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SEXUAL RISK BEHAVIOR AND ITS IMPACT ON UNWANTED PREGNANCY AMONG ADOLESCENTS

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ABSTRACT

Sexual activity among adolescents is increasingly alarming; the results of a national survey identified about 4.5% of teenage boys and 0.7% of teenage girls have had sexual intercourse that triggers unwanted pregnancies. This study analyzed the influence of risky sexual behavior factors in adolescents on the incidence of unwanted pregnancy. This research is a secondary data analysis sourced from Indonesian Demographic and Health Survey (IDHS) data in 2017 using a cross-sectional design. The study sampled 15-24-year-olds who had sexual intercourse with as many as 1532 people. Data were analyzed univariately while bivariate analysis using Chi-Square test and multivariate analysis with logistic regression test of the risk factor model. The results showed unwanted pregnancy occurred in 8.6% of adolescents who had a history of having sexual intercourse. In addition, it will be 4.5 times greater risk of unwanted pregnancy occurred in adolescents who performed risky behaviors such as fingering and stimulating each other after being controlled by variable confounding age and age when first having sex (PR = 4.570). Therefore, equal access to reproductive health education is needed both in educational institutions and in the community as an effort to prevent unwanted pregnancy.

Keywords: adolescents, sexual risk behavior, unwanted pregnancy,

Introduction

More than One-fourth of the world's population is adolescents (10-24 years old), and 86% of them are in developing countries. Adolescents are a vulnerable group with reproductive health problems. In its development into adulthood, adolescents need to be equipped with adequate reproductive health knowledge. Problems that become issues and occur among adolescents and have an impact on the quality of reproductive health include early pregnancy, unsafe abortions, sexually transmitted infections, including Human Immunodeficiency Virus (HIV), sexual harassment, and rape. Another behavior that is also at risk to adolescent reproductive health is smoking. This is likely to be the starting door for them to engage in drug and alcohol abuse.[1]

Triad of Adolescent Reproductive Health problems including Sexuality, HIV and AIDS, and NAPZA (Narcotics, Psychotropics and Other Additives) adversely affects the quality of adolescent reproductive health. This is triggered by the free expression of adolescent sexuality. The WHO Report showed that the number of HIV/AIDS infections among adolescents reached 50.282.[2] The number of adolescents in Indonesia is infected with HIV with a pattern of spread dominated by the use of syringes and sexual intercourse. The results of previous studies show that 12% of adolescents have risky courtship activities, and 3.5% of adolescents have had sexual intercourse.[3,4] According to the Indonesian Demographic and Health Survey's findings in 2017 showed that sexual behavior among adolescents have been started from the age of 15-19 years with the percentage of reasons to do so based on mutual love and desire to know sexual relations (curious).[4]

Sexual intercourse in adolescence is at risk of other health problems such as unwanted pregnancies and triggers reactions to illegal abortion decisions that mostly lead to complications.[5] This can be seen from the statistical results that 10.3% of adolescents experienced unwanted pregnancy and 9.5% of them attempted abortion.[6] This is also reinforced by a report from the World Bank estimating that 47.3 out of every 1,000 adolescent girls have given birth.[7] The latest data from the Indonesian Demographic and Health Survey (2017) specifically for adolescent reproductive health shows that 12% of teenage girls claim to have experienced unwanted pregnancy while 7% of teenage boys report that their partner has experienced unwanted pregnancy. The same data shows that unwanted pregnancy incidence is more experienced by teenagers who live in rural areas, do not complete high-level education, and are in the condition of the lower middle economy.

The unpreparedness of teenage girls in the face of unwanted pregnancies, as well as unsafe abortions, are among the factors contributing to the increase in Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) during the pregnancy and birth process. Even the quality of child development caused by this condition will be at risk of obstacles. Nationally Maternal Mortality Rate (MMR) in Indonesia reaches 305 per 100,000 live births, which occurs most in referral health

facilities (hospitals).On the other hand, neonatal mortality occurs nationally as much as 15 per 1000 live births while in infants and toddlers each 24 and 32 per 1000 live births.[8]

Basically, risky behavior in adolescents can be avoided by improving life skills in adolescents in the form of communication skills, assertive attitudes, and confidence to reject prenuptial sexual intercourse. This protection system can be established through the internal strengthening of adolescents and control of the nearest environment of adolescents, such as parental control or reproductive health education in schools. Previous research has shown that exposure to reproductive health information, adolescent self-confidence to avoid risky behaviors, the presence of friends who behave negatively, and weak parental control of their child's behavior affect risky sexual behavior in adolescents.[3,9] In addition, the quality of information obtained by adolescents also greatly determines the quality of their reproductive health; the source of incorrect information will still plunge adolescents into risky behaviors, including attempting sexual intercourse before marriage and moreover experiencing unwanted pregnancies. Ultimately, this research aimed to analyze sexual risk behaviors and how they impact unintended pregnancy among adolescents.

Methods

This research analyzed data of the Indonesian Demographic and Health Survey (IDHS) 2017 using a cross-sectional design. Few categories in IDHS 2017 datasheets are selected to be analyzed whose reference to household list questionnaire questionnaires, female questionnaires and adolescent male questionnaires. The Indonesian Demographic and Health Survey was one of the social population surveys that was periodically held in Indonesia. This survey was carried out in all provinces in Indonesia, one of which was South Sumatra province. Information collected in the IDHS includes, among other things, birth rates, deaths, family planning, and health, especially reproductive health. The dependent variable in this study was the incidence of unwanted pregnancy. Unwanted-pregnancy in teenagers refered to a pregnancy that was not wanted at that time or a pregnancy that was truly unwanted. The independent variable of this research was risk behavior, which was measured from activities carried out by teenagers during dating, such as touching each other, stimulating each other, holding hands, hugging, and kissing. Variable confounding among others were socio-demographic factors such as education, age, place of residence, age at puberty, age at first courtship, age when first having sexual intercourse, economic status, relationship with the head of the family; cognitive factors included knowledge and exposure to information; affective factors namely attitude; in addition psychomotor factors such as courtship experience, condom use, the presence of friends who have had sexual intercourse and alcohol consumption.

The source population in this study was all 15-24-year-olds who were respondents in IDHS 2017, amounted to 9,971 people, while the study population was all adolescent respondents aged

15-24 years in Indonesia based on IDHS 2017 who had sexual intercourse amounted to 1,532 people who would then be taken as a study sample. Inclusion criteria used by researchers to obtain samples were teenagers who were respondents of IDHS 2017 who had never been married and had had sexual intercourse. Sexual risk behavior was measured by the criteria of groping and sex stimulation on each other.

Data processing in this research included the stage of checking missing data and was continued with the process of editing, coding, and tabulating. Data analysis included univariate analysis, bivariate analysis using the chi-square test, and multivariate analysis using double logistic regression of the risk factor model. This study has been approved by the Ethics Committee for the Public Health Faculty of Sriwijaya University, Number: 419/UN9.1.10/KKE/2020.

Results

The results of univariate analysis (Table 1) showed that as many as 7.6% of adolescents experienced unwanted pregnancy, and the majority of respondents (84.6%) were at risk of behaviors such as groping and stimulating each other. Almost 50% of respondents were high school educated and were late adolescence group of 20-24-year-olds (64%). Meanwhile, the distribution of adolescent housing is almost the same between urban and rural, while the results of analysis based on socioeconomic levels show that almost 7% of adolescents are in the first quartile.

Based on puberty age characterized by wet dreams in teenage boys and menstruation in adolescent girls, it was obtained that the majority of respondents experienced puberty at the age of 10 to 14 years (49.1%). Judging by the experience of first dating and first having sexual intercourse at most at the age of 15 to 19 years, and most have ever dated. 56.9% of respondents who had sexual activity did not use condoms in their last sexual activity, and the majority of respondents had friends who had had sexual intercourse. Approximately 50% of the total respondents were exposed to reproductive health information sources and had good knowledge of reproductive health. But what is quite worrying is that 80% of teenagers have a permissive attitude towards sexual behavior before marriage, and this is compounded by the fact that almost 80% of teenagers have ever drunk alcohol.

Table 2 illustrated that there was a link between risky behavior, age and drinking alcohol, and the incidence of unwanted pregnancy in adolescents. Adolescents who performed risky behaviors such as fingering each other and stimulating were 5 times more likely to experience unwanted pregnancy compared to adolescents who did not perform risky behaviors (PR = 5.144). Adolescents aged 15 to 19 were 0.6 times less likely to experience unwanted pregnancy than teenagers aged 20 to 24 (PR = 0.612). Adolescents who had a history of having consumed alcohol had twice the chance of experiencing unwanted pregnancy than adolescents who had never drunk alcohol (PR = 2.301). Otherwise, other variables are not statistically proven.

Table 1. Overview of Univariate Analysis Results

Category	Frequency (n=1,532)	Percentage
Unwanted Pregnancy		
Yes	117	7.6
No	1415	92.4
Risk Behavior		
Risky (groping and stimulating)	1296	84.6
Not Risky	236	15.4
Education		
Primary School	199	13.0
Junior High School	237	15.5
Senior High School	761	49.7
Diploma	52	3.4
University	283	18.5
Age		
Middle Teens (15-19 years old)	552	36.0
Late Teens (20 – 24 years old)	980	64.0
Type of residence		
Urban	787	51.4
Countryside	745	48.6
Puberty		
Not Puberty Yet	34	2.2
< 10 Years Old	2	0.1
10 - 14 Years Old	752	49.1
>=15 Years Old	744	48.6
Age of first time dating		
Never Been Dating	15	1.0
<10 Years Old	7	0.5
10 - 14 Years Old	455	29.7
15 - 19 Years Old	996	65.0
20 - 24 Years Old	59	3.9
Age of first-time sexual intercourse		
<10 Years Old	0	0
10 to 14 Years Old	95	6.2
15 to 19 Years Old	1137	74.2
20 to 24 Years Old	300	19.6
SocioEconomic Status		
Kuintil 1	106	6.9
Kuintil 2	57	3.7
Kuintil 3	62	4.0
Kuintil 4	54	3.5
Kuintil 5	49	3.2
Missing	1204	78.6
Exposure to Information		
Low Exposure	772	50.4
High Exposure	760	49.6
Knowledge		
Low knowledge	714	46.6
High knowledge	818	53.4
Attitude		
Asertif (<70%Favourable)	294	19.2
Permissive (≥70%Favourable)	1238	80.8
Condom Use		
Not Using Condoms	872	56.9
Using Condoms	660	43.1
Dating History		
Never	30	2.0
Ever	1502	98.0
Friends who have had sex		
None	146	9.5
Contained	1386	90.5
Drinking alcohol		
Never	319	20.8
Ever	1213	79.2

Tabel 2. Results of Bivariate Analysis

Variable	Unwanted Pregnancy				Total n (%)	P value	Prevalence Ratio (95%CI)
	Yes		No				
	Frequency	%	Frequency	%			
Risk Behavior							
Risky	113	8.7	1183	91.3	1296 (100)	<0.0001	5.144 (1.916 -12.810)
Not Risky	4	1.7	232	98.3	236 (100)		
Age							
15–19 years old	30	5.4	522	94.6	552 (100)	0.020	0,612 (0.410 - 0.915)
20–24 years old)	87	8.9	893	91.1	980 (100)		
Knowledge							
Low knowledge	51	7.1	663	92.9	714 (100)	0.559	0.885 (0.623 - 1.258)
High knowledge	66	8.1	752	92.9	818 (100)		
Exposure to information							
Low exposure	54	7.0	718	93.0	772 (100)	0.391	0.844 (0.595 - 1.197
High exposure	63	8.3	697	91.7	760 (100)		
Adolescent attitude							
Asertif	15	5.1	279	94.9	294 (100)	0.089	0.619 (0.366 - 1.049)
Permissive	102	8.2	1136	91.8	1238 (100)		
Dating history							
Ever	116	7.7	1386	92.3	1502 (100)	0.723	2.317 (0.335 - 16.041)
Never	1	3.3	29	96.7	30 (100)		
Condom use							
Not using	63	7.2	809	92.8	872 (100)	0.548	0.883 (0.623 - 1.252)
Using	54	8,2	606	91,8	660 (100)		
Friends who have sexual intercourse							
Contained	111	8.0	1275	92.0	1386 (100)	0.128	1.949 (0.872 - 4.353)
None	6	4.1	140	95.9	146 (100)		
Drinking alcohol							
Yes	105	8.7	1108	91.3	1213 (100)	0.005	2.301 (1.283 - 4.128)
No	12	3.8	307	96.2	319 (100)		
Type of residence							
Urban	55	7.0	732	93.0	787 (100)	0.376	0.840 (0.592 - 1.190)
Countryside	62	8.3	683	91.7	745 (100)		
Education							
Primary School	12	6.0	187	94.0	199 (100)	0.209	0.634 (0.312 - 1.290)
Junior High School	19	8.0	218	92.0	237 (100)	0.637	0.862 (0.464 - 1.599)
Senior High School	59	7.8	702	92.2	761 (100)	0.452	0.831 (0.513 - 1.347)
Diploma	1	1.9	51	98.1	52 (100)	0.111	0.194 (0.026 - 1.461)
College	26	9.2	257	90.8	283 (100)		reff

Variable	Unwanted pregnancy				Total n (%)	P value	Prevalence Ratio (95%CI)
	Yes		No				
	Frequency	%	Frequency	%			
Age at puberty							
Not puberty yet	5	14.7	29	85.3	34 (100)		Reff
< 10 Years Old	0	0.0	2	100	2 (100)	0.999	-
10 – 14Years Old	56	7.4	696	92.6	752 (100)	0.130	0.467 (0.174 - 1.253)
>14Years Old	56	7.5	688	92.5	744 (100)	0.136	0.472 (0.176 – 1.267)
Age of first time dating							
Haven't been dating	1	6.7	14	93.3	15 (100)		reff
< 10 Years Old	1	14.3	6	85.7	7 (100)	0.571	2.333 (0.124 - 43.792)
10 – 14 Years Old	42	9.2	413	90.8	455 (100)	0.736	1.424 (0.183 - 11.097)
15 – 19 Years Old	72	7.2	924	92.8	996 (100)	0.933	1.091 (0.141- 8.414)
20 – 24 Years Old	1	1.7	58	98.3	59 (100)	0.325	0.241 (0.014 - 4.101)
Age of first time having sex							
10–14 Years Old	12	12.6	83	87.4	95 (100)		reff
15–19 Years Old	89	7.8	1048	92.2	1137 (100)	0.105	0.587 (0.309 - 1.117)
20 – 24 Years Old	16	5.3	284	94.7	300 (100)	0.019	0.390 (0.177 – 0.856)

Table 3. Multivariate Analysis Results

Variable	Early Models		Final Models	
	P value	PR	P value	PR
Risk Behavior				
Risky	0.016	4.285	0.003	4.570
Not Risky		reff		reff
Age				
15 – 19 Years Old	0.016	0.554	0.016	0.571
20 – 24 Years Old		reff		reff
Age of First Time Having Sex				
10 – 14 Years Old		reff		reff
15 – 19 Years Old	0.155	0.584	0.044	0.505
20 – 24 Years Old	0.076	0.429	0.004	0.295
Knowledge				
Low Knowledge	0.401	0.836		
High Knowledge		reff		
Exposure to Information				
Low Exposure	0.407	0.830		
High Exposure		reff		
Adolescents Attitude				
Asertif	0.107	0.624		
Permissive		reff		
Dating History				
Ever	0.654	0.537		
Never		reff		
Condom Use				
Not Using	0.919	1.021		
Using		reff		
Friends who have sexual intercourse				
Contained	0.246	1.679		
None		reff		
Drinking Alcohol				
Yes	0.136	1.626		
No		reff		
Type of residence				
Urban	0.131	0.735		
Countryside		reff		
Education				
Primary School	0.392	0.703		
Junior High School	0.769	0.903		
Senior High School	0.647	0.885		
Diploma	0.130	0.207		
College		reff		
Age at Puberty				
Not Puberty Yet		reff		
< 10 Years Old	0.999	0		
10 – 14 Years Old	0.036	0.321		
>14 Years Old	0.036	0.321		
Age at First Dating				
Haven't Been Dating		reff		
< 10 Years Old	1	1		
10 – 14 Years Old	0.828	0.754		
15 – 19 Years Old	0.699	0.606		
20 – 24 Years Old	0.237	0.141		

The results of multivariate analysis (Table 3) showed that there is an influence of risky behavior on the incidence of unwanted pregnancies in adolescents. Adolescents who performed risky behaviors such as fingering each other and stimulating were 4.5 times more likely to

experience unwanted pregnancy than adolescents who did not commit risky behaviors after being controlled by variable confounding age and age when first having sex (PR = 4.570).

Discussion

The findings of this study are based on the data from the Indonesian Demographic and Health Survey conducted in 2017. Due to the availability of variables in the survey instrument, the information on the causes of unintended pregnancy in adolescents that can be explored for further analysis is limited. However, the investigator tried to select some predictor variables for the incidence of unintended pregnancy in teenagers based on theoretical content.

Facts show that 5.6% of teenagers in Indonesia have premarital sex experiences.[4] This behavior is another consequence of the increasingly free interactions between young men and women and their desire to attempt sexual intercourse.The results of the multivariate analysis show that risky behaviors in adolescents during dating are associated with a 4.5 times higher risk of unintended pregnancy. In fact, most respondents have had sexual intercourse in the 15-19 year age range. In a study showing that unwanted pregnancies occur a lot in the 20-24 year age range, it becomes rational if they have had sexual intercourse from the age of 15-19 years. Lack of parental content, firmness in upholding religious principles, involvement with friends who have risky behaviors or have experienced sexual harassment/rape become predictors of unwanted pregnancy incidence in adolescents.[10] The results of IDHS 2017 follow-up data analysis showed 7.6% of unwanted pregnancy incidence in those who had had sexual intercourse. Adolescents aged 15 to 19 were 0.6 times less likely to experience unwanted pregnancy than teenagers aged 20 to 24 (PR=0.612). This triggers the incidence of marriage in adolescence.[11]

At the first time of prenuptial sexual intercourse, teenagers are classified as very young at the age of 15 and 16 years and when having sexual intercourse they rarely or even never use condom contraceptives. Condoms were not used during sexual intercourse by about 2/3 of respondents in this study. Teenagers basically know the function of condoms but there is a refusal of a partner and the unwillingness of a teenager to wear a condom during sexual intercourse.[12] On the other hand, there are some barriers for teenagers to access contraceptive information and methods which influence by social or culture taboos, legal restrictions from goverment, the attitudes of health care provider, and healthcare systems.[13] Therefore, a high level of self-efficacy is necessary for condom use to be effective in preventing pregnancy.[14]

The rapid and modern development of the era has led teenagers today to open themselves to a social environment that is borderless of space and time, especially in establishing relationships with the opposite sex. The results illustrated that most teenagers are in a courtship relationship for the first time in the age range of 15 to 19 years in line with the results of the Indonesian Demographic and Health Survey (IDHS) Year 2012 the tendency of dating experience at a young

age increases the vulnerability to have pre-marital sex because they do not have enough life skills.[15] Many parents delay discussions about reproductive health until because of concerns about encouraging sexual activity.[16] In fact, the quality of proximity between parents and adolescents will determine their self-esteem in regard to sexual desire toward their partners.[17] Therefore, comprehensive sexuality education should begin before puberty, and policies are needed to support the provision of reproductive health information and services to adolescents so that they are able to make the right choices when they become sexuallyactive.[18]

Sexual intercourse is largely driven by curiosity whereas young women claiming that she just gave up or felt compelled by their partner.Other researcher found that teenager began to explore various sexual activities such as kissing, fingering sensitive parts of the body, masturbating to sexual intercourse.[19] Basically, puberty encourages adolescents to try new experiences together with their male or female partner. Adolescents believe that first-time sexual intercourse will not lead to pregnancy, due to the rare frequency of doing so as well as being driven by a love for a partner. Decisions made by young people tend to be mistaken do to limitation of their knowledge regarding sexuality.[20]

Weak self-control and lack of parental supervision can lead to the formation of risky sexual behaviors in adolescents. Boys are more likely to be given freedom by their parents, while girls tend to be given a certain number of restrictions in their relationship with the opposite-gender.[21,22] However, in the case of the young girls, the parents' prohibition is sometimes ignored because of their desire to be loved by their partners through sexual expression. Social environmental influences such as friends are also determines adolescent behavior. They decided to have sexual intercourse because their friends already had had sexual intercourse.[23,24]

Teenage pregnancy occurs when sexual intercourse is unavoidable for adolescents and is exacerbated by the failure to use contraceptives such as condoms. Pregnancy at a young age will then lead to more complex issues for adolescent girls, such as whether to keep the fetus or to abort it.[25] Reproductive health empowerment for adolescents is seen as important for their development and can be implemented through formal education or health service providers. Issues that can be included in these empowerment activities range from interactions with parents to cultural practices, the role of policies and schools in reducing unintended pregnancies.[26,27] Empowering young people enhances their ability to make a positive reproductive health choices. In addition, it can also reduce maternal mortality and early childbirth.[28]

Conclusion

Unwanted pregnancy incidence in adolescents is 8.6% of adolescents who commit risky sexual behaviors. Adolescent age and alcohol consumption behaviors were also shown to significantly influence unwanted pregnancies. Adolescents who performed risky behaviors such as

fingering each other and stimulating were 4.5 times more likely to experience unwanted pregnancy than adolescents who did not commit risky behaviors after being controlled by variable confounding age and age when first having sex (OR = 4.570). Therefore, adolescents must have access to comprehensive reproductive health information in order to prevent unwanted pregnancies before marriage.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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