

# Peer Education: Health Education for Adolescent Girls to Prevent Adolescent Sexual Risk Behaviors

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**Abstract** Adolescent girls aged 15-24 are at risk of contracting sexually transmitted diseases such as HIV/AIDS. The existence of adolescent promiscuity, inadequate knowledge of adolescents about HIV/AIDS, and lack of communication with parents on adolescent reproductive health are some related factors to the increased number of adolescents infected with sexually transmitted diseases and HIV/AIDS. Based on these situations, providing health education to adolescents is an alternative solution. The activities were carried out by implementing health education for teenage girls, conducted in four sessions. All sessions were held online, with interactive discussion methods, role play and demonstrations. A total of 18 adolescent girls participated in this activity. The final results showed that there is an increasing mean score of post-test on HIV knowledge (0.5), adolescent reproductive health (0.44), and self-esteem (0.39). There are no significant different between pre and post-test for the level of knowledge on HIV, adolescent reproductive health, adolescent risk behavior and self-esteem. Only risky behavior does not demonstrate an increase in the mean score. Providing health education to teenage girls has improved their knowledge and understanding of HIV/AIDS and adolescent reproductive health and increased adolescent self-esteem. However, these activities did not affect the score of teens' behavior change. It was due to the duration of health education was not sufficient to change their behavior.

## 1. INTRODUCTION

Teenage girls or adolescence is a period of transition from children to adult phase. They have unique characteristics compared to adults in that adolescents are in a rapid growth process biologically and psychologically towards maturity. In this transitional period, teens' social networks expand widely and include more adult people. Teens are highly curious, and adolescents are at risk of contracting sexually transmitted diseases such as syphilis, gonorrhoea and even HIV/AIDS. Lack of knowledge about reproductive health and infectious diseases can make them vulnerable to the risk of adolescent promiscuity, which may have a negative impact on their future.

There is an increase in pre-marital sex behavior for boys aged 20-24 years, from 10.5% in 2007 to 14.6% in 2012. For young girls aged 20-24 years, there is also an increase

in pre-marital sexual behavior, from 1.4% in 2007 to 1.8% in 2012 (Kementerian Kesehatan Republik Indonesia, 2018). This is cause for concern to all of us, considering that adolescents are still in the process of growing physically and psychologically. Thus, they are at risk of contracting sexually transmitted diseases. In addition to the risk of contracting an infectious disease such as HIV/AIDS, teen girls have the risk of sexual promiscuity and the risk of having an abortion, which may endanger their lives as mothers and babies. Refer to the teenage pregnancy rate at the age of 15-19 years, it reaches 48 out of 1,000 pregnancies (Kementerian Kesehatan Republik Indonesia, 2018).

In Indonesia, the number of people with HIV/AIDS rapidly increased rapidly in the last five years. This increase

includes cases of HIV positive in women and their adolescent girls. According to the [Kementerian Kesehatan Republik Indonesia \(2014\)](#), the number of women with HIV in Indonesia has increased sharply, from 3,565 (2008) to 12,279 (2013). In 2014, the highest number of people with AIDS in Indonesia was in the 20-29-year-old group. This data meant that they had been infected with HIV 5 to 10 years ago when they were teenagers.

Adolescent girls aged 15-24 years have a high risk of having HIV/AIDS, due to the high number of adolescent sexual intercourse, without having adequate knowledge about HIV/AIDS and its prevention efforts. Based on data from a previous survey, discussion on the topic of reproductive health is still taboo in Indonesia. Teenagers prefer to discuss it with their friends rather than their parents ([Kementerian Kesehatan Republik Indonesia, 2018](#)). Yet, all realize that young women also experience faster sexual growth and, thus, are more prone to be contracted Sexual Transmitted infections (STIs) than young men. Other teenagers also experience the same situation in other schools.

The activity of this community service was aimed at equipping adolescent girls trained to be peer educators with materials on adolescent reproductive health, basic knowledge of HIV/AIDS, and the approaches to minimize adolescent sexual risk behavior. The ultimate goal was to create peer educators for adolescent girls who were aware of HIV transmission and could decide what was best for themselves and their future through education and refusal skills training.

## 2. METHOD

This activity aimed to create HIV peer educators for adolescent girls through education training, which was held online due to the COVID-19 pandemic, from June 19 to August 30, 2020. There were several stages in implementing this community service activity. Community service activities included focus group discussions, presentation sessions, and a seminar. The methods used during the session were interactive discussions associated with questions and answers, role-play and skills re-demonstration of teenagers, including refusal skills. The media used were PowerPoint slides, an adolescent reproductive health information book, and video Skills re-demonstration from several students. Activities were monitored through direct cognitive evaluation of students during sessions and re-demonstration of skills and role-play. The pre and post-training evaluation was carried out by assessing the level of knowledge on basic concepts of HIV/AIDS adolescent reproductive health, self-esteem and adolescent risk behavior.

In the planning session the initial stage of community service activities included the planning stage where the activities were to be carried out. At this stage, the team discussed directly with the school vice principal from one of the high schools in East Jakarta to identify problems faced by adolescent girls and activities that can be done to solve the problems. The team prepared a community

service activity plan with the school principal and teacher and discussed facilities that could be used during activities, such as classrooms. Then, the team coordinated with the counsellor and classroom teachers to select students who could be involved in the session. The teachers helped identify students who could participate in teaching sessions, and it hoped that the students involved in the program could become role models for their peers. The school also helped to be facilitators, to support and remind students to be active during sessions.

The implementation session activity consisted of four sessions. The initial activity Focused Group Discussion, discussing problems experienced by adolescent girls. The initial session was also developed as an introductory session among students, the community service team and the school to community service activities. The session was conducted online using Google Meet and lasted about 120 minutes.

The next was an education session on puberty in adolescents, the impact on risky adolescent promiscuity, efforts to become healthy adolescents, self-esteem and bullying. In addition to conceptual lectures, adolescents also learn about the soft skill technique of "refusal skills" on adolescent risk behavior and bullying. A total of 18 adolescent students were trained as peer educator candidates. Interactive discussions with students, role-play, and simulations, demonstrations of youth refusal skill life skills were provided. All teaching subjects and life skills for girls were provided online due to the COVID-19 virus pandemic.

In the evaluation session, we evaluate the level of knowledge about HIV, risk behavior and self-esteem adolescents at the end of activity.

## 3. RESULT AND DISCUSSION

A total of 18 adolescent girl students had been actively involved as participants in these community service activities. The majority of them are 17 years old (61%) and second children (50%). Half of the participants have fathers who graduated from high school and work as private employees and civil servants. Most of their mothers have bachelor's degrees (44%), and 61% are homemakers. A description of the characteristics of adolescent girl students can be seen in [Table 1](#).

Based on [Table 2](#), the post-test results showed an increase in the mean scores for variables of the level of knowledge on adolescent reproductive health, HIV, and self-esteem. The level of participants' knowledge of adolescent reproductive health increased by about 5% from a mean score of 8.39 (pre-test) to 8.89 (post-test). Meanwhile, the level of knowledge on the basic concept of HIV/AIDS increased by 10%, from a mean score of 5.06 (pre-test) to 6.06 (post-test). The self-esteem variable also increased by 39%, from 16.67 on the pre-test to 17.61 on the post-test. On the other hand, there is a decrease in the post-test score of adolescent sexual risk behavior approximately 44%, from 2.61 (pre-test) to 2.17 (post-test).

In the t-test analysis, there is no significant difference in the mean scores between the pre-test and post-test (p-value

**Table 1 .** Characteristics of Community Service Participants

Characteristics	Number (n)	Percentage
Age		
16 years	7	38.8
17 years	8	61.1
Children		
First Child	3	16.6
Second Child	9	50
Third Child and on	6	33.3
Father's Education Level		
High School	9	50
Diploma	3	16.6
Bachelor-Doctoral	6	33.3
Mother's Education Level		
High School	5	27.7
Diploma	5	27.7
Bachelor-Doctoral	8	44.4
Father's Occupation		
Private Employee	9	50
Public Employee	9	50
Mother's Occupation		
Housewife	11	61.1
Civil servants	5	27.7
Private Employee	2	11.1

> 0.05) for variables of the knowledge level of adolescent reproductive health, the basic concept of HIV/AIDS and sexual risk behavior.

At the end of the activity, it shows that there is increasing knowledge about reproductive health (increases by 5%), the basic concept of HIV/AIDS (increases by 10%), and self-esteem (increases by 39%). Although the bivariate analysis did not show significant results in the pre-test and post-test ( $p$ -value > 0.05), there is an increase in the post-test on the knowledge level of the basic concept of HIV/AIDS and reproductive health and self-esteem.

Figure 1 shows photos of this community service activity. At the beginning of the activity, the adolescents had an adequate level of knowledge, where 55% of them were able to correctly answer questions on the definition of HIV, signs and symptoms of HIV, and the HIV transmission process. They also showed that they already have sufficient knowledge of the basic concepts of HIV, including methods of transmission of HIV. They were able to point out that people will not be infected with HIV if they use the same glass as people with HIV; a woman can be infected HIV if she had sex with a man with HIV; a pregnant woman can transmit HIV to the unborn baby; a person can be infected HIV if using a sitting toilet, bath or swimming pool that an

HIV person had used. They were already exposed to this knowledge since the information were provided by many types of media, such as TV, radio, or shared information through social media.

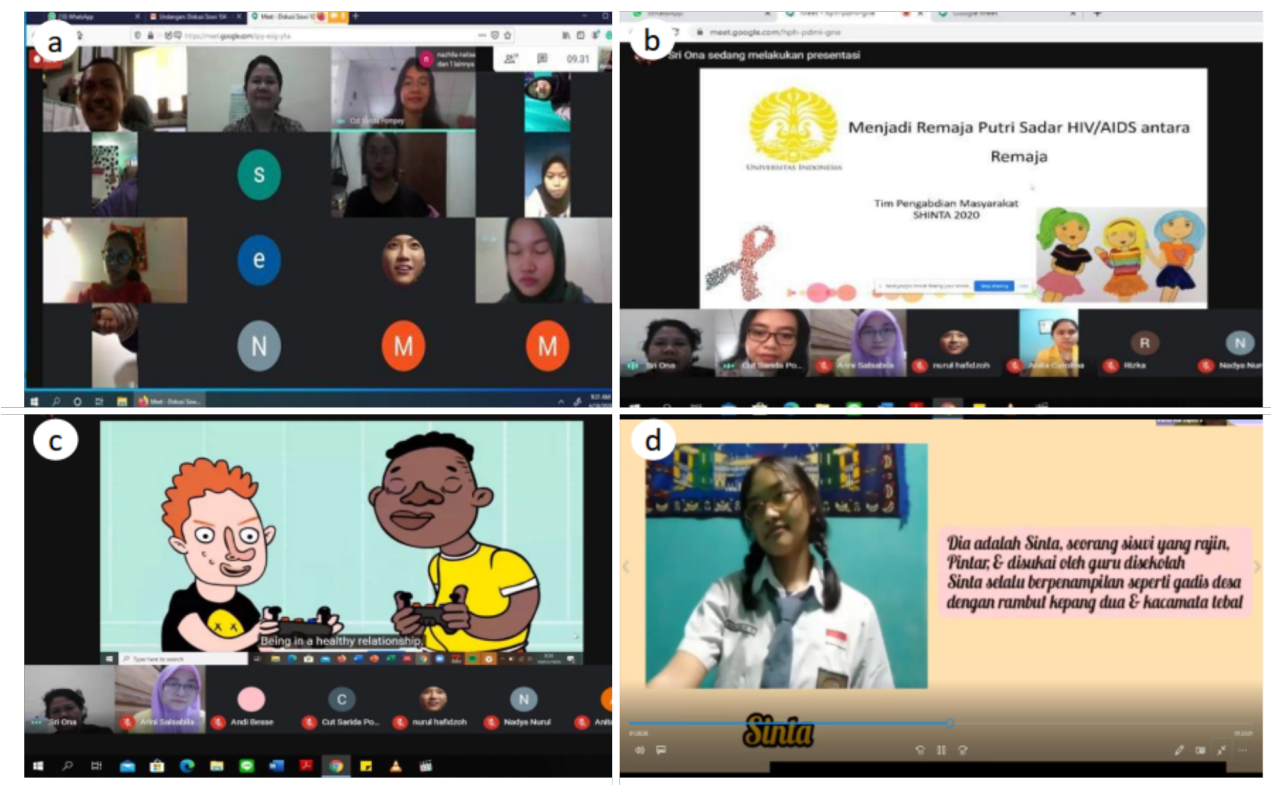
At the end of the activity, more than 50% of the participants correctly answered for questions on the characteristics of a person with HIV and the process of HIV transmission. A question on sneezing showed that this was not a mode of transmission. Only 46% of the participants answer correctly in the pre-test, which increases to about 81% of participants who answer correctly in the post-test. In addition, the statement on people being infected with HIV if they used the same glass with an HIV person increased from 67% (pre-test) to 86.4% of participants who answered correctly in the post-test. The statement that a person with HIV will appear like a sick person has been answered with a significant increase, from 46% of participants who answered correctly in the pre-test to 90% on the post-test. Hence, at the time of community activities, only some aspects of HIV disease are not understood by participants, such as the signs and symptoms of HIV and the process of transmitting HIV to other people. This situation showed that knowledge of the basic concept of HIV could be obtained not only from formal education but also from other media, such as TV and social media accessible through gadgets.

The participants' self-esteem variable showed a low score at the initial community activity. This is similar to a previous study in that adolescent girls tend to have lower self-esteem and are more anxious than boys (Sari et al., 2018). At the end of community activities, the girls' self-esteem showed an increase in mean score by 39%. Participants had increased their scores, especially in some adolescent self-esteem statements. The increased self-esteem scores include the statement that "I feel that I am a valuable person, at least for my peers", from 46.4% to 63.6% of participants agreed to the statement. The statement "I am able to do things that everyone can do" increases from 59.1% (pre-test) to 71.4% (post-test).

Furthermore, the statement "I am positive about myself" increases from 68.2% on the pre-test to 71.4% on the post-test. Similarly, in the statement "I feel that I have the potential/self-quality", the percentage increases from 59.1% (pre-test) to 60.1% (post-test). Conversely, the negative statement score decreases in the post-test, such as "I tend to feel like a failed", increasing from 45.5% of participants who agree (pre-test) to 67.9% on the post-test. It means that a decreased number of teen students have negative perceptions about themselves. These results were similar

**Table 2 .** Differences between pre-test and post-test scores on the level of knowledge on adolescent reproductive health, basic concepts of HIV/AIDS, Sexual risk behavior, and self-esteem

Variables of study	Pre-test (n=18)	Post-test (n=18)	t-Test value	p
Adolescent reproductive health	M = 8.39, SD = 1.04	M = 8.89, SD = 0.90	-1.638	0.120
Basic concepts of HIV/AIDS	M = 5.06, SD = 1.552	M = 6.06, SD = 0.99	-2.258	0.37
Sexual risk behavior	M = 2.61, SD = 1.195	M = 2.17, SD = 1.15	2.204	0.42
Self-esteem	M = 16.67, SD = 4.84	M = 17.61, SD = 5.20	-1.271	0.221



**Figure 1 .** Screen captures of an online session in the community service: (a) An FGD session with facilitator, opened by vice principal of the school and adolescents; (b) Health education session, with topic how to stay health; (c) Session on education about being healthy relationship with peer; (d) Performance session: Role Play on Bullying by participants

to Moffitt et al. (2018) research that self-compassion therapy increases self-esteem, self-motivation and self-satisfaction. In this training, adolescents received materials to increase self-esteem, including how to accept themselves as they are while thinking optimistically and positively. Self-esteem is an optimistic view of self without considering physical appearance (Neff & Vonk, 2009). Previous researchers have conducted several interventions to increase self-esteem (O’Dea, 2004). Further impact of this community service is expected to contribute to others that adolescents’ self-esteem increases after education.

For adolescent risk behavior, overall, in general, adolescents have good behavior at the beginning of the community service activities. For example, it was shown that 100% of girl students state that they have never either touched or been touched on their sensitive body parts of/by the opposite sex; 100% say they have never kissed the opposite sex, 81.8% say they have never hugged the opposite sex. These results indicated that the adolescent girls in this study have minimal risk behaviors.

After a month session of community service, we found that there was an increasing level of adolescent knowledge on basic concepts of HIV/AIDS, reproductive health, and self-esteem behavior at the end of the session. These results are similar to those of several previous studies (Borawski et al., 2015; Gao et al., 2012). In China, the provision of material on basic concepts of HIV has increased the level of adolescents’ knowledge about HIV/AIDS as well as a change towards a more positive attitude. Chinese

adolescents have a basic concept of HIV/AIDS and 10-40% have a negative attitude toward adolescents’ negative behavior (Gao et al., 2012). The knowledge of adolescents on basic concepts of HIV/AIDS and reproductive health can also be obtained from various sources, such as school reading materials, television, and the internet.

The results of this study were also similar to previous studies that knowledge of HIV is not only from teachers at schools (Cheng et al., 2008; Khan et al., 2018). A study by Khan et al. in Malaysia reported that approximately 90.2% and 79.6% of adolescents living in urban and rural areas obtain information on HIV/AIDS through television and newspapers. The communication between mothers and young girls on the topic of adolescent sexuality and reproductive health in five provinces found that mothers are the main knowledge resource for reproductive health, and adolescents admit having problems discussing a topic on sexuality with other (Nurachmah et al., 2019). Physical and emotional closeness with mothers becomes the reason why mothers are the primary resource for discussing physical and psychological changes in adolescents, as well as a place where adolescents want to discuss sexuality which is still taboo to discuss with others. On the other hand, many mothers feel reluctant to discuss sexuality with their daughters, even though they are trusted to discuss sexuality (Nurachmah et al., 2018). This showed that it is essential to initiate open communication between mothers and children to reduce adolescents’ risk behaviour due to lack of knowledge on growth and development of self

and sexuality, which adolescent girls do not understand. These results showed that the community service could improve the level of knowledge of HIV. However, it could not improve the attitude of the adolescents since the changes in attitude require a longer time than changes in the level of knowledge. This supports a study by Timol et al. (2016) in Nigeria who assessed the risk behavior of adolescents and the factors affecting it. The study reported that a significant increase in adolescents' knowledge level occurs shortly after intervention in HIV transmission, HIV prevention efforts and relationship behavior with the opposite sex. In contrast, the assessment of self-efficacy increases after being evaluated at 5 to 7 months after the intervention. Furthermore, adolescents in this study were also embarrassed to discuss sexual risk behaviors. In addition, teachers at school were also embarrassed to discuss adolescent sexual risk behavior in class (Nurachmah et al., 2018, 2019). Therefore, for the future, this study recommends involving teachers in discussing adolescent reproductive health and the impact of adolescent promiscuity.

In this community activity, the participants, including students and, facilitators, teachers, could participate actively in the session. At the end of the community service, the adolescents also showed some improvement in their soft skills to refuse risk behaviors (refusal skills).

This community service activity demonstrated that providing adolescent girls with cognitive skills related to HIV/AIDS, and also material about self-esteem can increase their self-esteem, increase by 30% at the end of the community activities. At the end of the community activity, all adolescents can participate actively and also show the capability to express their opinion during the session and improve their self-esteem. This showed that the methods of interactive training and demonstrations of refusal skill techniques and efforts to improve self-esteem were able to improve the adolescents' self-esteem within a month.

#### 4. CONCLUSION

Based on the results of community service activity, it can be concluded that the peer-education training for adolescent girls for only a month increased adolescent knowledge of adolescent reproductive health, the basic concept of HIV/AIDS, and self-esteem for young women. Nevertheless, the changes in sexual risk behavior were not measured because it required longer training. This community activity can improve the skills of adolescent girls to avoid risky behaviors, such as free-sex behavior, bullying, and drug abuse. The main recommendation of this community activity is to enhance this community activity in other schools and involve adolescents as peer educators as the facilitator. These adolescents who attend this activity can become role models for their peers.

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#### CONFLICT OF INTERESTS

All authors declare that there was no conflict of interest in this community service program.

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