

THE EFFECT OF AUDIOVISUAL COMMUNICATION, INFORMATION, AND EDUCATION (CIE) ON ADOLESCENTS' KNOWLEDGE LEVEL REGARDING REPRODUCTIVE ORGANS AT SMPN 02 AJUNG, JEMBER

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ABSTRACT

Reproductive organ development is a topic that needs to be known by adolescents in order to have the correct information about the process of reproductive organ development. Problems related to reproductive organ development are often rooted in a lack of information, understanding and awareness of reproductive organ changes during adolescence. This study aims to determine the effect of audiovisual media on the level of adolescent knowledge about reproductive organ changes. The sample used was grade VIII students at SMPN 02 Ajung. This study is a quantitative study with data collection techniques using interviews, and data is processed using a simple linear regression. The results of the study showed that there was an influence of kie (audiovisual) on the level of knowledge of adolescent reproductive organs, which was indicated by physical changes in male adolescents such as the growth of an Adam's apple, a deepening of the voice, the growth of a moustache, and in female adolescents it was indicated by menstruation, enlarged breasts, and a higher-pitched voice

Keywords: reproductive health education, audiovisual, reproductive organs

INTRODUCTION

The development of reproductive organs is an important topic that adolescents need to understand so that they are mentally and physically prepared to accept the changes that occur in their bodies during adolescence. Reproductive organs are organs involved in the reproductive process and begin to function when individuals enter puberty. Lack of mental readiness in facing physical changes during adolescence is often rooted in insufficient information and understanding regarding the processes of reproductive organ development. With accurate and appropriate information, adolescents are expected to be able to understand and accept changes in their reproductive organs.

According to the Indonesian Dictionary (KBBI), Information, Education, and Communication (IEC) refers to educational processes involving efforts to change the attitudes and behaviors of individuals or groups in order to develop maturity. IEC regarding reproductive organs can be provided through face-to-face education using audiovisual media as an educational tool (Notoatmodjo, 2012). This study aimed to determine the effect of audiovisual IEC on adolescents' knowledge levels regarding reproductive organ development. Through the provision of audiovisual IEC about reproductive organ development, adolescents are expected to have better mental and physical readiness in facing reproductive changes during puberty.

In females, internal reproductive organs include the vagina, uterus, fallopian tubes (oviducts), and ovaries. External reproductive organs consist of the vulva, which includes the area surrounding the vaginal opening, including the labia and clitoris. In males, internal

reproductive organs include the testes, epididymis, vas deferens, and accessory glands such as the prostate gland and seminal vesicles. The external male reproductive organs consist of the penis and scrotum.

This study was conducted at SMPN 02 Ajung. The study sample consisted of eighth-grade students aged 12–14 years. This age group was selected because it represents the period of puberty, characterized by physical and psychological changes related to reproductive organ development in both males and females.

METHOD

This study employed a quantitative research design. Data were collected using a questionnaire instrument administered to 50 students. The study sample consisted of seventh-grade students at SMPN 02 Ajung, Jember Regency. The sampling technique used was purposive sampling, in which participants were selected based on specific considerations relevant to the research objectives. The selection of the research site was based on the approval and permission granted by the school principal. The researchers directly determined the participants who met the inclusion criteria and were willing to participate in the study.

Data analysis was conducted to test the research hypothesis using regression analysis, preceded by a normality assumption test to ensure that the data met the requirements for statistical analysis. This analysis was performed to determine the effect of audiovisual Information, Education, and Communication (IEC) on students' knowledge regarding changes in reproductive organs.

RESULTS

Table 1. Normality Test Results

Variable	N	Kolmogorov–Smirnov Statistic	Monte Carlo Sig. (2-tailed)	Interpretation
Unstandardized Residual	50	0.179	0.015	Not normally distributed

Based on Table 1, the results of the One-Sample Kolmogorov–Smirnov Test showed a Kolmogorov–Smirnov test statistic of 0.179 with a Monte Carlo Sig. (2-tailed) value of 0.015. Since the significance value (0.015) was less than 0.05, it can be concluded that the data were not normally distributed. Therefore, the assumption of normality was not satisfied.

Based on the statistical analysis using the regression test on the students' interview data, the results are presented in the following table:

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.068	0.765	-0.031	2.13559

Table 2 presents the results of the regression model summary. The correlation coefficient (R) was 0.068, indicating a very weak relationship between the independent and dependent variables. The coefficient of determination (R Square) was 0.765, suggesting that the model explained 76.5% of the variance in the dependent variable. However, the Adjusted R Square was -0.031, indicating that after adjusting for the number of predictors and sample size, the model did not adequately explain the variability in the outcome. The standard error of the estimate was 2.13559, representing the average deviation of the observed values from the

regression line.

Table 3. ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.599	1	0.599	0.131	0.020
Residual	127.701	28	4.561		
Total	128.300	29			

As presented in Table 3, the ANOVA results indicated that the regression model was statistically significant ($F = 0.131$, $p = 0.020$), suggesting that the predictor variable, parent, significantly influenced the dependent variable, character, at the 5% significance level. Therefore, the regression model was considered statistically significant and appropriate for explaining the relationship between the predictor and the outcome variable.

DISCUSSION

The findings of this study indicate that the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. The acceptance of H_1 was based on the two-tailed significance value of 0.020, which was lower than the predetermined significance level of 0.05. These results demonstrate that audiovisual communication, information, and education (CIE) had a statistically significant effect on adolescents' knowledge of reproductive organs among students at SMPN 02 Ajung, Jember Regency. Providing audiovisual CIE at an early stage is essential because it contributes to improving adolescents' knowledge, attitudes, and behavioral readiness in facing the physical and psychological changes associated with puberty. Adequate knowledge serves as a fundamental basis for adolescents to understand and positively respond to changes in their reproductive health.

Following the implementation of the intervention, differences were observed in students' readiness to cope with reproductive organ changes before and after receiving audiovisual CIE. Statistical analysis confirmed that H_0 was rejected and H_1 was accepted, as the two-tailed significance value remained 0.020 ($p < 0.05$). These findings indicate that audiovisual CIE significantly influenced adolescents' understanding and acceptance of reproductive organ changes. Improvements were evident in several indicators, including increased readiness to accept physical changes during puberty, reduced anxiety regarding menstruation, breast development, and the growth of axillary and pubic hair among female students, as well as the development of facial hair, the Adam's apple, and axillary and pubic hair among male students. Prior to the intervention, 27 respondents (66%) reported that they had never received audiovisual education on reproductive health, whereas only 23 respondents (34%) had previously received such education.

Audiovisual media have been recognized as effective educational tools that enhance learning by integrating visual and auditory stimuli. Video-based learning can capture students' attention while fostering empathy, emotional engagement, and appreciation of real-life situations through interactive technological features (Amanah & Rahmawati, 2022). Likewise, audiovisual media facilitate faster comprehension and stronger memory retention because learners simultaneously process information through hearing and vision (Handayani et al., 2022). The combination of images, sound, and motion has been shown to improve adolescents' understanding of reproductive health concepts. Moreover, audiovisual media can stimulate learners' emotions and attitudes while maintaining attention on educational content, thereby improving message retention and supporting the achievement of learning objectives (Handini, 2021). Adolescents' ability to understand health information and its sources is a critical determinant of their knowledge, enabling them to make informed

decisions regarding their own bodies. Greater access to reproductive health information contributes to more positive attitudes and enhances adolescents' preparedness to cope with pubertal changes (Umaroh et al., 2021). Consistent with these findings, the present study demonstrated an increase in both knowledge and attitudes toward reproductive health following the audiovisual educational intervention.

The present findings are consistent with previous studies. Wahyuni and Arisani (2022) reported that audiovisual educational media significantly improved adolescents' knowledge scores. Similarly, Umami et al. (2022) found that audiovisual health education positively influenced adolescents' reproductive health knowledge. Furthermore, Wirastrri (2023) concluded that audiovisual educational interventions effectively increased adolescents' knowledge regarding reproductive health.

Based on the regression analysis, the audiovisual CIE intervention demonstrated a substantial contribution to adolescents' reproductive health knowledge, with an R Square value of 0.765, indicating that approximately 76.5% of the variance in reproductive health knowledge was explained by the intervention. In addition, the regression model yielded a significance value of 0.020 ($p < 0.05$), confirming a statistically significant effect of audiovisual CIE on adolescents' knowledge of reproductive organs. Qualitative findings from interviews revealed that one of the primary barriers to improving reproductive health knowledge was students' lack of motivation, largely attributed to monotonous and unengaging teaching methods. Therefore, educators are encouraged to implement more interactive and engaging instructional approaches, particularly through audiovisual learning media, to enhance students' understanding, facilitate knowledge retention, and encourage the practical application of reproductive health knowledge as part of adolescents' personal responsibility for maintaining their health.

CONCLUSION

Based on the findings and analysis of this study regarding the effect of audiovisual communication, information, and education (CIE) on adolescents' knowledge of reproductive organs at SMPN 02 Ajung, it can be concluded that the audiovisual CIE intervention accounted for 76.5% of the variance in students' reproductive health knowledge, while the remaining 23.5% was attributable to other factors that were not examined in this study. Furthermore, the regression model summary yielded a significance value of 0.020, which was lower than the significance threshold of 0.05, indicating that audiovisual CIE had a statistically significant effect on adolescents' knowledge of reproductive organs among students at SMPN 02 Ajung, Jember Regency.

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