

# The Effectiveness of Education Using Video Media and Leaflets on Adolescents' Knowledge of the Impact of Mistimed Pregnancy

## ABSTRACT

**Aims.** Approximately 49% of pregnancies in adolescents aged 15-19 years are mistimed. Significantly in Jambi City, this trend has increased. It reflects adolescents' lack of understanding about healthy living, the risks of sexual relations, and the rejection of unwanted relationships. This study aimed to determine the effect of counseling using videos and leaflets on adolescents' knowledge about the impact of mistimed pregnancy.

**Materials & Methods.** This quasi-experimental study used a pre-post test with a control group design involving 48 adolescents in the video intervention group and 48 adolescents in the leaflet education group. This research was carried out in January - June 2021. Research data were analyzed using the Wilcoxon and Mann-Whitney tests.

**Findings.** Based on the analysis, adolescent knowledge about the impact of mistimed pregnancy is poor (91.7%) for both groups. After counseling interventions using videos and leaflets, adolescents' knowledge increased to Good by 91.7% and 89.6%, respectively. The Mann-Whitney statistical test shows the difference in effectiveness between video media and Leaflet media. The study's results showed that there were differences in the average knowledge before and after the intervention and differences in the effectiveness between video and leaflet media.

**Conclusion.** Education using video media is more effective than leaflet media in increasing adolescent knowledge about mistimed pregnancy.

**Keywords:** Knowledge, Mistimed pregnancy, Leaflet, Video

## Introduction

An unwanted pregnancy is experienced by a woman who does not want or does not want to become pregnant (1,2). Adolescents enter productive childbearing age along with the maturity of the reproductive organs (3,4). This condition triggers the urge of adolescents to have sexual relations with the opposite sex, which impacts their reproductive maturity (5). There are many ways to offer adolescent self-development, including playing with peers or peer groups. An uncontrolled way of associating will result in unmarried sexual relations, which according to norms and moral ethics, especially in Indonesia, will be fatal if not accompanied by family support (6,7).

The impact of unwanted pregnancies will cause various problems for the baby and his family. Children born from the above problems can experience mental development problems, especially if their parents cannot accept them (8). Children born to unplanned pregnancies have lower developmental scores. It can arise from less attentive parents but can also reflect disturbances from socioeconomic conditions (9). Another impact is abortion. Failed abortions can cause physical damage to the baby and bleed to the mother (10-12).

About 12 million teenage girls aged 15-19 years in developing countries get pregnant yearly, and almost half of these pregnancies (49%) are missed pregnancies (5). Unwanted pregnancies in adolescents in Indonesia have increased every year by 150,000 - 200,000. 10% of youth aged 15-19 are married and have children (13). A survey conducted in 9 (nine) big cities in Indonesia showed that there were 37,000 cases of mistimed pregnancies, 27% of which occurred in pre-marital situations, and 12.5 percent were students (14).

A national survey stated that in Jambi Province, the number of adolescents (10-19 years) who had been pregnant was 53.84%, and those who were pregnant were 23.59%. In Muaro Jambi Regency, there are 73 pregnant teenagers. The office of religious affairs in Jaluko District, Muaro Jambi Regency, reported that the number of marriages aged less than 20 years in 2019 reached 62 out of 1,066 teenagers, and this figure increased to 85 in 2020 (15).

The PenyengatOlak Health Center reported that the number of youth marriages under 20 was 13 in 2019 and 25 in 2020. As part of the local tradition, most Malay tribes marry because of arranged marriages for various reasons such as kinship, the economy, relatives of the two brides, and grooms who have never met even because of a mistimed pregnancy which often ends in divorce (16).

In order to reduce the incidence of missed pregnancy, adolescents' understanding of the impact of missed pregnancy needs to be increased through effective counseling. Research by Mulyati et al (17) reported that counseling using leaflet media could increase knowledge about early marriage. Leaflet media can be an alternative to health education, especially for young women. Princess et al. (18) reported that video media was more effective than the snakes and ladders method as educational media for class XI students, where most of the teenagers were in a Good category by using video media with a total of 31 students (51.7%) and in the Poor category as many as ten students (16.7%). Meanwhile, in snakes and ladders media, only 15 students (25%) have good knowledge of teenagers, and 15 students (25%) have poor knowledge. This difference is probably because video media can simplify, speed up, and improve the quality of teaching and learning.

For this reason, this study aimed to analyze the effectiveness of health education using videos and leaflets on adolescent knowledge about the impact of mistimed pregnancy.

## Methods

This quasi-experimental study used a pre-post-test control group design. It was conducted from January to June 2021 in the work area of the PenyengatOlak Public Health Center, Jambi City, Indonesia. Ninety-six adolescents participated in the study and were divided into groups with video interventions and leaflet education, totaling 48 adolescents each.

Participants were randomly selected with inclusion criteria such as having never been a respondent in a similar case, being able to read well, and being willing to participate. Meanwhile, adolescents who were sick were not included in the study. This study involved 96 participants who were divided into 2 groups. This number is obtained from calculations based on the Slovin formula (19). In detail, the calculation is 127 population,  $d = 0.05$ , so that a sample size of 96 is obtained.

The dependent variable in this study is adolescent knowledge about the impact of mistimed pregnancy, while the independent variable is education using video media and leaflets.

Data collection for research variables used a questionnaire consisting of 10 questions with an answer score of 10-100. Knowledge questions consist of the definition of a desired pregnancy, etiology, age group at risk, reasons for carrying out a mistimed pregnancy, the consequences of a mis-

timed pregnancy, how to prevent a mistimed pregnancy, the risk of death from bleeding, signs of pregnancy, and the ideal age for a woman to get pregnant.

Data are presented as numbers and percentages for categorical variables. Continuous data were expressed as mean  $\pm$  standard deviation (SD) or median with Interquartile Range (IQR). The data normality test uses Kolmogorov Smirnov, and the results show that the data is not normally distributed. Then proceed with bivariate analysis using the ANCOVA test. The ANCOVA test was used to determine the effect of the video media and leaflet media intervention on knowledge. All tests with p-value ( $p < 0.05$ ) were considered significant. Statistical analysis was performed using the SPSS version 16.0 application.

No economic incentives were offered or provided for participation in this study. The study was performed in accordance with the ethical considerations of the Helsinki Declaration. This study obtained ethical feasibility under the Health Research Ethics Commission of the Ministry of Health, Jambi, and registration number: LB.02.06/2/158/2022.

## Results

The results of this study can be presented in table 1 below.

Table 1. Knowledge before and after being given video media and leaflet media

Knowledge	n	Mean $\pm$ SD	Mean different	P-value
Video media				
Pre-test	48	56 $\pm$ 11.44	36	0.001
Post-test	48	92 $\pm$ 9.38		
Leaflet media				
Pre-test	48	60 $\pm$ 8.62	24	0.001
Post-test	48	84 $\pm$ 15.26		

Table 1 shows a significant increase in student's knowledge after education using video media, with a different average score of 36. A significant increase in student's knowledge after receiving an education using leaflet media, with a different average score of 24.

## Discussion

The success of education is influenced by several factors, such as education, duration, gender, information sources/educational media, psychological stress, culture and self-efficacy, and social support (20–22). Health education media plays an important role in helping audiences understand and capture the information contained (23,24). It is called educational media because it is a channel to convey health information. This equipment is used to facilitate the reception of health messages for the public (25,26).

In the current study, the equipment or media used are videos and leaflets. The current study results report that only a small proportion of adolescents have good knowledge about the impact of mistimed pregnancy. Adolescents who do not know the impact of mistimed pregnancy are probably caused by a lack of counseling at school and a lack of information through social media or other sources of information. A lack of information about the impact of mistimed pregnancies will affect one's knowledge.

The study showed increased adolescent knowledge after counseling was carried out using video media and leaflets. Even though the two media used showed positive results with an increase in knowledge, the increase was different between the use of leaflets and videos in mistimed pregnancy counseling. The mean rank in the video group was 64.85 with a minimum value of 72 and a max-

imum value of 100, while the mean rank in the media leaflet group was 32.15 with a minimum value of 68 and a maximum value of 100.

The statistical test showed a p-value of 0.000 or  $p < 0.05$ , meaning there was a significant difference between adolescents' knowledge in the video group and the leaflet group. The knowledge value of video media was higher than that of leaflet media; for that, video media was more effective than leaflet media.

In line with previous research, video media was more effective than leaflet media for knowledge about personal menstrual hygiene for class VII female adolescents in 2019, with a p-value = 0.000 (27). The study's results reinforce Tindaon's research (28) which reported that video media is more effective in increasing adolescents' knowledge and attitudes about exposure to pornography at SMP Negeri 1 Sidamanik key. Sidamanik Simalungun Regency

The video method is a teaching method with video media that stimulates the senses of sight and hearing. The advantages of this media are that it saves time and can be played repeatedly. We assume that video media combines the senses of sight and hearing, and lectures. The material presented is also in the form of written images and information made as attractive as possible so that the results are knowledge. The video group is better than the leaflet group.

The form of media display that teenagers are interested in is the form of interesting pictures and videos so that the information conveyed is easier to understand (29). Video media is felt to be more accessible, effective, and efficient, so it is widely used for health promotion and education (20).

In this study, educational videos have been proven to be a comprehensive promotional and educational tool to increase knowledge. It is highly recommended that in providing health education in order to increase public understanding both in the family setting and in society, it is highly recommended to use video media as an intervention tool. In the future, efforts should be made to make various materials packaged into educational videos that look attractive, accompanied by animations that match the message they want to convey.

The limitations of this study lie in the number of study participants and only included teenagers, so the types of participants were very homogeneous, and it was not possible to compare the effects of interventions on groups of people with different characteristics.

### **Conclusion**

There are differences in the effect of interventions using videos and leaflets in increasing adolescents' knowledge about the impact of mistimed pregnancies.

### **Conflict of interest**

There is no conflict of interest to declare.

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