

The Knowledge of HIV Prevention and Sexual Reproductive Health among Papua Adolescent in a Health Promotion Counselling Using Friendly Module and Games

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Abstract—To engage the adolescents in Sexual and Reproductive Health (SRH) promotion counselling there is the need to innovate using new media that is more appropriate to their needs and acceptable to their daily life. A cross-sectional questionnaire survey was conducted among 66 randomly selected high school students aged 15-17 year old, attending health promotion counselling in 3 schools in Jayapura, Papua province, Indonesia. The study aimed to assess the level of knowledge which Papua adolescents have about HIV prevention and general SRH before and after the intervention using new media of adolescent friendly module and games in a health promotion counselling. The result shown the increase of the mean knowledge score before and after the counselling program at the first school from 11.12 to 14.00, second school from 10.90 to 16.52 and the third school from 9.90 to 15.85. Overall, there was an increase of the mean knowledge of HIV prevention and general SRH before and after the health promotion counselling using new media 10.68 and 15.36, respectively. The survey demonstrated a great increase in the level of knowledge of HIV prevention and general SRH among adolescents in Papua after the health promotion counselling using new media of adolescent friendly module and games. Furthermore, there was a greater need to expand the research of using the adolescent friendly media for HIV prevention and SRH in health promotion counselling in other areas in Papua with a bigger and variety characteristics of sample.

Keywords—HIV, Sexual Reproductive Health (SRH), knowledge, adolescent, health promotion counselling, media

I. INTRODUCTION

Human Immunodeficiency Virus (HIV) remains a global health problem regardless the invention of Antiretroviral Treatment (ART) to prevent virus transmission and to keep the person living with HIV staying healthy and have a normal life[1]. By the end of 2016, there were 36.7 million people in the world living with HIV/AIDS and 5.7% of them were children under 15 years old. Moreover, the incidence of HIV has reached 5,000 new infections per day and AIDS has killed 35.0 million people since the start of the epidemic[2].

According to UNAIDS data of 2016, Indonesia, a multicultural country consisted of 34 provinces, had 620,000 people living with HIV and only 13% of them were accessing the ART. Moreover, HIV new infections reached 48,000 and the number of death caused by AIDS was 38,000 deaths[3]. Around 4.2% of Indonesian living with HIV were young people under the age of 20. Based on the demographic

characteristics, Indonesian students reported as one of the high risk population to acquire HIV infection[4].

Papua as one of provinces in Indonesia has the lowest population which spreads in rural and remote areas. However, the number of HIV infection transmission rate in Papua, in 2016 was 2.3% compared to the national transmission rate which was 0.45%. From 26,000 people living with HIV in Papua, around 10,000 of them have fallen to the AIDS stage. Nevertheless, the actual number may exceed the recorded data[5].

The trend of HIV prevalence shown a disproportionate burden of HIV is greater among young people aged 13 to 24 years compared to older adult over 24 years[6]. Low HIV and sexual health knowledge has been a major barrier to reduce the HIV infection among young people[7]. However, up to now sex education is not given adequately to young people[8]. The lack of basic information about HIV and how to prevent it have been responsible for the enormous number of young adolescents got infected by HIV[9]. Furthermore, the Sexual and Reproductive (SRH) service which is adolescent friendly has not been adequately available. Many young people reported the fear of judgmental attitudes of healthcare workers when they want to seek for sexual health information and services[10].

The use of mass media both conventional printing and broadcast media have played an important role to disseminate prevention information around the world. Bertrand et al. in their systematic review has stated the impact of mass media to the HIV/AIDS-related knowledge[11]. Nevertheless, due to specific design and preparation of the media itself, a media does not necessarily represent the various characteristics of target population. For example, the media which is prepared for urban areas in Indonesia may not suitable for other rural areas. Hence, the impact of media to increase knowledge might be different [12].

There is a need to design an HIV prevention media based on the particular characteristics of targeted adolescent to produce the positive impact on their knowledge to help them preventing the HIV transmission among young people.

This study aimed to measure the knowledge of Papua adolescents about HIV prevention and general SRH before and after the intervention using new media. The new developed media included a friendly module and games to

increase the adolescents' engagement during the health promotion counselling.

II. METHODS

A. Study area and Population

The study area was in Jayapura, the capital city of Papua province. The city was chosen because many of adolescents from different parts of Papua continue their high school here. There are various type of high schools available such as public schools, private schools and boarding schools. The population was high school students aged range 15-19 years old studying in the first year. The first year grade was chosen due to the reason

B. Sample

The sample was selected using purposive sampling method. To represent different characteristics of Papua adolescents, we chose three senior high schools in Jayapura from public, private and boarding school background. SMA 1 Jayapura represented high schools owned by government. The private high school was SMA PGRI Jayapura while SMA 3 Buper Waena was the representative of boarding schools.

C. Intervention

The intervention was a health promotion counselling about HIV prevention and Sexual and Reproductive Health (SRH) to the Papua adolescents studying in the first year of senior high school in Jayapura whose aged range 15-19 years old. Prior to the counselling, the students were given pretest to measure their knowledge of HIV and SRH. The test questions were adapted from Carey and Schroder HIV Knowledge Scale which is highly used to measure knowledge of HIV transmission and is appropriate for different high-vulnerability populations and subgroups.

The counselling consisted of module, video and games. Following the counselling, a post test was given to the students. The questionnaire was the same as the pretest. The result of the mean level of knowledge between pre and posttest were then compared and analyzed to measure the HIV prevention and SRH knowledge among Papuan adolescents.

The new media used in the health promotion counselling was specially designed for Papua adolescent. The designer team was consisted of a general practitioner, a public health practitioner, and educator and two lecturers from Papua who work closely with adolescents. The media was developed from several sources, the adolescent SRH module of Indonesia Health Ministry combined with adolescent health promotion games adopted from Red Youth organisation Australia. Moreover, it was enriched using slank words of Papuan youth and MOP Papua, famous as Papua local story and jokes.

III. RESULT

This research study was followed by 66 Papua's pupils who come from 3 senior high school in Papua. It figures that there was a significant difference between HIV/AIDS knowledge test before and after intervention of educational HIV/AIDS program in all of students. First of all, it can be seen in SMAN 3 Buper Waena which its mean posttest value (10.90) was above mean pretest value (16.52) (Table 1). This

outcome supported other research in Wuhan, China that there was a significant increase in HIV/AIDS knowledge after education intervention[13].

Furthermore, SMAN 1 Abepura had similar trend with SMAN 3 Buper Waena, it figures that there was substantially increase knowledge before and after intervention. Surprisingly, there was about 50% of respondent experienced twofold increase score in posttest (Table 2). In addition, it also proves from its mean score which gone up from 9.90 in pretest to 15.85 in posttest (Table 2). These results show that HIV/AIDS educational program had strongly impacted to improve knowledge about HIV/AIDS in senior high school student, it was supported by other research which found that there was a positive change in knowledge in African-American and Asian junior high school students after they received AIDS prevention program in their curriculum [14]. However, from all of these results study, none of the respondent had 80% correct answer. It means that this program needed to be a regular program to establish the student understanding about HIV/AIDS, another approach to make this program effective was involved other people from different society to provide actions in similar frameworks[15].

TABLE 1. Score of Knowledge among Students in SMAN 3 Buper Waena

Respondent	Pretest Score	Posttest Score
1.	18	21
2.	14	13
3.	9	13
4.	10	12
5.	9	13
6.	7	17
7.	8	13
8.	7	16
9.	19	19
10.	13	18
11.	11	15
12.	6	15
13.	6	16
14.	11	18
15.	13	17
16.	9	17
17.	11	18
18.	15	18
19.	9	18
20.	13	20
21.	11	20
Total Score	229	347
Mean	10.90	16.52

TABLE 2. Score of Knowledge among Students in SMA 1 Abepura

Respondent	Pretest	Posttest
1.	13	16
2.	4	14
3.	14	16
4.	10	16
5.	6	16
6.	14	19
7.	7	17
8.	7	17
9.	12	19
10.	13	8
11.	9	16
12.	13	15
13.	14	18
14.	6	16
15.	16	17
16.	7	14
17.	15	16

18.	11	16
19.	3	15
20.	4	16
Total Score	198	317
Mean	9.90	15.85

TABLE 3. Score of Knowledge among Students in SMA PGRI Jayapura

Respondent	Pretest	Posttest
1.	8	13
2.	7	13
3.	10	19
4.	16	20
5.	14	15
6.	8	14
7.	7	9
8.	12	15
9.	14	18
10.	10	14
11.	17	21
12.	10	16
13.	12	16
14.	13	16
15.	16	17
16.	15	15
17.	17	19
18.	4	8
19.	8	10
20.	6	9
21.	5	10
22.	11	12
23.	13	8
24.	12	13
25.	13	10
Total score	278	350
Mean	11.12	14.00

The mean score of knowledge from SMA PGRI Jayapura was increasing after education intervention; from 11.12 to 14 (Table 3). Of the 25 respondents, 2 respondents have decreasing score, 22 respondents has increasing score and 1 respondent have tie score. It means the intervention in SMA PGRI Jayapura effective to increased knowledge among students about HIV/AIDS. This result was similar with study by Natalia et al. [16] that HIV/AIDS educational program intervention can improve knowledge among students so it will change the attitude about HIV/AIDS to be positive. The intervention with increasing knowledge is expected to students to enable prevent risks of HIV/AIDS independently and consciously[17]. The study by other research showed that students who were exposed by education intervention about HIV/AIDS had better knowledge 4.206 times than students who weren't exposed by the education intervention. Education intervention provide the positive effects that is beneficial in individual knowledge, especially when the intervention using interactive media that make students interested, so they can receive and remember the information delivered[18].

TABLE 4. Score of Knowledge overall of Schools

School	Total score		Mean score	
	Pretest	Posttest	Pretest	Posttest
SMA 3 Buper	229	347	10.90	16.52
SMA 1 Abepura	198	317	9.90	15.85
SMA PGRI Jayapura	278	350	11.12	14.00
Total score	705	1,014	10.68	15.36

The highest mean score in pre-test was SMA 3 Buper and the lowest mean score was SMA 1 Abepura (Table 4). The highest mean score in post-test was SMA 3 Buper and the lowest mean score was SMA PGRI Jayapura. Overall of

schools showed increasing scores of knowledge after the intervention. It means that the intervention gave good impact toward students, so the method can be used to disseminate health information to students and it is effective. Education intervention is a solution when the teachers have no ability to deliver the sensitive information of HIV/AIDS to students[19]. Particularly when parents of student have no knowledge about HIV/AIDS or have the knowledge but can't deliver the information openly to their children[20]. Study by Sakha et al. showed that by giving education intervention could improve knowledge and change attitude to be positive about HIV/AIDS. It also decreased risky behaviour in transmitted HIV/AIDS[21]. Having good knowledge and availability forum to discuss about HIV/AIDS were the protective factors of HIV/AIDS prevention behaviour[22].

Result of this study showed that pre-test score was different in each school. It is because of the different information access of students before the intervention, so the students' knowledge about HIV/AIDS were different too. The information access such as mass media; television or radio, school, friends and or parents[22]–[24]. While, the posttest results were different among each student in each school because the ability of students to receive and remember the information that delivered was different. A continuous intervention can increase knowledge and it keeps the memory in a longer time.

IV. CONCLUSION

There is an increasing in the mean knowledge of HIV prevention and sexual and reproductive health after a health counselling using friendly module and games among Papua adolescent. However, there is a need for a continuous intervention which includes a bigger sample of senior high schools students in Papua to prove that the new media of friendly module and games can increase the knowledge as well as positive attitude among Papua adolescent toward HIV prevention program.

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