



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



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## 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, with a pre-test and post-test with a control group design, was conducted from January to June 2021 in the work area of the Penyengat Olak Public Health Center, Jambi City, Indonesia. Ninety-six adolescents participated in the study and were divided into groups with video intervention and leaflet education, totaling 48 adolescents each. Research data were analyzed using the analysis of covariance test.

**Findings** A significant increase was observed in student's knowledge after education using video media, with a different mean score of 36 (p=0.001). Also, there was a significant increase in student's knowledge after receiving an education using leaflet media, with a different mean score of 24 (p=0.001).

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

**Keywords** Knowledge; Pregnancy; Adolescent; Audiovisual Aid; Learning

## CITATION LINKS

[1] Faktor-faktor yang berhubungan dengan kehamilan tidak diinginkan di Indonesia [2] Perilaku seksual pranikah berisiko terhadap kehamilan tidak diinginkan [3] Inhibitors and facilitators of unwanted adolescent pregnancy in Iran and the world: a review [4] Model of prevention of adolescent unwanted pregnancy in Indonesia [5] Individual and contextual factors associated with mistimed and unwanted pregnancies among adolescent girls and young women in selected high fertility countries in sub-Saharan Africa: a multilevel mixed effects analysis [6] Decisionmaking regarding unwanted pregnancy among adolescents in Mexico City: a qualitative study [7] Factors associated with unwanted pregnancy among adolescents in Russia [8] Dampak Kehamilan Tidak Diinginkan terhadap Perawatan Kehamilan dan Bayi (Studi Fenomenologi) di Kota Bogor [9] Children born after unplanned pregnancies and cognitive development at 3 years: social differentials in the United Kingdom Millennium Cohort [10] Poor pregnancy outcomes among adolescents in South Nyanza Region of Kenya [11] Prenatal maternal stress: effects on pregnancy and the (unborn) child [12] The impact of unwanted pregnancy in adolescents toward pregnancy care: a systematic review [13] Profil Kesehatan Indonesia tahun 2020 [14] Hasil utama RISKESDAS 2018 [15] Profil Kesehatan Kota Jambi [16] Laporan Riskesdas Provinsi Jambi 2018 [17] Gambaran Pengetahuan Remaja Mengenai Pernikahan Dini Dengan Menggunakan Pendidikan Kesehatan Media Leaflet [18] Efektivitas penggunaan media video dan ular tangga terhadap tingkat pengetahuan kesehatan reproduksi siswa kelas XI [19] Pengantar Metodologi Penelitian [20] Development of a patient-centered video series to improve education before kidney transplantation [21] Efektivitas Media Audiovisual dan Booklet Terhadap Pengetahuan Ibu Hamil Tentang Gizi Dalam Pencegahan Kekurangan Energi Kronis [22] Animated educational video to prepare children for MRI without sedation: evaluation of the appeal and value [23] What to expect that you're not expecting: A pilot video education intervention to improve patient self-efficacy surrounding discharge medication barriers [24] Peran Media Video Animasi Dalam Meningkatkan Pengetahuan Gizi Ibu Hamil [25] Efektivitas media video dan leaflet terhadap pengetahuan tentang anemia siswi sman 2 ngalik sleman [26] Efektivitas Promosi Kesehatan Media Video dan Leaflet terhadap Tingkat Pengetahuan tentang Pencegahan Osteoporosis [27] Pendidikan Kesehatan melalui Media Video dan Leaflet terhadap Pengetahuan Personal Hygiene Menstruasi Remaja Putri Kelas VII Tahun 2019 [28] Pengaruh komunikasi, informasi, dan edukasi (KIE) melalui media leaflet dan video terhadap pengetahuan dan sikap remaja tentang paparan pornografi di SMP Negeri 1 Sidamanik Kec [29] Efektivitas Penyuluhan Dengan Menggunakan Media Leaflet Dan Video Bahasa Daerah Terhadap Pengetahuan Bahaya Rokok Pada Remaja

## Introduction

An unwanted pregnancy is experienced by a woman who 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 par-ents 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 bleeding of 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 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% 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, 73% of the population are 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 Penyengat Olak 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].

To reduce the incidence of missed pregnancy, adolescents' understanding of the impact of missed pregnancy needs to be increased through effective counseling. 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. Putri

*et al.* [18] reported that video media was more effective than the Snakes and Ladders method as an educational media for class XI students, in which 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%) had good knowledge, and 15 students (25%) had 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 evaluate the effectiveness of health education using videos and leaflets on adolescent knowledge about the impact of mistimed pregnancy.

## Materials and Methods

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

Participants were randomly selected based on 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 two groups. This number was obtained from a calculation based on the Slovin formula [19]. In detail, with a population of 127 people and  $d=0.05$ , the sample size was 96 people.

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

Nursing Documentation Questionnaire consisting of 10 questions with an answer score of 10-100 was used to collect data for research variables. Knowledge questions consisted of the definition of a desired pregnancy, etiology, age group at risk, reasons for carrying out a mistimed pregnancy, the consequences of a mistimed 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. Before using this documentation questionnaire was tested on 15 adolescents who were not involved in this study. The reliability of the nursing documentation questionnaire was confirmed with Cronbach's alpha of 0.866.

Data were presented as numbers and percentages for categorical variables. Continuous data were expressed as mean  $\pm$  Standard Deviation (SD) or median with Interquartile Range (IQR). Kolmogorov-Smirnov test was used to examine the data normality,

and the results showed that the data was not normally distributed. Then Analysis of Covariance (ANCOVA) test was to determine the effect of the video media and leaflet media intervention on knowledge. Statistical analysis was performed using SPSS 16.0 software.

## Findings

A significant increase was observed in student's knowledge after education using video media, with a different mean score of 36 ( $p=0.001$ ). Also, there was a significant increase in student's knowledge after receiving an education using leaflet media, with a different mean score of 24 ( $p=0.001$ ; Table 1).

**Table 1** Knowledge before and after being given video media (n=48) and leaflet media (n=48)

Knowledge	Mean±SD	Mean difference	p-value
<b>Video media</b>			
Pre-test	56.00±11.44	36	0.001
Post-test	92.00±9.38		
<b>Leaflet media</b>			
Pre-test	60.00±8.62	24	0.001
Post-test	84.00±15.26		

## 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 play an important role in helping audiences understand and receive available information [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 were videos and leaflets. The current study results reported that only a small proportion of adolescents have good knowledge about the impact of mistimed pregnancy. Lack of knowledge of adolescents about the impact of mistimed pregnancy is 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. This study showed that adolescents' knowledge increased after counseling using video media and brochures. 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 maximum 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 0.0001, meaning there was a significant difference between adolescents' knowledge in the video group and the

leaflet group. The knowledge level of the video media group was higher than that of the leaflet media group; therefore, 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 of 0.0001 [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.

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. Hence, the video is better than the leaflet.

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 appear 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 to use video media as an intervention tool in providing health education to increase public understanding both in the family setting and in society. 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 limitation of this study is that the participants were only teenagers, so the types of participants were very homogeneous, and it was not possible to compare the effect of interventions on groups of people with different characteristics. Future studies should involve the entire potential age range in the community in order to better describe more comprehensive results.

## Conclusion

The intervention using video media is more effective than leaflets in increasing adolescents' knowledge about the impact of mistimed pregnancies.

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**Ethical Permission:** 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.

**Conflict of Interests:** There is no conflict of interest to declare.

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