ORIGINAL ARTICLE

Predictors of the Intention to Have Sexual Intercourse Soon among Indonesian Youth Males

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ABSTRACT

Introduction: Youths are prone to risky sexual behaviors. Thus, this study aimed to determine the internal and external factors for the intention of having sexual intercourse among Indonesian youth males (aged 15-24). **Methods:** A cross-sectional study design was used employing secondary data from Indonesia Demographic and Health Survey 2017. The data of factors and intention of having sexual intercourse were collected from 8876 youth males in Indonesia using multistage cluster sampling and analyzed using multiple logistic regression. **Results:** The results showed that 14.7% of male adolescents intended to have sexual intercourse immediately. Youth males aged 20-24 had 33% higher chances of having sexual intercourse than those aged 15-19 (Adjusted Odds Ratio (AOR)=1.33, 95%Confident Interval (CI)=1.12-1.58). Those living in rural areas had 23% higher intentions to have sex than urban youth (AOR=1.23, 95%CI=1.00-1.51). Better access to all media leads to 38% lower intention to do premarital sex than youth with only one media access (AOR=0.62, 95%CI=0.40-0.96). Having a girlfriend and friends experienced with premarital sex made youths 1.24 times (AOR=1.24, 95%CI=1.06-1.46) more likely to have sexual intercourse soon compared to those who do not have one. Being influenced by friends to have sex was almost five times more likely to have the sexual intention (AOR=4.90, 95%CI=3.54-6.78). Lastly, male youth with a bad attitude towards premarital sex was 2.5 times more likely to intend to have sex (AOR=2.49, 95%CI=2.12-2.93). **Conclusion:** External factors (i.e., type of residence, friend's influence, etc) can interact with internal factors, like age and attitudes towards premarital sex, to form the intention to have sexual intercourse.
Malaysian Journal of Medicine and Health Sciences (2024) 20(3): 60-67. doi:10.47836/mjmhs.20.3.9

Keywords: Premarital Sex, Adolescent, Reproductive Health, Sexual Health, Health Risk

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INTRODUCTION

Every youth aged 15–24 (1) is subject to physical and psychological changes (2). They are also extremely curious about certain phenomena, such as relationships. Nowadays, youth tend to form intimate relationships, develop and maintain intimacy, explore desires, and negotiate sexual activities (3). The later development of the prefrontal cortex, in concert with the earlier maturation of the amygdala, may contribute to the increased incidence of risk-taking and sensation-seeking that emerges in adolescence (4). Thus, they are prone to risky sexual behaviors, such as having sexual intercourse (considered premarital sex) and short-term partnerships. Premarital sex, the behavior of conscious sexual activities between two unmarried people, is increasing worldwide (5). Sexual activity became common at a young age, as evidenced by 41.2% of high school students reporting that they have had sex; more than a third (33.1%) were sexually active; and almost 43.1% reported that they did not use a condom during sexual intercourse (6). In line with this, a study in Indonesia also showed that adolescents who engage in risky sexual behavior admitted ever having sexual intercourse (5.1%). The most common reason for having sexual intercourse was that they wanted to know or to try (50%) (7).

Unprotected sexual activity can expose youths to sexually transmitted diseases (STDs), including HIV/AIDS, because most young people are unaware of guidelines and ways to prevent it (8). The Centers for Disease Control (CDC) estimated that approximately 20 million new cases of STDs occur every year, nearly half of which are among youth aged 15–24 (6). According to the 2019 Indonesian Health Profile, HIV cases in the 15–19 and 20–24 years group were 2.9% and 15.3%,

respectively. Then, AIDS cases in the age group of 15–19 and 20–29 years were 2.9% and 28.3%, respectively. In addition, premarital sex may lead to unwanted pregnancies, school dropout, and end up with illegal and unsafe abortions, which can be life-threatening (9). In developing countries, approximately 12 million girls aged 15–19 give birth annually, 10 million of which were unwanted pregnancies, while 3.9 million have unsafe abortions (10).

The existing literature provides evidence of variations in the first sexual activity, risky sexual behaviors, and attitudes towards premarital sex between male and female youth in different cultural and geographical contexts. Sexual interest and activity increase with age, especially for men (11). Men and adolescent boys were more likely to have intense sex interests than women (12). Men tend to have a more liberal attitude towards high-risk sexual behavior, such as premarital sex, free sex, and multiple sex partners (13). A study in Liberia revealed that sexual desires among men were higher regardless of social, economic, and environmental factors (14). However, it also depends on the differences in cultural background and ease of accessibility.

Youth sexual behavior is influenced by a complex interplay of individual and environmental factors. Studies have shown that environmental factors such as having a boy or girlfriend, watching pornography films, access to social media, and youths coming from rural residing families can influence sexual intention and behavior (2,15). Individual factors such as age and perception toward premarital sex also contribute to youth sexual behavior (16,17). These findings indicate that there are multifaceted determinants of sexual behaviors and attitudes among male youth, which may differ from those of female youth.

Current studies have provided evidence of gender-specific differences in sexual behaviors, attitudes, and influencing factors among youth. However, there is a gap that lies in the need to explore and understand the specific factors that influence the intention to have sexual intercourse soon among male youth in Indonesia, taking into account the gender-specific differences observed in sexual behaviors and attitudes. Therefore, this study aimed to analyze the risk factors for the intention to have sexual intercourse among Indonesian youth males.

MATERIALS AND METHODS

Data Source

This study used secondary data from the Indonesian Demographic Health Survey (IDHS) 2017, particularly the dataset of male youth (IDML7AFL) in Indonesia. The IDHS survey was conducted using a cross-sectional study design.

Population and Sample

Multistage cluster sampling was used in the IDHS survey with a sample framework obtained from the latest census. The inclusion criteria were youth males who have never had sexual intercourse. In total, 8,876 data were included and analyzed.

Outcome variable

The outcome variable was the intention to have sexual intercourse in the near future (soon), which is located in the dating and sexual behavior block of the IDHS questionnaire. This variable was categorized into yes or no.

Independent variable

Independent variables consisted of respondent characteristics, access to media, knowledge about the fertile period, knowledge about a woman can get pregnant with only one sexual intercourse, have seen a condom or condom advertisement in the last six months, knowledge about condom usage, having a girlfriend, having friends who have had premarital sex, ever influenced by friends to have sex, and attitude toward premarital sex. Respondent characteristics included age (15-19 and 20-24 years old), residential location (urban and rural), and the highest obtained education level (primary, junior, senior, and higher education).

Access to media consists of 4 questions: 1) Do you read a newspaper or magazine at least once a week, less than once a week, or not at all?; 2) Do you listen to the radio at least once a week, less than once a week, or not at all?; 3) Do you watch television at least once a week, less than once a week, or not at all?; 4) In the last 12 months, have you used the Internet? Variable access to media was categorized into one or no media, 2-3 media, and all media. Knowledge about the fertile period (From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant if she has sexual relations?) and a woman can become pregnant with only one sexual intercourse (Can a woman become pregnant by having one sexual intercourse?) were categorized into knowing and not knowing.

Have seen a condom/condom advertisements in the last six months (In the last six months did you watch on television about the condom/condom advertisement?) was categorized into yes and no. Knowledge about condom usage consists of 3 questions: 1) whether condoms can prevent pregnancy; 2) a condom can protect against HIV/AIDS or other STDs; 3) a condom can be reused. This variable is categorized into high and low knowledge based on the median result. The variable having a girlfriend (do you currently have a girlfriend?) was categorized into yes and no. Having friends who had premarital sex (Do you have any friends who have had sex before marriage?) was categorized into yes and

no. The variable of being advised/influenced by a friend/someone to have sexual intercourse (have you ever advised/influenced a friend/someone to have sexual intercourse before marriage?) was categorized into yes and no.

Variable attitude toward premarital sex was examined from respondents' agreement or disagreement to 10 statements: a man has many concurrent girlfriends/partners at the same time, a woman has many concurrent boyfriends/partners at the same time, a man has sexual intercourse before marriage, a woman has sexual intercourse before marriage, sex before marriage if they both like to have sex, sex before marriage if they love each other, sex before marriage if they plan to get married, sex before marriage if the woman is an adult and knows the consequences, sex before marriage if they want to show their love, a woman should maintain virginity before marriage. The responses to these statements were totaled and then categorized into good and bad attitudes toward premarital sex. We categorized good and bad attitudes toward premarital sex based on the median result.

Data Analysis

Secondary data from IDHS were extracted and analyzed using STATA 14.2. Data were analyzed using the chi-square test and multiple logistic regression by considering the complex sampling design. The continuous data were checked for normality test before categorizing them.

Ethical Clearance

Permission to use the dataset was obtained from ICF International, part of the Demographic Health Survey program 2017. Ethical clearance was approved by ICF No. IRB FWA00000845.

RESULTS

The results showed that 14.7% of adolescents intended to have sexual intercourse soon (Table I). Of them, 18.8% are male youths aged 20-24 years, 15.4% live in rural areas, 17% have primary and higher education, 16.2% know the fertility period, 15.5% know that women can get pregnant with only one sexual intercourse, 13.6% have access to all media, 16.3% have seen condom or condom advertisements in the last six months, 15.8% have higher knowledge about condom usage, 18.5% have girlfriends, 19.5% have friends who ever did premarital sex, and 52.8% admit ever being influenced to have sexual intercourse, and 23.4% have bad premarital sex attitudes (Table II).

Based on Table II, several variables significantly correlated with the immediate intention to have sex, such as knowledge about the fertile period, have seen a condom or condom advertisements in the last six months, knowledge about condom usage, currently having a girlfriend, having friends who had sex before

Table I: Sample characteristics of youth males (15-24 years) in Indonesia (N=8,876)

Variable	%	N
Intention to have sexual intercourse soon		
No	85.3	7,567
Yes	14.7	1,309
Current age of respondent		
15-19 years	61.8	5,485
20-24 years	38.2	3,391
Type of residence		
Urban	55.4	4,918
Rural	44.6	3,958
Highest educational level		
Primary	6.8	604
Junior	17.3	1,535
Senior	62.4	5,54
Higher	13.5	1,197
Media access		
One or none	3.7	325
2-3 medias	64.5	5,724
All Media	31.9	2,827
Have seen a condom/condom advertisement in the last six months		
Yes	57.1	5,07
No	42.9	3,806
Knowledge about condom usage		
High	59.7	5,299
Low	40.3	3,577
Knowledge of the fertile period		
Yes	37.6	3,335
No or do not know	62.4	5,541
Knowledge about a woman can become pregnant with only one sexual intercourse		
Yes	54.4	4,827
No or do not know	45.6	4,049
Currently having girlfriend		
No	57.9	5,143
Yes	42.1	3,733
Have friends who ever had sex before marriage		
No	38.3	3,4
Yes	61.7	5,476
Ever advised/influenced by a friend/someone to have sexual intercourse		
No	96.9	8,601
Yes	3.1	275
Attitude toward premarital sex		
Good	60.7	5,385
Bad	39.3	3,491

Table II: Distribution of covariate variable by intention to have sexual intercourse soon among youth males in Indonesia

Variables	N	Intention to have sexual intercourse soon				*P* value
		%No [CI]		%Yes [CI]		
Current age of respondent						0.000
15-19 years	5,485	87.7	[86.5,88.9]	12.3	[11.1,13.5]	
20-24 years	3,391	81.2	[79.2,83.1]	18.8	[16.9,20.8]	
Type of residence						0.302
Urban	4,918	85.8	[84.3,87.2]	14.2	[12.8,15.7]	
Rural	3,958	84.6	[82.6,86.4]	15.4	[13.6,17.4]	
Highest educational level						0.112
Primary	604	83.0	[79.0,86.4]	17.0	[13.6,21.0]	
Junior	1,535	86.0	[83.5,88.2]	14.0	[11.8,16.5]	
Senior	5,54	85.8	[84.3,87.1]	14.2	[12.9,15.7]	
Higher	1,197	83.0	[80.3,85.4]	17.0	[14.6,19.7]	
Knowledge of the fertile period						0.038
Yes	3,335	83.8	[81.9,85.6]	16.2	[14.4,18.1]	
No or do not know	5,541	86.1	[84.7,87.5]	13.9	[12.5,15.3]	
Knowledge of a woman can become pregnant with only one sexual intercourse						0.100
Yes	4,827	84.5	[83.0,85.9]	15.5	[14.1,17.0]	
No or do not know	4,049	86.1	[84.5,87.6]	13.9	[12.4,15.5]	
Media access						0.241
One or none	325	84.8	[79.2,89.0]	15.2	[11.0,20.8]	
2-3 media	5,724	84.7	[83.2,86.1]	15.3	[13.9,16.8]	
All media	2,827	86.4	[84.7,88.0]	13.6	[12.0,15.3]	
Have seen a condom/condom advertisement in the last six months						0.000
Yes	5,07	83.7	[82.0,85.2]	16.3	[14.8,18.0]	
No	3,806	87.4	[86.0,88.6]	12.6	[11.4,14.0]	
Knowledge of condom usage						0.007
Higher	5,299	84.2	[82.7,85.6]	15.8	[14.4,17.3]	
Lower	3,577	86.8	[85.2,88.3]	13.2	[11.7,14.8]	
Currently having girlfriend						0.000
No	5,143	88.0	[86.6,89.3]	12.0	[10.7,13.4]	
Yes	3,733	81.5	[79.7,83.2]	18.5	[16.8,20.3]	
Have friends who ever had sex before marriage						0.000
No	3,4	92.8	[91.6,94.0]	7.2	[6.0,8.4]	
Yes	5,476	80.5	[78.9,82.1]	19.5	[17.9,21.1]	
Ever advised/influenced by a friend/someone to have sexual intercourse						0.000
No	8,601	86.5	[85.3,87.6]	13.5	[12.4,14.7]	
Yes	275	47.2	[39.7,54.9]	52.8	[45.1,60.3]	
Attitude toward premarital sex						0.000
good	5,385	90.8	[89.7,91.9]	9.2	[8.1,10.3]	
bad	3,491	76.6	[74.6,78.6]	23.4	[21.4,25.4]	

CI=Confidence Interval

marriage, ever advised/influenced by a friend to have sexual intercourse, and attitude toward premarital sex.

Multiple logistic regression found several predictors that influenced the outcome variable, such as age, residential area, access to media, having a girlfriend, having friends who had premarital sex, ever being advised/influenced by a friend/someone to have sex, and attitude toward premarital sex (Table III). Youth males aged 20-24 had 33% higher odds of having sexual intercourse than those aged 15-19 (Adjusted Odds Ratio (AOR)=1.33, 95%Confident Interval (CI)=1.12-1.58). Those living in rural areas had 23% higher intention to have sex than urban youth (AOR=1.23, 95%CI=1.00-1.51). Having a girlfriend also gave youth 24% higher odds of doing so (AOR=1.24, 95%CI=1.06-1.46). Regarding access to media, better access to all media leads to 38% lower intention to do premarital sex than youth with only one media access (AOR=0.62, 95%CI=0.40-0.96). Only having friends experienced with premarital sex made youths almost 2.5 times more likely to have sexual intercourse soon compared to those who do not have (AOR=2.41, 95%CI=1.98-2.95). Moreover, being influenced by friends to have sex was almost five times more likely to have the sexual intention (AOR=4.90, 95%CI=3.54-6.78). Lastly, male youth with a bad attitude towards premarital sex was 2.5 times more

Table III: Multiple logistic regression of factors associated with the intention to have sexual intercourse soon among youth males in Indonesia

Variables	AOR	SE	95% CI	*P* value
Age of respondents				
15-19 years	Ref			
20-24 years	1.33**	(0.12)	1.12 - 1.58	0.00
Place of Residence				
Urban	Ref			
Rural	1.23*	(0.13)	1.00 - 1.51	0.05
Access to media				
One or none	Ref			
2-3 medias	0.76	(0.16)	0.50 - 1.15	0.19
all medias	0.62*	(0.14)	0.40 - 0.96	0.03
Currently having girlfriend				
No	Ref			
Yes	1.24**	(0.10)	1.06 - 1.46	0.01
Have friends who ever had sex before marriage				
No	Ref			
Yes	2.41***	(0.24)	1.98 - 2.95	0.00
Ever advised/influenced by a friend/ someone to have sexual intercourse				
No	Ref			
Yes	4.90***	(0.81)	3.54 - 6.78	0.00
Attitude toward premarital sex				
Good	Ref			
Bad	2.49***	(0.21)	2.12 - 2.93	0.00

AOR=Adjusted Odds Ratio; SE=Standard Error; CI=Confidence Interval
*** *P*<0.001, ** *P*<0.01, * *P*<0.05

likely to have the intention to have sex soon (AOR=2.49, 95%CI=2.12-2.93).

DISCUSSION

This study reveals several factors concerning the intention to have sexual intercourse immediately, especially among Indonesian male youths. Besides we also provide up-to-date evidence on adolescents' health conditions in Indonesia based on the 2014-2017 IDHS. The results showed that 14.7% of 8876 male youths intend to have sexual intercourse shortly. Although this proportion is relatively low compared to non-intended male to have sex, we can not neglect the fact that teenage boys were more likely to initiate risky sexual behavior, such as kissing, having sex without protection (e.g., condoms), masturbating, watching pornographic content, and touching the partner's sensitive area (18). Another study also stated that youth males were five times more likely to have premarital sex than women (19). This was supported by a meta-analysis study stating the high prevalence of sexual behavior in adolescent males worldwide (20). Various factors contribute to the lower percentage of intention to have sex observed in our study compared to other studies, such as variations in the participants' demographic profiles. Multiple studies indicate that the decision to engage in sexual activity can be influenced by factors such as the surrounding environment, level of education, or socio-economic status (20,21). Moreover, variations in culture and social values among Indonesian populations can influence perspectives on premarital sex and intention to engage in it (22). In addition, biological factors that can drive men to engage in risky sexual behavior were not investigated in the present study. Sex hormones, particularly testosterone, contribute to the intensification of male sexual desire (23). Elevated testosterone levels in the male body can directly impact the strength of sexual drive, prompting males to actively pursue sexual experiences more frequently (24). Furthermore, another study indicates that testosterone plays a significant role in regulating and coordinating male sexual drive and stimulation (25). Hence, the difference in this research findings could be attributed to those factors, necessitating their consideration in future studies.

The factors came from the external and internal aspects of youth. The first predictor of sexual intention found in this study is age. Older youth (20-24 years) have more intention to have sexual intercourse immediately than those aged 15-19. This was supported by a study stating that adolescents (20-24 years) have 32% more intention to engage in sexual behavior than those 15-19 years due to age maturity and socio-economic stability (20). Other studies even revealed that the intention to have premarital sex was three times higher for those aged 20-24 (17,26). At the age of 20-24 years, men have more freedom in sexual activity compared to those aged 15-19 (26).

The second predictor is the residential difference. Those who live in rural areas tend to have higher intentions than those living in the city. In line with this result, Thompson et al. (2018) (27) reported that rural youths were more sexually active than urban youths. It was further stated that urban respondents were more unlikely to have unprotected sex than rural respondents (aOR=0.76, 95%CI=0.63-0.92). Arega et al. (2019) (28) also found that one of the predictors of having premarital sex is youths from families living in rural areas. This factor might be related to the accessibility and availability of information as found in this study. Ease of access to more media types lowers youth intention to have sex by 38%. This is in line with the systematic review study explaining that rural adolescents have limited accessibility and availability of information, which leads to less understanding of reproductive health and more intention to engage in risky sexual behavior (29). Moreover, adolescence is a period time when curiosity is built up for something new, which can influence their behavior (30).

Subsequently, dating or having girlfriends influenced youth males to have more tendency to have sexual intercourse immediately. Dating is a series of activities to get to know each other (31). In this perspective, dating before marriage can be a positive matter to build trust, open communication, and mutual respect (32). However, nowadays, dating is seen as activities to show interest in the opposite sex, manifested in various risky sexual activities such as hugging, kissing, groping the partner's sensitive body parts (petting), and having sexual intercourse (33).

Another factor related to increased adolescents' intention to have sexual intercourse is having friends with sexual intercourse experience. This is supported by the Health Promotion Model (HPM) theory, developed by Nola J. Pender in the early 1980s, as a framework for exploring health-related behavior in nursing and behavioral science (34). HPM includes three main components concerning health behavior, including (1) Individual characteristics and experiences; (2) Behavior-specific cognitions and affect; and (3) Behavioral outcomes (35). According to the second component, interpersonal influence (including behavior, beliefs, or attitudes of other people) is an important factor that determines and shapes a person's attitude and behavior. In our study, it is evident that factors such as having a girlfriend, having acquaintances who have engaged in premarital sexual activity, and the impact of peers on the intention to engage in sexual activity can be associated with the notion of interpersonal influence as postulated in HPM. Thus, the HPM theory can serve as a theoretical framework for gaining a deeper understanding of the correlation between independent variables and the intention to engage in sexual activities among the Indonesian youth male population.

In addition to having friends experiencing sexual intercourse before marriage, getting influenced by friends to have sex even creates more tendency to do so. This finding was strengthened by previous studies showing that adolescents tend to perform oral sex due to the influence of peers who have done the same thing (36). Other studies stated that peers who consider premarital sex normal activities can influence youth to have a permissive attitude, which means premarital sex is allowed (37,38). Conversely, adolescents who benefited from good knowledge from their peers were in favor of having good premarital sex behavior and were likely two times better than adolescents who obtained bad influence from their peers (39).

Eventually, the last factor associated with the intention to have sex is the attitude towards premarital sex. As mentioned above, a bad attitude towards premarital sex contributes to a higher tendency to have sexual intercourse immediately. This finding was in line with previous studies that show a significant correlation between attitudes toward premarital sex and adolescent premarital sexual behavior (40). Attitude is a psychological construction of mental and emotional entity that is inherent in or characterizes a person involving their mindsets, perspectives, and feelings (41). Attitude is formed by knowledge, which is obtained through education or, in this regard, sex education (42). This study's strength is the data source, namely the IDHS 2017, which represents national data with a response rate of almost 100%. The data were collected using international standards based on the DHS phase 7 questionnaire. In addition, this study has minimal measurement bias because all the procedures and instruments have been validated before. Field workers were also trained before conducting the survey to ensure a robust understanding of the variables.

This study has limitations regarding data collection using a cross-sectional method and recall bias. This potential bias was uncontrolled, so the results may be underestimated or overestimated. Furthermore, this study did not measure the religiosity of the respondents, whereas several studies stated that attending religious activities can protect adolescents from premarital sex behavior (43).

This study offers health practitioners a comprehensive insight into the determinants that impact the intentions of young Indonesian males to engage in sexual activities in the immediate future. The implications embrace the necessity of implementing comprehensive sexual education to aid in sexual decision-making, as well as the requirement for additional research to comprehend the complex social, cultural, and environmental factors that influence the sexual behavior of male adolescents in Indonesia. The findings of this study can assist healthcare professionals in developing more efficient and pertinent intervention initiatives, while also serving as a foundation for policymakers in their endeavors to encourage healthy and secure sexual conduct among young Indonesian males.

CONCLUSION

We found several predictors that affect the intention to have sexual intercourse among Indonesian male youths aged 15-24 years. External factors, such as type of residence, access to media, and interpersonal influence from friends with premarital sex experience and their persuasion to have sexual intercourse, can interact with internal factors, like age and attitudes towards premarital sex, to form commitment or intention to have sexual behavior soon. Therefore, prevention programs should target youth's internal and external aspects through sex and reproductive health education programs, which increases knowledge and shapes a good attitude towards premarital sex. This intervention also facilitates participants' skills to be assertive and able to resist negative peer influence. Moreover, increasing access to reproductive health education media is needed.

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