaviour about Adolescent Reproductive Health in Yogyakarta, Indonesia. *International Journal of Public Health Science (IJPHS)*, 4(4): 326–331.
- Suwarni L, Ismail D, Prabandari YS, Adiyanti MG (2015). Perceived Parental Monitoring on Adolescence Premarital Sexual Behavior in Pontianak City, Indonesia. *International Journal of Public Health Science (IJPHS)*, 4(3): 211–219.
- Teitler J, Weiss C (2000). Effects of Neighborhood and School Environment on Transitions to First Sexual Intercourse. *Sociology of Education*, 73: 112–132.
- United Nation (2011). *World Population Prospects*. New York : Departement of Economic and Social Affairs, Population Division, United Nation.
- WHO (2014). Adolescent pregnancy. Retrieved from <http://www.who.int/mediacentre/factsheets/fs364/en/>.