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Experiences of Getting Reproductive Health Information from Friends as the Most Influenced Factor on Human Immunodeficiency Virus (HIV) Risk Behavior in Adolescents

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Abstract

BACKGROUND: Adolescents are a vulnerable group to reproductive health and sexuality problems. The problem of drug use and premarital sexual behavior is the focus of attention for adolescents because it can be a risk of HIV transmission. Providing information from various parties regarding reproductive health is expected to reduce adolescents risk of carrying out HIV risk behaviors.

AIM: This study purpose was to analyze the experience of obtaining reproductive health information (from friends, parents, community, community leaders, social media, and organizations) that most influence HIV risk behavior in adolescents.

METHODS: This cross-sectional study was conducted on adolescents aged 15–19 years living with their parents in Surakarta. The research sample was 450 teenagers. The sampling used convenience sampling technique and data collection using a questionnaire. Data analysis was performed using Chi-square and Fisher's exact test in bivariate analysis and logistic regression in multivariate analysis.

RESULTS: Information from friends is the most influential factor on HIV risk behavior in adolescents (OR = 0.314, CI = 0.090–1.102). Teenagers who get information from friends tend to carry out HIV risk behaviors because the information is not credible and comprehensive and is more toward the negative, namely, pornography.

CONCLUSION: Reproductive health information from friends is not necessarily correct. Efforts to improve the skills of adolescents to find credible sources of information on reproductive health and sexuality are needed to reduce the risk of HIV transmission.

Introduction

Health is one of the sustainable development goals (SDG's) in which there are efforts to improve welfare for all age groups [1]. Of the many health problems, HIV/AIDS is one of the problems that must also be addressed to achieve optimal health status in accordance with the objectives contained in the SDG's. Efforts to tackle HIV/AIDS must continue to be carried out through optimizing prevention for someone at risk of HIV/AIDS and treatment for people living with HIV/AIDS (PLWHA) [2].

HIV/AIDS cases in Indonesia tend to increase [3]. There were 50,282 HIV cases in Indonesia in 2019, and the Central Java was the fifth-highest HIV cases in Indonesia in the same year with 5,630 cases. Based on age group, productive age or 25-49 years old is the highest percentage of HIV/AIDS every year. In 2019, there were 70.4% of HIV cases at the age of 25–49 years, followed by the age of 20–24 years (15.3%), 50 years (8.7%), and the age of 15–19 years (3%). In 2018, HIV cases at the age of 25–49 years were 70.4%, aged 20–24 years (15.1%), more than 50 years (8.3%), and aged 15–19 years was 3%. Therefore, the age of 15–19 years is the age of adolescents with the 4th percentage of HIV in Indonesia.

Surakarta City was ranked 4th in the Central Java until June 2018. There was an increase in new HIV cases by 6.24% in 2017 and 3.61% in 2016. HIV/AIDS cases at the age of 15–19 years in Surakarta were 2.3%, while those aged 20–24 by 13.5%. The high percentage of HIV at the age of 20–24 indicates the possibility of HIV transmission in adolescence (considering the window period for HIV/AIDS) [4].

Adolescence is when a person experiences a change from a child to an adult. Certain behaviors are prone to occur during adolescence, such as drug use,

alcohol consumption, smoking, and sexual activity [5]. A study in Vietnam revealed that adolescents are vulnerable to sexually transmitted infections (STIs) and HIV/AIDS due to unsafe sexual behavior [6]. Another survey of Iranian adolescents also revealed that adolescents are a challenging period and are vulnerable to exposure to high-risk health behaviors such as risky sexual behavior [7]. While research in Indonesia which was carried out in Merauke specifically also stated that adolescents aged 10-24 years are vulnerable to risky sexual behavior and drug abuse due to the influence of the social environment [8]. Based on data from an integrated survey of behavioral biology in Indonesia, the average age at first sexual intercourse is 15 years for adolescents in Pontianak, Samarinda, and Makassar, and 16 years for adolescents in Yogyakarta and Tangerang [9]. The percentage of adolescents who had sex for the 1st time at 15–17 years was 5.8%. The thing that needs to be noticed is that the percentage of teens who used a condom at the last sex was only 9% [9]. Risky sexual behavior is one of the factors that can transmit STIs and HIV/AIDS.

A study on adolescents conducted using data reviewed from several sources such as the Joint Nations Program on HIV/AIDS, behavioral surveys, household surveys, and other literature revealed that most new HIV infections are through sexual transmission [10]. Similar to HIV cases in Indonesia, 70% of reported AIDS cases are due to sexual transmission, especially heterosexuals [3]. Strengthened by a systematic review of the estimated risk of HIV transmission, which revealed that sexual intercourse was the greatest risk of HIV transmission after blood transfusion and vertical exposure. Therefore, premarital sexual behavior by adolescents can also increase the risk of HIV in adolescents [11].

Drug abuse is also one of the factors that can be an entry point for HIV/AIDS transmission [12]. Drug abuse impacts HIV prevalence by increasing the prevalence rate of HIV/AIDS more rapidly in the population who use drugs [13]. Based on the results of a behavioral survey in Indonesia, several teenagers have used injecting drugs, namely, Yogyakarta (0.3%), Tangerang (0.5%), Samarinda (0.2%), and Makassar (0.2%) [9].

Premarital sexual behavior and drug abuse are behaviors that risk increased HIV transmission. Research on adolescents in Ethiopia shows a lack of social support, and drinking alcohol affects risky sexual behavior in adolescents [14]. The lack of social support can come from family or school. Providing information is a form of social support. If someone gets enough health information, it can affect their knowledge of a health problem. Research on high school adolescents in Indonesia reveals that low knowledge adolescents will engage in unhealthy behaviors such as HIV risk behaviors [15]. Knowledge is also a factor related to drug abuse, which is included in HIV risk behavior [16].

Knowledge is closely related to the source of information obtained. Adolescents who get sexuality information from their parents tend to decrease their desire to perform unsafe sexual behavior. However, for adolescent girls, the main source of information is from a credible party such as a school. These sources are information related to reducing unsafe sex behavior [17].

In the previous studies, similar research was carried out more descriptively regarding sources of information on adolescent reproductive health without further analysis of the relationship between these sources of information and HIV risk behavior on adolescents [18], [19], [20], [21]. Then, research on sources of reproductive health information is also more related to the behavior of using condoms during sexual intercourse [22]. In addition to premarital sex behavior, this study also adds drug use to HIV risk behaviors. Then, based on the health promotion model on reproductive health behavior, it is found that stakeholder support is related to behavior [23]. Therefore, this study also adds the experience of getting information from community leaders and the general public into the independent variables studied. These aspects are also necessary because efforts to improve adolescent reproductive health are influenced by social determinants such as public views on reproductive health [24]. Therefore, it is essential to research to analyze the effect of the experience of obtaining reproductive health information from different sources on HIV risk behavior on adolescents in Surakarta.

Methods

Study setting

This study used a cross-sectional design. This research aims to analyze the relationship between the experience of getting reproductive health information from parents, community leaders, community, friends, social media, and organizations with HIV risk behavior on adolescents in Surakarta.

The independent variable in this study is the experience of getting information on sexuality and reproductive health from parents, community leaders, community, friends, social media, and organizations. The dependent variable is HIV risk behavior which consists of premarital sex behavior, namely, intercourse and injection drug use.

Sampling strategy

This population study was 45,177 adolescents aged 15–19 years who lived in the same house with their parents. The sample was 450 teenagers calculated by the Lemeshow formula. The study used a convenience

sampling technique. This research was conducted from March 25, 2019 to April 20, 2019 in Surakarta City.

Data collection

Data collection is done by distributing questionnaires. Teenagers fill out the questionnaire that has been given. The questionnaire has been tested for validity and reliability with a Cronbach alpha value of 0.642 on the experience variable in obtaining reproductive health information. This research has complied with the ethical feasibility of the Health Research Ethics Commission (KEPK) Faculty of Medicine UMS Number 2086/B.1/KEPK-FKUMS/III/2019.

Data analysis

Univariate data analysis was used to describe the variables of experience in obtaining information from various sources of information and HIV risk behavior. Bivariate analysis used the Chi-square to test the relationship between the experience variables in getting information from parents, friends, and social media. Meanwhile, the experience variable in obtaining reproductive health information from the public, community leaders, and organizations was analyzed using Fisher's exact. This study also carried out multivariate analysis using a logistic regression test.

Results

Characteristics of respondents

Respondents in this study were adolescents aged 15–19 years with characteristics including age and gender.

Table 1 shows the average age of the teenagers as the respondents was 16 ± 1,193-years-old. Based on gender, more than half of the respondents were female, namely, 250 teenagers (55.6%).

Table 1: Characteristics of respondents

Respondent Characteristics	N	%
Age (Years Old)		
15	87	19.3
16	165	36.7
17	103	22.9
18	54	12
19	41	9.1
Sex		
Male	200	44.4
Female	250	55.6
Total	450	100

A description of the experience of obtaining reproductive health information is shown in Table 2. Most adolescents received information on reproductive health and sexuality from friends, namely, 279 adolescents (62%).

Table 2: Description of experience on reproductive health and sexuality

Source of Information Reproductive Health and Sexuality	Got information		No Getting Information	
	N	%	N	%
Parents	190	42.22	260	57.78
Community	77	17.11	373	82.89
Public figure in community	58	12.89	392	87.11
Friends	279	62	171	38
Social Media	137	30.44	313	69.56
Organization	13	2.89	437	97.11

Meanwhile, the results of the bivariate analysis to examine the experience of obtaining reproductive health information on HIV risk behavior are shown in Table 3.

Based on sources of reproductive health information obtained by adolescents, it was found that adolescents who carried out HIV risk behaviors were greater in adolescents who had received reproductive health information from their parents (4.2%), community (5.2%), friends (5.4%), and social media (5.8%). This study also produced data that adolescents who carry out HIV risk behaviors are higher in adolescents who do not get reproductive health information from community leaders (4.1%) and organizations (4.1%). The results of the bivariate analysis also showed that there was no relationship between the experience of getting information on reproductive health and sexuality from parents (p = 0.846), community (p = 0.527), community leaders (p = 1.000), friends (p = 0.057), social media (p = 0.188), and organization (p = 1.000) with HIV risk behavior in adolescents in Surakarta.

Table 3: Bivariate analysis

Variable	Risky Behavior of HIV						p-value
	Not engaging in risky behavior		Engaging in risky behavior		Total		
	N	%	N	%	∑	%	
Sources of information on reproductive health and sexuality:							
Parents							
Not getting information	250	96.2	10	3.8	260	100	0.846
Get information	182	95.8	8	4.2	190	100	
Community							
Not getting information	359	96.2	14	3.8	373	100	0.527*
Get information	73	94.8	4	5.2	77	100	
Community leader							
Not getting information	376	95.9	16	4.1	392	100	1.000*
Get information	56	96.6	2	3.4	58	100	
Friend							
Not getting information	168	98.2	3	1.8	171	100	**0.057**
Getting information	264	94.6	15	5.4	279	100	
Social media							
Not getting information	303	96.8	10	3.2	313	100	**0.188**
Getting information	129	94.2	8	5.8	137	100	
Organization							
Not getting information	419	95.9	18	4.1	437	100	1.000*
Getting information	13	100	0	0	13	100	

*Fisher exact, Bold: Proceed to multivariate test

Based on Table 4, the results of multivariate analysis showed that the most dominant variable related to HIV risk behavior in adolescents was the experience of getting information about reproductive health and sexuality from friends. Adolescents who have received information about reproductive health from friends have 0.314 times the opportunity to engage in HIV risk behavior. The p-value obtained is 0.293, which means the model has explained the data or is feasible.

Table 4: Multivariate analysis

Model	Variable	B	Wald	p-value	OR 95% CI
Early model	a. Sexual reproductive health information from social media	−0.478	0.944	0.331	0.620 (0.236–1.626)
	b. Information from friend	−1.076	0.647	0.096	0.341 (0.096–1.211)
Final model	Information about reproductive health and sexuality from a friend	−1.157	3.270	0.071	0.314 (0.090–1.102)

−2 log likelihood = 147.079, p = 0.293, Cox and Snell R Square = 0.009, Negelkerke R Square = 0.032

The Negelkerke R Square value of 0.032 (3.2%) means that this model can explain HIV risk behavior in adolescents in Surakarta by 3.2% while other variables outside this study demonstrate the remaining 96.8%.

Discussion

Based on the research, it was found that the experience of getting information about reproductive health and sexuality from friends is a variable that influences HIV risk behavior in adolescents. Research in Ngaglik Indonesia also found that friends can negatively influence, which increasing the risk of sexual behavior by 8.58%. Still some friends were positively impacted by 0.10% [25]. In this study, adolescents who received information from friends tended to engage in HIV risk behaviors. Adolescents tend to discuss reproductive health and sexuality with their friends and less use fewer health services to discuss sensitive issues such as sexuality. Teenagers think that friends are the right and trustworthy people when looking for information about sexuality and reproductive health [26]. Research in Brazil also revealed that adolescents' knowledge of reproductive health was obtained from friends [27]. Another study conducted in Brazil showed that adolescents' most sought-after source of information on reproductive health is friends [28]. However, what needs to be paid attention to is that the information received from peers is more about sexual behavior. Whereas adolescents also need information about the impact of HIV risk behaviors and ways to prevent them from falling into these behaviors [29]. Providing information from the friend without being accompanied by further discussion on the impact of HIV risk behavior and prevention of this behavior will result in incomplete information regarding reproductive health and sexuality.

This study found that most adolescents (80%) did not obtain comprehensive information on reproductive health and sexuality even though the information was expected to be received by adolescents. Adolescents must know comprehensive types of reproductive health and sexuality information to make the right decisions regarding sexuality. Searching for sources of reproductive health information is closely related to the kind of information that teenagers will talk about [18]. Adolescents in this study received more information on reproductive health from friends because teenagers were more open to matters related to reproductive health to their friends, even though the friends that they discussed did not necessarily understand sexuality and reproductive health, the scope of which was quite broad. This is compounded by the reluctance of adolescents to seek reproductive health information because they do not need or are ashamed [28]. Adolescents' reluctance to seek such information becomes a particular problem because adolescents must have reproductive health information which includes the anatomy and physiology of the reproductive organs, HIV/AIDS, sexuality, puberty, how to access reproductive health services, gender equality, skills for improving health, and ways to protect themselves from sexual harassment, as well as sexual behavior [30], [31].

Adolescents in this study still lacked information about the impact of risky sexual behavior. Based on research in Brazil, adolescents tend not to seek information about sexuality because they feel they have understood what sexuality is or do not know [28]. This is what causes the information received by adolescents to be partial or incomplete.

The incompleteness of reproductive health information obtained by adolescents is related to adolescents' lack of access to information on reproductive health and sexuality. Most adolescents (97.33%) have low access to reproductive health and sexuality information. This result is in accordance with a descriptive study in a city in the Central Java which revealed that access to information on adolescents, especially regarding HIV/AIDS, was mostly in the poor category (72.8%) [32]. Adolescents have barriers to accessing information related to sexuality and reproductive health. The obstacles felt by adolescents are the lack of resources to access consultation services related to reproductive health and the lack of providing reproductive health information from parents because teenagers are still considered not old enough to talk about sexuality, fear of lack of privacy when discussing reproductive health issues, and teenagers fear will be stigmatized by society. The thing that adolescents fear when accessing reproductive health services is that they are considered as teenagers with bad behavior [33]. Culture and community character can also hinder disseminating information on reproductive health and sexuality. People still consider this information to be something that does not need to be discussed or is still considered taboo [34].

If the information received by adolescents is not accurate and complete, it will be difficult for adolescents to examine the information received that is true or false. In addition, there is a sense of reluctance from adolescents to discuss sexuality reproductive health issues because the information is considered taboo. Adolescents also feel ashamed and fear that privacy will not be maintained when talking about reproductive health issues. At the same time,

a teenager's high curiosity will result in adolescent ignorance about sexuality and reproductive health. Teenagers' curiosity should be balanced with reliable and responsible sources of information, such as from health services. The impact can occur when adolescents discuss reproductive health problems with non-credible parties while teenagers' curiosity is very large about reproductive health, adolescents will fall into the forms of HIV risk behavior such as premarital sex behavior [25]. This is a concern considering that 99.8% of teenagers in this study had dated and 98% had their first date at a very young age, namely, <17 years. Dating is one of the activities that can increase the vulnerability of adolescents to HIV risk behavior. Then, the age of adolescents, especially 10–24 years, is also an age that is vulnerable to HIV risk behavior [8].

The vulnerability of adolescents to these risky behaviors, among others, in this study, there were 13.6% of adolescents who consumed alcohol, 4% of adolescents engaged in premarital sex with the category of intercourse, and a teenager abused drugs. Alcohol is a drink that can increase the risk of premarital sexual behavior. Alcohol can reduce the function of consciousness so that it can put a person in risky sexual behavior [14]. As with drugs, a cohort study found that drug use is associated with risky sexual behavior [35]. Other studies have also revealed that adolescents who engage in sexual activity earlier use drugs more [36]. Research in Nigeria also shows that drug and alcohol abuse can increase the risk of engaging in risky sexual behavior [37]. Therefore, both premarital sex behavior and drugs are two interrelated things that must be avoided because they are included in HIV risk behavior. HIV risk behavior has a negative impact because it can cause other people to be infected with HIV [38]. The risk of getting HIV varies and depends on the exposure that has occurred or been carried out. These HIV risk behaviors include exchanging needles with other people or having unprotected sex [39].

Efforts that can be made to improve the ability of adolescents to avoid engaging in HIV risk behaviors are to provide reliable sources of information. In addition to reliable sources of information, adolescents are also expected to access comprehensive information on reproductive health and sexuality. In this study, teenagers have more sources of information from friends, so efforts are needed to create a peer group that is aware of reproductive health and sexuality information. When adolescents obtain appropriate and responsible information about sexuality and reproductive health, the information received can increase adolescent knowledge about sexuality. This knowledge is one factor that influences HIV risk behavior in adolescents. If adolescents have good knowledge about sexuality, it will affect adolescents' attitudes, who tend to be positive and have high self-efficacy not to engage in risky sexual behavior [40].

There are various sources of sexuality information to increase adolescent knowledge about HIV reproductive health. Mothers, parents, and friends of the same sex are the sources of information often chosen by teenagers [20]. The findings of this study are similar to the previous studies that adolescents tend to get information on reproductive health and sexuality from friends (62%), parents (42.22%), and social media (30.44%). Parents can also provide reproductive health information and Family Live Education (FLE) to adolescents. FLE can be useful for preventing premarital sexual behavior. The FLE can be in the form of information about gender or sexuality [41]. However, some things become obstacles in communication between parents and adolescents regarding reproductive health and sexuality. These barriers are parents' fear that discussions on reproductive health and sexuality can make teenagers think about premarital sex and think that teenagers are too young to talk about reproductive health issues and the condition of parents who are busy working [42]. Some of these obstacles create distances for communication between parents and adolescents regarding reproductive health and sexuality.

The other biggest sources of information for teenagers are the internet and social media. Meanwhile, the information obtained by teenagers through social media is also uncertain whether the information is reliable or not, and whether the source of information is credible or not. Teenagers sometimes find it difficult to find sources of information that they feel comfortable and safe with because they believe that the source can maintain their privacy. Some teenagers are introverted, so they look for sources of reproductive health information through the internet and social media [43]. Therefore, efforts are needed to provide reliable, easily accessible information on reproductive health and sexuality, and make young people comfortable talking about these issues. The sources of information can be from friends, parents, or schools as long as there is an increase in the competence of these various sources regarding reproductive health and sexuality to become responsible sources of information. Adolescents also need to be given details on finding credible sources of reproductive health information.

This study has limitations, the sampling technique cannot be done randomly because of the unavailability of youth data based on addresses and districts. Further researchers can expand the scope of the research area and explore appropriate methods to provide information on reproductive health and sexuality through friends, parents, and social media.

Conclusion and Suggestion

Teenagers have reasons for making someone a trusted source of reproductive health information.

Friends are one of the biggest sources of information about reproductive health and sexuality for adolescents. However, the information obtained from friends tends to be incomprehensible and more toward sexual behavior without explaining the impact of the sexual behavior. Information that is less precise and not comprehensive can cause teenagers to misperceive the information received. Teenagers with great curiosity will look for advanced sources of information that they feel comfortable with, such as social media and the internet. Social media and the internet do not necessarily provide credible reproductive health and sexuality information. Parents are also the largest source of information for adolescents, but the information received by adolescents from parents is also not comprehensive. Parents are reluctant to talk about sexuality issues and the impact of risky sexual behavior on adolescents because they are still considered taboo and do not know how to convey it. This situation can increase the vulnerability of adolescents to HIV risk behavior because adolescents do not get comprehensive information about reproductive health and sexuality. Increasing adolescent knowledge about the importance of reproductive health information and increasing parental competence to communicate reproductive health and sexuality issues are important. The formation of peer groups who are aware of reproductive health and sexuality also needs to be pursued. Teenagers also need to be given knowledge about accessing credible sources of information about reproductive health and sexuality from the internet and social media. Parents of course also need to monitor teenagers using of the internet and social media.

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