The relationship between peer interaction and adolescent's dating behavior aged 15 – 24 years in Indonesia (IDHS 2017 analysis)

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Abstract

Purpose: This study aims to determine the relationship between peer interaction and risky dating style behavior in adolescents aged 15-24 years. **Methods:** A quantitative method using secondary data from Indonesia Demographic and Health Survey (IDHS) 2017 with cross-sectional study design. The research sample population used in this study includes male and female adolescents aged 15-24 years in Indonesia who are unmarried and currently or have been in a relationship. **Results:** The behavior of adolescent dating style in Indonesia is in the low-risk dating style category, included: holding hands and hugging. Bivariate analysis showed that there was a relationship between risky peer interactions and high-risk adolescent dating behavior, including: kissing, touching and being touched on sensitive body parts and sexual intercourse (p<0.05 and OR=1.42). The multivariable results showed that there are no external variables that interfere the relationship between peer interactions and dating style in adolescents. **Conclusion:** Peer interaction in risky reproductive health issues are associated with high-risk adolescent dating behavior, including: kissing, touching sensitive areas and sexual intercourse. Promotion and increasing education for adolescents related to reproductive health issues need to be done to minimize the incidence of high-risk dating style among adolescents.

Keywords: adolescent interaction; dating style; peer; reproductive health

INTRODUCTION

In Indonesia, dating behavior in teenagers carries a risk of premarital sexual relations, violence in dating, and early pregnancy. Teenagers in Indonesia tend to prefer friends as the closest people to discuss reproductive health, family planning and sexually transmitted infections in Indonesia. We have found that there is a relationship between dating style behavior in teenagers and peer interactions, teenagers who discuss with peers related to reproductive health, family planning and sexually transmitted infections are at greater risk for unhealthy dating styles. Interaction between parents and teachers is a factor that can prevent risky dating behavior among teenagers. Effective monitoring and communication between relevant parties and

adolescents can minimize the impact of risky dating styles.

Adolescence is a transitional phase between children and adults. At this time, adolescents experience emotional changes, they begin to show interest in the opposite sex, changes in relationships with those around them (parents, friends, siblings) and sometimes also experience psychological problems due to unstable emotions. Dating behavior among adolescents can be classified such as kissing to sexual intercourse [1]. Some problems may occur when adolescents date with their partner. A good understanding of reproductive health will prevent teenagers from engaging in risky sexual behavior which can have a negative impact on their lives [2]. Lack of understanding regarding reproductive health in adolescents is closely related to incidents of domestic violence, underage childbirth and deaths of mothers and newborns. Mother's age that is too young when pregnant and giving birth results in greater complications of pregnancy and childbirth, leading to maternal and neonatal emergencies [3]. Adolescents who experience pregnancy under the age of twenty say that their pregnancy was not something that was planned and prepared well [4]. Pregnancy in adolescents results in complications of fetal death, premature birth and abortion during pregnancy [5].

Another impact that has the potential to arise during dating is issues related to acts of violence during dating. Dating violence can potentially become more severe in adulthood if it does not receive special attention as early as possible [6]. Violence during dating can lead to forced sexual relations and even depression in the victim [7].

Peers have a very important role in changing the character and behavior of teenagers because they are able to influence teenagers' habits, identities and thought patterns, both negatively and positively [8]. Teenagers who are considered more popular have a greater role in being able to influence their friends compared to teenagers who are considered less famous. Negative behavior within the realm of friendship, such as sending sexual messages to other teenagers, tends to be ten times more likely to be carried out if the teenager believes that other teenagers are doing it too [9]. Understanding the characteristics of adolescents' peers is able to predict the possible behavior that will emerge in adolescents. This includes risky sexual behavior and other things related to adolescent health status [10].

Further research is needed to better understand these dynamics and develop interventions for promoting healthy relationships among teenagers. This research aims to determine the relationship between peer interaction and risky dating style behavior in adolescents aged 15-24 years. The results of this study can be a basis for improving the education curriculum in schools that actively involve teachers and parents in education to prevent the effects of risky dating. This study can be a reference for local governments in policy on adolescent sexual and reproductive health issues for the formation of adolescent peer groups that explore issues of reproductive health, sexually transmitted infections and the dangers of early pregnancy. This study can help policy makers to better understand and focus research on the need for sexual health issues among adolescents.

METHODS

This research is a quantitative research using a cross sectional research design. The IDHS 2017 sample was collected from 24 July to 30 September 2017 while this research by using secondary data analysis was conducted from April to July 2022. The sample selection included all young men and women who were not married, currently or have been in relationship, and participated in the IDHS 2017. Research data request was submitted through www.dhsprogram.com. The initial sample used from the 2017 IDHS data is adolescents aged 15-24 years: 10,691 female adolescents and 13,079 male adolescents. From these, 19,031 (unweighted) and 18,281 (weighted) samples were included in the inclusion and exclusion criteria and had complete data.

The dependent variable in this study is the behavior of adolescent dating style. The independent variable is peer interaction. The confounding variables consist of: knowledge of reproductive health, adolescent age, gender, place of residence, media influence, parental interaction, teacher interaction, sibling interaction, interaction of religious leaders, interaction of health workers, education level, economic status, alcohol consumption, drug usage, smoking behavior, and island.

Statistical analysis was carried out including univariate, bivariate and multivariable analysis. Univariate was performed to describe characteristics from independent, dependent and confounding variables. Bivariate analysis using chi square while multivariable analysis using logistic regression with 95% degree of trust. Statistical data analysis was carried out using STATA MP 16. This research has been approved by the ethics committee from Faculty

of Medicine, Public Health and Nursing Universitas Gadjah Mada number KE/FK/0373/EC/2022.

RESULTS

Table 1. Characteristic of respondents (N=18,281)

Variables	Categories	%
Age (years)	15-19	60
	20-24	40
Gender	Males	57,1
	Female	42,9
Area	Urban	57,4
	Rural	42,6
Island	Sumatera	21,3
	Jawa	58,4
	Bali and Nusa Tenggara	5,78
	Kalimantan	5,15
	Sulawesi and Gorontalo	6,89
	Papua and Maluku	2,4
Knowledge level	High	40,7
	Low	59,3
Media	High	3,9
	Low	96,1
Parent interaction	Yes	30,4
	No	69,6
Teacher interaction	Yes	44,3
	No	55,7
Sibling interaction	Yes	28,8
	No	71,2
Health workers interaction	Yes	21,2
	No	78,8
Religious leaders	Yes	9,1
	No	90,9
Peer interaction	Yes	57,8
	No	42,2
Drugs usage	Yes	3,2
	No	96,8
Alcohol	Yes	25,6
	No	74,4
Smoking	Yes	50,8
	No	49,2
Educational level	Primary	6,16
	Middle	14,4
	Senior	60,1
	University	19,34
Economic status	Poor	34,1
	Middle	20,7
	Rich	45,2
Dating behavior	Low risk	67,5
	High risk	32,5

Table 1. shows that most of the adolescents were from the age range of 15-19 years (60%) and majority were male adolescents (57.1%). From the location where the teenagers live, most of them come from urban areas (57.4%) especially from Java island (58.4%). The level of knowledge of respondents related to reproductive health, family planning and HIV/AIDS was found that 59.3% of respondents had a low level of knowledge. Access to media consisting of newspapers, tv, radio and the internet shows that almost all teenagers get proper access to these media (96.1%).

Adolescent interactions in discussions related to reproductive health consist of interactions with parents, teachers, siblings, health workers and religious leaders. Interaction showed that only 30.4% adolescents who discuss reproductive health issues with their parents and 44.3% with their teachers. This is also shown in interactions with relatives, health workers and religious leaders, respectively: 28.8%, 21.2%% and 9.1% who choose those people to talk about related reproductive health topics. On the other hand more than half of the adolescents population (57.8%) tend to interact more often and tell things related to reproductive health to their peers compared to other closest people.

From the results, it was also found that adolescents who were exposed to drugs 3.2%, alcohol consumption 25.6% and smoking behavior 50.8%. On the level of education, it was found that the majority (60.1%) adolescents had senior high school education status. Based on economic status, the highest proportion of adolescents came from high economic status (45.2%).

Based on the descriptive analysis, the most common dating style behavior adolescents in Indonesia belong to the low risk category (67.5%). Low risk categories consist of: holding hands and hugging, while high risk categories consist of: kissing, touching and being touched on sensitive parts and sexual intercourse.

Table 2. Shows bivariate results from statistical analysis. It was found that peer interaction has correlation with adolescents' high risk dating behavior (95% CI=1.32 – 1.50, p<0.05). Adolescents who interact with peers related to sexual health topics are riskier to have high risk dating behavior compared to those who did not (OR= 1.42).

Other variables such as: age group, gender, knowledge level, parent interaction, teacher interaction, sibling interaction, health workers interaction, religious leaders interaction, drugs usage, alcohol usage, smoking, educational level and origin island) showed that most of them have correlation related to adolescents dating behavior (p<0.05). In other hand media and economic status showed no correlation with adolescents' dating behavior.

Table 2. Bivariate analysis for adolescents behavior style

Variables	Adolescents dating behavior				OR	CI 95%	p-value
	Low risk		High risk				
	n	%	n	%			
Peer interaction							
Yes	6,805	64.36	3,767	35.64	1.42	1.32-1.50	0.001
No	5,543	71.9	2,166	28.1	1		
Age (years)							
15-19	8,629	76.39	2,667	23.61	1	3.07-3.50	0.001
20-24	3,946	51.01	3,789	48.99	3.2		
Gender							
Male	6,159	56.58	4,275	43.42	2.5	2.53-2.64	0.001
Female	6,189	78.24	1,658	21.76	1		
Area							
Urban	7,052	67.2	3,442	32.8	1.03	0.97-1.10	0.001
Rural	5,297	68.01	2,491	31.99	1		
Knowledge level							
High	4,755	63.9	2,681	36.1	1.3	1.23-1.40	0.001
Low	7,593	70.01	3,252	29.99	1		
Media							
High	482	66.7	240	33.3	1	0.82-1.12	0.14
Low	11,867	67.57	5,693	32.43	0.96		
Parent interaction							
Yes	4,065	73.09	1,496	26.91	0.68	0.64-0.73	0.001
No	8,283	65.11	4,437	34.89	1		
Teacher interaction							
Yes	5,737	70.84	2,361	29.16	0.76	0.71-0.81	0.001
No	6,611	64.92	3,572	35.08	1		
Sibling interaction							
Yes	3,433	65.89	1,777	34.11	1.11	1.03-1.18	0.001
No	8,915	68.29	4,155	31.71	1		
Health workers interaction							
Yes	2,418	62.46	1,453	37.54	1.3	1.23-1.43	0.001
No	9,930	68.91	4,480	31.09	1		
Religous leaders interaction							
Yes	1,093	66	563	34	1.08	0.97-1.20	0.001
No	11,255	67.25	5,369	32.75	1		
Drugs usage							
Yes	107	18.01	487	81.99	10.2	8.26-12.62	0.001
No	12,241	69.20	5,446	30.80	1		
Alcohol usage							
Yes	1,716	36.68	2,962	63.32	6.1	5.74-6.63	0.001
No	10,632	78.15	2,971	21.85	1		
Smoking							
Yes	5,094	54.82	4,198	45.18	3.4	3.22-3.68	0.001
No	7,255	80.7	1,735	19.3	1		
Educational level							
Primary	616	54.65	511	45.35	1		0.001
Middle	1,732	65.6	908	34.4	0.63	0.54-0.72	0.001
High	7,716	70.26	3,266	29.74	0.51	0.45-0.57	0.001
University	2,284	64.68	1,247	35.32	0.65	0.57-0.75	
Economic status							
Poor	4,186	67.18	2,045	32.81	1		
Middle	2,539	67.20	1,239	32.79	0.99	0.91-1.08	0.92
Rich	5,623	67.97	2,649	32.03	0.96	0.89-1.03	0.89
Island							
Sumatera	2,729	69.9	1,173	30.1	1		
Java	7,268	68.03	3,414	31.97	1.09	1.00-1.18	0.028
Bali ad Nusa Tenggara	610	57.65	448	42.35	1.70	1.48-1.96	0.001
Kalimantan	654	69.5	287	31.5	1.09	0.87-1.19	0.805
Sulawesi and Gorontalo	862	68.4	398	31.6	1.07	0.93-1.23	0.311
Papua and Maluku	225	51.25	214	48.75	2.21	1.81-2.70	0.001

Table 3. is the result of a multivariable analysis with logistic regression. Modeling in multivariable analysis is based on Social Cognitive Theory (SCT) which links behavioral, environmental and personal factors. Model 1 aims to analyze the relationship between peer interaction and dating style behavior involving behavioral or lifestyle factors (smoking, alcohol, drugs and media). Model 2 is just like model 1 by adding behavioral factors and environmental factors (teacher, parent, sibling and health worker interaction). Model 3 is just model 2 by adding personal factors (age, gender, island origin, education level, knowledge level and economic status) AOR<10%, which means no confounding.

Table 3. Multivariable analysis

Variabel	Model 1 aOR(95%CI)	Model 2 aOR(95%CI)	Model 3 aOR(95%CI)
Peer interaction			
No	1	1	1
Yes	1.56(1.45-1.67)***	1.52(1.41-1.65)***	1.45(1.34-1.57)***
Drugs usage			
No	1	1	1
Yes	3.18(2.55-3.98)***	3.12(1.78-2.10)***	3.05(2.42-3.84)***
Media			
Low	1	1	1
High	1.02(0.85-1.21)	1.05(0.88-1.25)	1.08(0.89-1.31)
Smoking behavior			
No	1	1	1
Yes	1.89(1.75-2.04)***	1.93(1.78-2.10)***	2.12(1.90-2.38)***
Alcohol comsumption			
No	1	1	1
Yes	4.14(3.82-4.50)***	4.03(3.71-4.38)***	3.61(3.31-3.95)***-
Sibling interaction			
No		1	1
Yes		1.25(1.14-1.37)***	1.17(1.07-1.29)**
Health workers interaction			
No		1	1
Yes		1.39(1.27-1.53)***	1.25(1.13-1.37)***
Parent interaction			
No		1	1
Yes		0.86(0.79-0.95)**	0.83(0.75-0.92)***
Teacher interaction			
No		1	1
Yes		0.78(0.72-0.84)***	0.84(0.77-0.90)***
Age (years)			
15-19			1
20-24			2.79(2.59-3.02)***
Knowledge level			
Low			1
High			1.52(1.39-1.65)***
Educational level			
Primary			1
Middle			0.81(0.68-0.96)*
Senior			0.73(0.62-0.85)***
University			0.57(0.48-0.68)***
Economic status			
Low			1
Middle			1.12(1.01-1.24)*
High			1.10(1.00-1.21)*
Gender			
Women			1
Men			0.95(0.84-1.08)
Island			
Sumatera			1
Jawa			1.15(1.05-1.26)**
Bali dan Nusa Tenggara			1.59(1.35-1.88)***
Kalimantan			0.96(0.80-1.15)
Sulawesi dan Gorontalo			0.97(0.83-1.14)
Maluku dan Papua			2.73(2.17-3.44)***
N	18,281	18,281	18,281
Pseudo R^2	0.1372	0.1430	0.1883
AIC	19894.2	19769.92	18752.75

Note: Weighted data, *=signifikan p<0.05, **=p<0.01, ***=p<0.001, AIC = *Akaike's Information Criterion,* cOR = Crude *Odds Ratio,* CI = *Confidence Interval,* a*OR= adjusted Odds Ratio.*

DISCUSSION

Based on IDHS 2017, adolescents dating behavior are divided into two categories: low risk and high risk. Low risk consists of holding hands and hugging. High risk consists of: kissing, touching and touching sensitive areas to having sex.

The dating style behavior of a group of teenagers in an area can be used as an illustration of adolescent reproductive health in that area. Adolescent reproductive health is something that is closely related to the future of the nation's next generation. Based on the results of the study, it was found that most adolescents choose peers to talk about related sexual reproductive topics (58%). Adolescents who interact with peers to discuss related reproductive

systems are 40% higher to have high risk dating behavior (OR=1.42). This result was in line with previous research that stated friends are the biggest influencing factor in adolescents for risky sexual behavior [11]. The frequency and intensity of adolescents spending time with their friends can change perceptions and norms related to their opinions of risky sexual behavior. The experience of having premarital sex can also be influenced by the presence of friends among teenagers [12].

Adolescents, especially women, tend to participate in risky sexual relations if their friends also do it [13]. Adolescents who have friends who have had risky sexual relations regularly masturbate and most young men usually have risky sexual relations before marriage [14]. Dating behavior in adolescents has the potential for risky sexual relationships, unwanted pregnancies and sexually transmitted diseases among adolescents [15]. In the lives of adolescents, peers have a very important role in changing the character and behavior of adolescents because they can have a positive effect or influence a person's behavior, mindset and attitude to be negative [16]. People around teenagers have a big role in adolescent premarital sexual behavior.

The experience of sexual violence among peers does not only occur between teenage couples who are dating, research also shows that sexual violence can occur between peers. This is not only a risk for adolescent girls, but male adolescents are also at risk for experiencing the same thing [17].The need for cross-sectoral collaboration and from all people around the teenager to provide an understanding of reproductive health [18]. Turning adolescent's interactions with their friends into positive interactions is one thing that can be done to minimize high-risk dating behavior.

Age has a relationship with adolescent dating style behavior. (p<0.05, OR=3.2) This showed that those aged 20-24 years would have a 3.2 times chance to influence dating style in adolescents compared to those aged 15-19. There is a relationship between gender and adolescent dating style behavior (p<0.05, OR=2.5). This study showed that males are 2.5 times more likely to engage in risky courtship behavior than females. Risky sexual behavior is more common among teenage boys because, in society, women are required to be able to maintain their behavior. This reason causes teenage boys to feel more free to express their behavior, including in courtship behavior [19].

There is a relationship with adolescents' knowledge level (p<0.05, OR=1.3). Adolescents who have a good level of knowledge are riskier for having high-risk dating behavior. This result contradicted previous research that stated adolescents who have good knowledge about reproductive health are more careful in having sex and avoid pregnancy or sexually transmitted diseases [20]. A good level of knowledge, especially about reproductive health, is able to influence the health behavior of these adolescents to be even safer. Adolescent knowledge and attitudes about sexual behavior, contraception and reproductive health are able to influence adolescent lifestyles to be safer.

Access to media which includes media: print, internet, tv and radio is very closely related to teenagers in Indonesia. There is no relationship between the media with adolescent dating style behavior (p>0.05, OR=0.96). On the other hand this result contradicts with previous research that stated teenagers who are often exposed to pornographic content and lack of communication with their parents tend to have sex without protective equipment [10].

There is a statistically significant relationship between parental interaction and adolescent dating style behavior (p<0.05, OR 0.68). Adolescent dating behavior has adequate interaction and communication between adolescents and parents is believed to be able to improve the sexual health of adolescents so as to minimize the risk of sexual problems [8].

The interaction of teachers and health workers with adolescents in this study showed that there is a relationship between teacher and adolescent interactions with adolescent dating style behavior. (p<0.05, OR=0.76). Teachers as role models to the teenagers and who spends the most time with the teenagers plays an important role in influencing the behavior and way of thinking of teenagers in dating [21].

There is a relationship between the interaction of health workers and dating style behavior (p<0.05, OR= 1.3). Health workers can become facilitators and monitor every youth empowerment activity to avoid wrong associations [22]. This study found that there was an influence of the interaction of religious leaders with the behavior of adolescent dating style (p<0.05). Sibling interaction shows the influence of adolescent dating style behavior (p<0.05, OR=1.11). Teenagers interacting with siblings are 11% more likely to have a high-risk dating style.

There is a significant relationship between dating and drug use (p<0.05, OR=10.2). Adolescents who use drugs and illegal drugs are more at risk for premarital sexual acts [23]. The results of the analysis of smoking behavior with adolescent dating behavior

showed that there was a significant relationship (p<0.05, OR=3.2). Adolescents who smoke are also more at risk for exposure to drugs, illegal drugs, and feelings of loneliness [24]. There is a relationship between alcohol use and adolescent dating style (p<0.05, OR=6.1). Alcohol can reduce the ability to focus, learn, process material, and remember and increase anxiety about cognitive abilities [25]. There is a relationship between adolescents' education level and dating style behavior (p<0.05, OR<1). Adolescents who have a higher level of education have better and safer sexual behavior than adolescents with lower education [26].

There is a relationship between economic status and adolescent dating style behavior in Indonesia (p<0.05, OR<1). Adolescents who come from a well-established economic level are more concerned with the future, have lower sexual desire, and are more actively involved in community activities [27].

CONCLUSION

Peer interaction related to reproductive health topics associated with high-risk dating style among adolescents. Adolescents who tend to be closer to their peers are riskier to be exposed to risky dating styles. In addition, most adolescents in Indonesia (57.8%) have a low-risk dating style consisting of holding hands and hugging. After adjusting several confounding variables, it was found that no variable interferes with the relationship between peer interaction and adolescent dating style behavior. This means that peer interaction strongly impacts dating style behavior in adolescents.

Monitoring adolescent interactions with friends to be more positive can minimize the chances of high-risk dating behavior in adolescents. Cross-sectoral collaboration needs to be done from all aspects to prevent high-risk dating styles that can cause several problems, such as underage pregnancy, dating violence, and adolescent psychological problems.

Forming a safe peer group for promoting through internet networks or print media related to reproductive health and the dangers of free sex among teenagers to increase awareness and knowledge of teenagers. In addition, positive youth activities, like entrepreneurial activities and talent shows, form a positive environment and keep adolescents away from premarital sexual behavior.

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