HEALTH EDUCATION ON SEXUALLY TRASMITTED INFECTIONS IN HIGH SCHOOL AT PALEMBANG

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ABSTRACT

Sexually transmitted infections (STIs) are still being a problem in Indonesia, especially in adolescent. Psychologically, adolescents have a high curiosity but are not accompanied by adequate knowledge of reproductive health, making them at risk for STIs. Education is one way to overcome this problem. This community empowerment is carried out in the form of online seminars for high school students in Palembang. This activity aims to increase the knowledge of adolescents regarding STIs. The online seminar was preceded by a pre-test. This activity was attended by 341 participants, namely 335 class XII students and 6 teachers. At the end, an evaluation was carried out with a post-test. Statistical analysis found a significant increase in post-education knowledge for both female and male. This community empowerment shows that by providing online seminars on STIs and HIV significantly increased the knowledge of high school adolescents in Palembang.

Keywords: sexually transmitted infections, STI, HIV, education, knowledge.

INTRODUCTION

Sexually transmitted infections (STIs), formerly known as sexually transmitted diseases, is a group of diseases that are transmitted through sexual activities.[1] STIs not only have an impact on health condition, but also social and economic function. STIs are one of the gateways for HIV (human immunodeficiency virus) infection. HIV infection causes the decrease of cellular immunity so that people with HIV are vulnerable to opportunistic infections.[2]

World Health Organization in 2016 reported that there are about 1 million STIs cases every day.[3] The Integrated Biology and Behavioral Survey (*Survei Terpadu Biologis dan Perilaku*) stated an increase of incidence of syphilis from 5% to 6% just in 2015. The IDHS survey in 2017 found that at least 8% of male adolescent have had risky sexual intercourse in their life.[4] Data from Jakarta in 2019, there are about 6% chlamydia cases, 1,3% gonorrhea cases and 0,8% syphilis.[5]

Indonesian Demographic and Health Survey (*Survei Demografi dan Kesehatan Indonesia*) in 2012 reported that the knowledge of adolescent to young adult (15-24 years old) about gonorrhea and genital herpes were still low, and worse for other STIs cases. Indonesian Adolescent Reproductive Health Survey (*Survei Kesehatan Reproduksi Remaja Indonesia*) reported that 72% of male and female adolescent do not have proper knowledge about the signs and symptoms of STIs.[6] Indonesian Basic Health Research (*Riskesdas*) in 2018 reported that 54,76% of people aged 15-24 years old in South Sumatera had heard about HIV before. The same study also reported that only 31,56% of that age group who have adequate knowledge (score 80-100) about HIV.[7]

Adolescent is a period of development marked by physical and mental changes. At this stage, adolescents can be very curious and tend to try something prior thinking on the consequences. Furthermore, adolescents are also intrigued on the things that adults do. Beside the mental development, some sexual changes also occurs during adolescent.[8]

Because of this, one way to prevent the unwanted is by providing them with the adequate knowledge.[9] By giving them the information they need, especially about reproductive health, adolescents will have sufficient knowledge and form responsible attitude and behavior.[10] Previous studies have found the increase of knowledge regarding sexual reproductive health, STIs and HIV after providing adequate information and education.[11–13]

The community service reported in this study aims to provide accurate and correct information on STIs and HIV to adolescents. With proper education, they will have adequate knowledge on reproductive health. Therefore, they will be able to make responsible decisions for themselves.

METHODS

This community service activity is carried out in the form of online seminar. The online seminar was done through Zoom conference application with power point presentation. The topic of online seminar is health education on STIs and HIV for adolescent. The activity was done by 5 lecturers and 4 students form Department of Dermatology and Venereology Faculty of Medicine, Universitas Sriwijaya. The participants of this online seminar are high school students and teacher in Palembang.

To review the changes of knowledge of the participants, pre-test and post-test evaluation is conducted. All participant was analyzed with total sampling. The statistical analysis is conducted with SPSS version 22. The results are presented by narration and graphics as need.

DISCUSSION

The activity was attended by 341 participants, consisting of 325 of class XII students and 6 teachers of SMAN 1 Palembang. About 202 participants (59,2%) are women. However, only 186 from 341 participants took the pre-test and complete the post-test. Most of the student are 17 years old (56,1%). The topic in this online seminar are STIs and HIV. Both are delivered in one session by dermatovereologist. At the end of seminar, a discussion was held with all participants. The participants seemed to follow enthusiastically.

Before the online seminar, all of the participants were asked to answer 10 questions on STIs and HIV using Google Form. The topics are STIs, cause of STIs, transmission of STIs, signs and symptoms of STIs and treatment and prevention of STIs. The average score is 75,8/100. About 19 participants have maximum score of` 100. However, there are many participants that have a score of 50 or below; 1 participant with a score of 10; 3 participants with a score of 20; 30 participants with a score of 30; 16 participants with a score of 40 and 20 participants with a score of 50. The result of this study supports the findings of previous studies. Study conducted in Manado with high school students found that about 50% subjects have good knowledge and 42% have moderate knowledge.[14] Other study found that the knowledge of adolescent in urban city are significantly higher than in rural area.[15] Other studies concluded that adolescent have a moderate-good knowledge about STIs.[16,17]

Almost all participants can determine which diseases are include as STIs (question 1), only 4% participants answer that question incorrectly. About 92% participants can answer the transmission of HIV correctly (question 10). This can be happened because there has been widespread education about STIs, especially HIV. With the development of technology, one of the most developed educational method is by utilizing an application or website.[18]

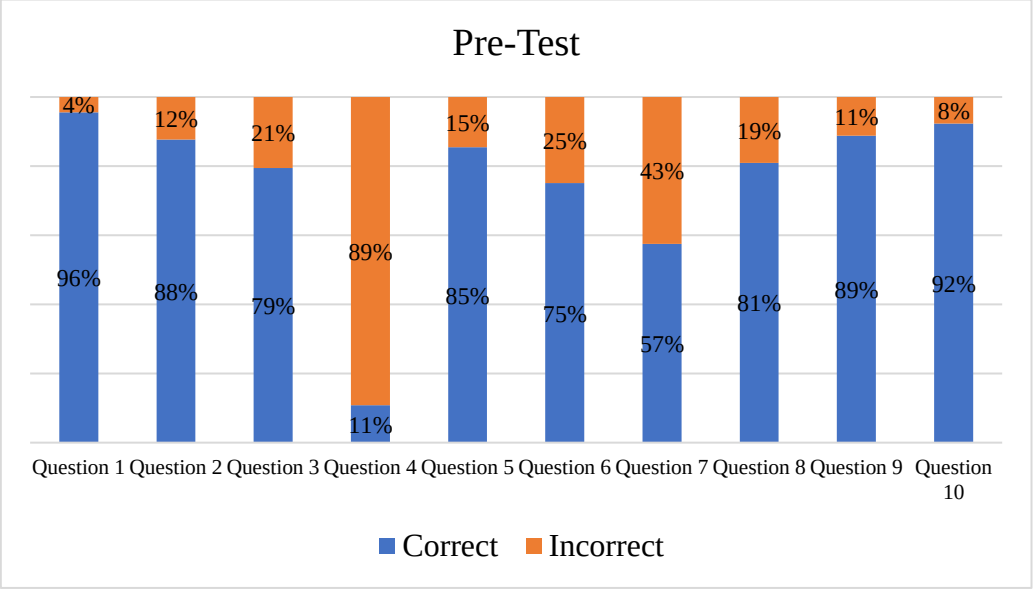

Figure 1. The Proportion of Correct and Incorrect Answer in Pre-Test

Table 1. List of Questions

Question	Topic
1	Diagnosis included in STIs
2	Cause of HIV
3	Cause of gonorrhea
4	Signs and symptoms of genital warts
5	High risk population of STIs and HIV
6	Cause of vulvovaginal candidiasis
7	Signs and symptoms genital herpes
8	Prevention of STIs and HIV
9	Treatment of STIs and HIV
10	Transmission of HIV

After seminar, all participants were asked to answer the same questions as pre-test. However only 186 from 341 participants completed the post-test. There is a significant increase of mean score of post-tests compared to pre-test. There is a significant increase of knowledge in students, however the score of post-tests is lower compared to pre-test in teachers (table 2). We also found an increase of knowledge in both genders. This finding is unique compared to the finding in several countries. Study conducted in German found that there is no relationship between knowledge of STIs on both genders and educational backgrounds in adolescents. However, the study found that female adolescents have better knowledge, especially about HIV, genital herpes, syphilis, HPV and gonorrhea, compared to male.[19]

Table 2. Comparison between Pre-test and Post-test score

Score	Mean ± SD		P value
	Pre-test	Post-test	
All participants	75,8 ± 17,2	85,1 ± 16,2	< 0,001*
Students	75,8 ± 17,2	85,6 ± 15,5	< 0,001*
Teachers	75,0 ± 15,0	68,0 ± 27,1	< 0,001*

*Mann-whitney test

At the end of the study, we found an increase in the number of correct answers for all questions. Only 2% of participant answer diagnosis of STIs incorrectly. However, most of the participants still answered the question on signs of genital warts incorrectly though the percentage of the right answer increased (from 11% to 34%). The proportion of participant with correct the answer on HIV is higher than other STIs (Figure 2). This can happen due to education about HIV is more extensive than other STIs.

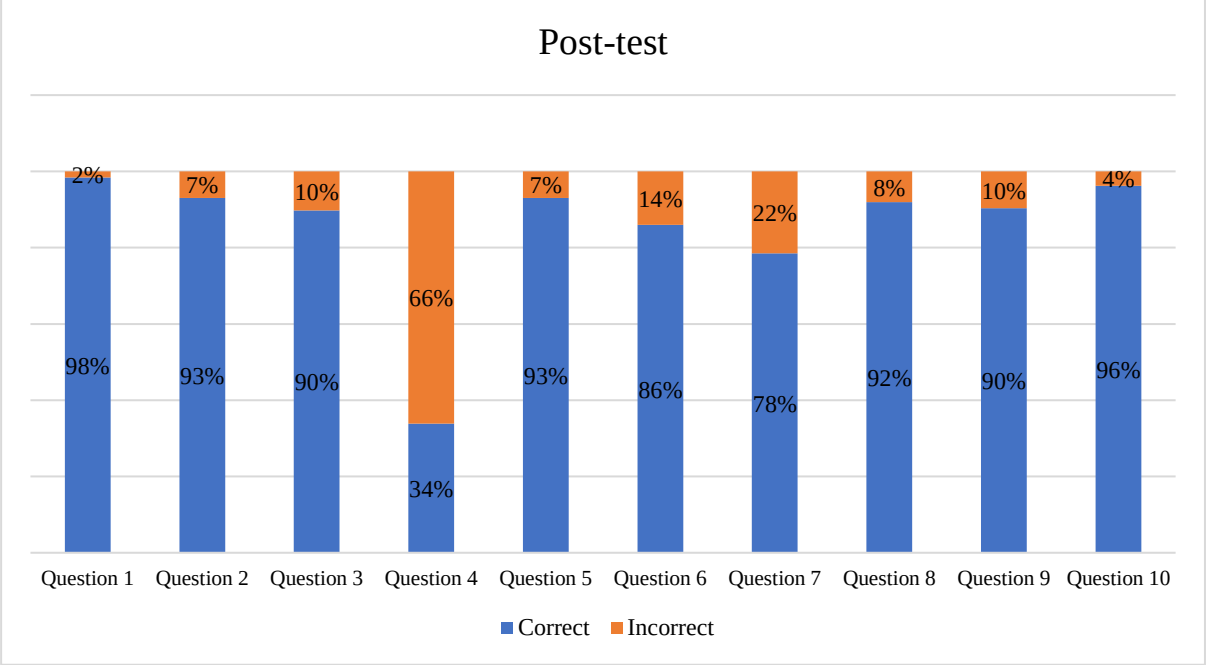

Figure 2. The Proportion of Correct and Incorrect Answer in Post-Test

Study conducted in India found that female adolescent and young adult (15-29 years old) have low level of knowledge about uncommon STIs. The study found that about 71% subjects never heard about genital herpes, 44% never heard about gonorrhea and 43% never heard about syphilis.[20] Other study conducted in German found that 42,8% of subjects never about gonorrhea, 37,4% never heard about HPV and 33,6% never heard about syphilis.[19]

Ultimately, this community service activity can increase the knowledge on STIs and HIV in adolescents significantly. Educational programs in the form of lectures and power point presentation can be used to increase the knowledge of adolescent in a short time. This

finding is supported by previous studies. A study conducted in India found that educational program with lecture for 45 minutes can increase the knowledge of grade 8 and 9 students significantly.[13] Another study in Bantul, Indonesia, found that by providing education based on the SMART Adolescent book also increased the knowledge of adolescent reproductive health by 10.45%.[11] Another study using audiovisual media found an increase in adolescent knowledge about adolescent reproductive health.[21] The methods that are considered effective in increasing adolescents' knowledge of STIs and HIV includes the lecture method[11–13], audiovisual media[12,21] or using smartphones.[18,22]

CONCLUSION

Adolescents' knowledge of STIs and HIV is generally good, although there is still a need to increase the knowledge on other STIs that are less common. One of the ways that can be used to increase knowledge about STIs and HIV is through education, either online or face-to-face. In this community service activity, online education has been carried out on the topic of STIs and HIV. The online education in the form of lectures was found to increase adolescent's knowledge of STI and HIV.

ACKNOWLEDGMENT

The authors would like to thank the rector of Universitas Sriwijaya, the dean of Faculty of Medicine Universitas Sriwijaya and SMAN 1 Palembang for the help to conduct this community service activity.

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