Audio-visual media to improve sexual-reproduction health knowledge among adolescent

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ABSTRACT

Lacking knowledge among adolescents affects their understanding of some problems related to sexual-reproduction health. Electronic media recognized as the favored source of information for adolescents. This research aimed to assess the effect of audio-visual media to the increasing of sexual-reproduction knowledge. We conducted a before and after without control informal experimental study design into 153 students in the 1st-3rd grade of junior high school. The effect of the intervention was assessed through the difference between pre- and post-intervention by using the Wilcoxon test. The mean score of the respondent pre and post-intervention was significantly increasing. The audiovisual increased the knowledge of the adolescent regarding sexual-reproduction health

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1. INTRODUCTION

Labs to maintain adolescent health are needed to prevent various health problems that potentially influence their quality of life, including maintaining healthy reproduction. Since the early-stage, the adolescent should be prepared to become a healthy and productive adolescent. The healthy adolescent is the national capital in the future for conducting development in a particular country because they are such investment for an adult now, adult future lives and the next generation [1]. However, a low middle-income country still suffers from a child marriage problem [2], Indonesia is one of this country. Undeniably that early-age marriage is a serious problem [3]. Some cities in Indonesia recognized exposed to this problem, namely Jakarta, Surabaya, Bandung, and Yogyakarta [4].

Yogyakarta is one of the big cities with a high incidence of premarital sex. In 2015, the Yogyakarta Provincial Health Office reported that 1.078 adolescent births at school age, of which 976 were pregnant out of marriage status [5, 6]. This situation is distressing since the previous study said that most medical problems in adolescents related to sexual behavior, particularly getting pregnant before 20 [7]. This behavior put at risk to maternal and infant deaths 2-4 timed higher compared to the pregnant woman in 20-35 of age [8]. In addition, premarital sex in adolescents could cause some sexually transmitted diseases, such as gonorrhea, syphilis, HIV / AIDS and other venereal diseases [9, 10]. Another impact on un-safe sex puts an adolescent at risk of unintended pregnancies, which may contribute to other problems such as drop out of school, marrying early, leaving babies and gaining abortions [11-13].
According to the Indonesia Ministry of Health report, reported that the incidence of HIV / AIDS in adolescents (15-24 years) continues to increase every year [14]. People with HIV/AIDS in Indonesia recorded 103,759 people, 13,527 among them are HIV positive aged between 20-24 years old [15]. Refer to this report, attention to adolescent behavior needs to be improved, such as by conducting health promotion. There are differences of opinion about the best approach to promote health. However, refer to the Indonesian Demographic and Health Survey [16], adolescents prefer to see electronic media as the primary source of information to increase their understanding of HIV / AIDS, fertility, pregnancy, the influence of drugs and alcohol. This evidence strengthens by another research said that sexual health information was delivered through some sources like media, religious groups, family, school, etc. [17]. Accordingly, providing sexual-reproduction information to the adolescent using validate media is essential. This research aimed to assess the effect of audio-visual media to the increasing of sexual-reproduction knowledge in Junior High School students.

2. **RESEARCH METHOD**

2.1. **Setting and research design**

This study was conducted in a stated school: 4th Junior High School of Ngoro-oro, Patuk, Gunungkidul, Yogyakarta in August 2019. This school located in a rural setting. We used total sampling on recruiting the participant. The student in 1-3rd grades was invited to join in this study. Students who did not attend the school or left early were excluded. We conducted a before and after without control informal experimental study design, such as had performed in a recent study [18]. This design allows the researcher to observe the changing of knowledge before and after the intervention as formulated in Figure 1.

![Figure 1. Study design illustration](image)

2.2. **Intervention**

The intervention was delivered by the first author using a validation video education that received interval validation from the content expert, media expert and user. Accordingly, it is approved valid and relevant for adolescent. This video contains sexual health education on the adolescent with a duration of about 20 minutes. The various interactions were performed during intervention for keeping focus the respondent, such as by delivering simple questions to respondents.

2.3. **Pre- and post-assessments**

To assess the impact of the intervention to the respondent, a baseline assessment was carried out through pre-testing questionnaire. At the end of the intervention, the same survey was given to the respondent. The questionnaire delivered in Bahasa Indonesia consists of 41 true-false questions about adolescent health reproduction knowledge. An oral explanation was given to the respondent before the intervention was held together with the inform consent acquisition.

2.4. **Statistical analysis**

The answer to each question in the questionnaire was administrated in SPSS version 24.0 (IBM Corp., Armonk, NY, USA). The coding for every response was scored as follows: the correct answer was scored as +1, and the wrong answer was scored as 0. The individual total score is 41, and the lowest score is 0. We assessed the mean score before and after the intervention then continued with Wilcoxon test due to the data not in the normal distribution.

2.5. **Ethical considerations**

There was no harm arising from participating in this study. Respondents voluntary to participate in this study, and they are free to quit from the study anytime without consequential. Inform consent was obtained before the research started. Research data were saved by the research group with confidential and close the access without our permissions.
3. RESULT AND DISCUSSION

3.1. Respondent characteristic

In total, 153 out of 185 students participated in this study (response rate: 82%). Majority of respondent were female (54%). The mean age of the respondents was 13.53 years old, majority of the respondents were of 13-14 years, as shown in Table 1.

Table 1. Sociodemographic characteristic of respondent

| Variables | n  | (%)  |
|-----------|----|------|
| Gender    |    |      |
| Males     | 74 | (46.25) |
| Females   | 86 | (53.75) |
| Age (years) |  |
| 11-12     | 26 | (16.25) |
| 13-14     | 105| (65.63) |
| 15-16     | 29 | (18.12) |

3.2. Pre and post-assessments

A comparison between pre- and post-intervention shows that our baseline means score before the intervention was 34.40, then after the intervention was 35.83 (Figure 1). Our intervention by using audiovisual successfully increased the student knowledge; it is seen from the mean of total score between pre and post-test assessment (Figure 2). The knowledge differences between the two arms were significantly increased, as shown in Table 2.

Figure 2. Pre-post assessment using mean score

Table 2. Wilcoxon test for pre and post-intervention

| Variable | P-value |
|----------|---------|
| Pre-Test vs Post-Test | 0.000 |

The maximum total score for each question was 153 points. Figure 2 shows the comparison of pre and post-test responses for each question. We highlighted three questions that received less than 80 of the total score, either pre or post or both. Those questions are number 6) about everyone has different reproductive ability, 19) estrogen and progesterone are hormones in female, which also found in male, 21) reproductive hormones do not affect the physical and psychological development of girls and boy’s adolescent (Figure 3). A complete questionnaire can be accessed at the supplementary.
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This research may have a limitation, which was conducted in an insufficient situation. The number of respondents is a large amount, on another side, the venue is quite small. Accordingly, participants jostle each other, which may influence the information acceptance, likewise the convenience of questionnaire fulfillments. From this research, we suggest to the related stakeholder to act on the reproductive health among the adolescent. It can be done by inserting the topic on formal education or do the informal counseling with strengthening to the particular topic. In addition, audio-visual media can be used to support this purpose.

4. CONCLUSION

From this research can be concluded that audio-visual media have a significant role in increasing the sexual-reproduction health knowledge among adolescent. It is found that adolescent knowledge was insufficient related human reproductive hormone and human reproductive system. Future research suggested studying developing media for teaching-related human hormone and reproductive systems.

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