COMPREHENSIVE SEXUALITY EDUCATION (CSE) INTERVENTION THROUGH AUDIO VISUAL MEDIA FOR ELEMENTARY CHILDREN

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ABSTRACT
Knowledge about reproductive and sexual health, especially in pre-pubertal children, is still lacking and often considered taboo. It is time for children and adolescents to be provided with comprehensive, clear, and easy-to-understand reproductive and sexual health knowledge. Comprehensive Sexuality Education (CSE) is a reproductive and sexual health education program that is being developed worldwide. Audiovisual media, as a health promotion tool, can depict abstract objects more concretely, thus effectively conveying reproductive and sexual health messages. To measure the effect of Comprehensive Sexuality Education (CSE)-based health education using audiovisual media on improving reproductive and sexual health knowledge among elementary school students. This study used a quasi-experimental design with a non-equivalent control group. A sample of 41 respondents was drawn using purposive sampling. The research instrument was a multiple-choice questionnaire with 25 questions on reproductive and sexual health, covering eight domains. The questionnaire results were analyzed using the Wilcoxon Signed Rank Test to determine the effect of each intervention and the Mann-Whitney Test to compare the effectiveness of the two interventions. Comprehensive Sexuality Education (CSE)-based health education using audiovisual media increased respondents' knowledge by 0.65 points with a p-value of 0.041 < 0.05. The control group using the lecture method showed a 0.05 point increase in knowledge with a p-value of 0.761 > 0.05. Compared to the audiovisual and lecture methods, the p-value was 0.614 > 0.05. Comprehensive Sexuality Education (CSE)-based health education using audiovisual media significantly increased reproductive and sexual health knowledge among elementary school students.

Keywords: audiovisual media; comprehensive sexuality education (CSE); elementary school children; knowledge; reproductive; sexual health

INTRODUCTION
Reproductive rights are fundamental human rights, first discussed globally at the International Conference on Population and Development (ICPD). This conference produced, among other things, a draft on reproductive rights, one of which is access to information on reproductive and sexual health (Brown & Hardee, 2024). Indonesia was one of the countries that attended the conference, and as a follow-up, held the first national-level workshop on reproductive health in 1966. This workshop resulted in four Essential Reproductive Health Services (PKRE) programs, which included maternal neonatal health, family planning, adolescent reproductive health, and prevention and control of reproductive infections (Violita & Hadi, 2019). Currently, the right to obtain knowledge of reproductive and sexual health also aligns with the objectives of the Sustainable Development Goals (SDGs points 3, 4, and 5, namely good health and well-being, quality education, and gender equality (Owolabi et al., 2024).

Sexuality education is a critical component of holistic child development, especially in the early stages of schooling when children begin to form foundational understandings of their bodies, relationships, and personal safety. Comprehensive Sexuality Education (CSE) goes beyond basic biological knowledge to include topics such as consent, respect, gender equality, and emotional development (Rodliya et al., 2025). The World Health Organization (WHO) and UNESCO emphasize the importance of delivering

CSE from an early age to foster informed, respectful, and responsible attitudes regarding sexuality (UNESCO, 2018).

In Indonesia, particularly in regions like Yogyakarta, sexuality education in elementary schools remains limited and often taboo, leading to significant knowledge gaps and misconceptions among children (Pangestuti et al., 2021). Cultural sensitivities and a lack of trained educators further hinder the integration of sexuality education into school curricula. Consequently, children are left vulnerable to misinformation, sexual abuse, and unsafe behaviors due to an inadequate understanding of personal boundaries and reproductive health (Nisa, 2024). To address these challenges, innovative and age-appropriate methods are needed. One such promising approach is the use of audio-visual media in delivering CSE. Audio-visual tools offer an engaging and accessible format that simplifies complex topics and captures children's attention more effectively than conventional lectures or text-based materials (Putri et al., 2024). Evidence suggests that audio-visual interventions improve children's knowledge retention and positively influence attitudes and behaviors regarding sexuality (Rahmasari & Fathiyah, 2023a). This study aims to evaluate the effectiveness of CSE intervention using audio-visual media for elementary school children in Yogyakarta. The intervention is expected to enhance children's understanding of personal hygiene, body autonomy, safe and unsafe touch, and respect in relationships, laying the groundwork for healthier psychosocial development and protection from exploitation.

METHOD

This research was conducted using an experimental research approach with a quasi-experimental method. To analyze the effects of reproductive and sexual health promotion, researchers conducted a pretest before the treatment and a posttest afterward on students. The research design was a non-equivalent control group design, suitable for research on training and comparative evaluations or interventions of other health programs (Pinzon & Edi, 2021). This research was conducted at MI Sultan Agung in Condongcatur. MI Sultan Agung is among 16 randomly selected elementary schools in Condongcatur Village, Yogyakarta, Indonesia. Condongcatur Village is known to be a model village for gender mainstreaming and is working to prevent violence against women and children.

In this study, researchers conducted a direct intervention using audiovisual media and slides, and used pretests and posttests as data collection instruments. The pretest, intervention, and posttest were administered within one hour on the same day to avoid bias, contamination, and dropout if the sessions were too long. The sample was taken using purposive sampling technique, with inclusion criteria in the form of a comprehensive sexual education grid used for category II, namely ages 9-12 years, so that respondents were selected from that age range, Respondents are students of MI Sultan Agung, Respondents are 5th grade students, Respondents are willing to participate in the study, Respondents collect informed consent that parents/guardians have signed. The exclusion criteria in this study are students who are absent during the study. In its implementation, the number of respondents fall into the inclusion and exclusion criteria is 41 people. Of the 41 people, researchers were assisted by class teachers in dividing them into two groups randomly and equally; 21 people were in the control group, and 20 were in the treatment group.

The questionnaire used to collect data on students' knowledge of reproductive health and sexuality was a 25-item multiple-choice questionnaire completed by crossing out the most correct answer out of three options. A correct answer was worth 1, and an incorrect answer was worth 0. The score for this questionnaire was calculated by adding up the correct student scores. The questionnaire was compiled based on the International Technical Guide of Sexuality Education, with eight domains:

Table 1.
Reproductive and Sexual Health Knowledge Questionnaire Grid

Knowledge Domain	Question Numbers	Total
Relationships with Others	11,12	2
Socio-Cultural Aspects and Sexuality	14	1
Gender	9	1
Violence	10, 15, 16, 17, 18, 19	6
Healthy Life Skills	13, 25	2
The Body and Its Development	2, 3, 4, 5, 6, 7, 8, 20	8
Sexual Behavior	22, 23, 24	3
Reproductive Health and Sexuality	1, 21	2

The validity test was conducted on 29 students of Muhammadiyah Kayen Elementary School, Condongcatur, due to their similar characteristics to the research location, namely MI Sultan Agung Condongcatur. The analysis used was univariable or descriptive analysis to determine the characteristics of the research respondents, as well as the level of students' knowledge of reproductive health, sexuality, and the prevention of sexual violence. After knowing the characteristics of each research variable, a normality test and a homogeneity test were conducted. The normality test used the Shapiro-Wilk Test method because the sample size was small and the data were on an interval scale. In contrast, the homogeneity test used the Levene Test, using the pretest and posttest data results from each group. The results of the normality and homogeneity tests will be used to determine what statistical tests to use in the bivariate analysis. This research has passed the ethical test or ethical clearance with the ethics committee approval number KE/FK/0003/EC/2019.

RESULT AND DISCUSSION

In this study, the identified respondent characteristics were data primarily related to confounding variables, including age, gender, parental occupation, puberty experience, and experience of sexual violence. The identified data are outlined in the table below:

Table 2.
Characteristics of Research Respondents

Characteristics	Group			
	Treatment	%	Control	%
Age				
10 years	11	55	10	47,6
11 years	8	40	11	52,4
12 years	1	5	0	0
Total	20	100	21	100
Gender				
Female	13	65	12	57,1
Male	7	35	9	42,9
Total	20	100	21	100
Parental Occupation				
Government Employees	4	20	2	9,5
State-Owned Enterprise (SOE) employee	1	5	0	0
Private sector employee	2	10	2	9,5
Self-employed	7	35	11	52,4
Indonesian National Armed Forces/ Indonesian National Police	1	5	1	4,8
Others	5	25	5	23,8
Total	20	100	21	100
Menstration (For Women)				
Has started	1	7,7	1	8,3
Has not started	12	92,3	11	91,7
Don’t know / Not sure	0	0	0	0
Total	13	100	12	100

Characteristics	Group			
	Treatment	%	Control	%
Wet Dreams (For Males)				
Has experienced	1	14,3	0	0
Has not experienced	5	71,4	7	77,8
Don't know / Not sure	1	14,3	2	22,2
Total	7	100	9	100
Has anyone ever forced you to be touched in your private areas?				
Yes	2	10	2	9,5
No	16	80	16	76,2
Don't know / Not sure	2	10	3	14,3
Total	20	100	21	100
Has anyone ever forced you to touch their private areas?				
Yes	0	0	2	9,5
No	19	95	19	90,5
Don't know / Not sure	1	5	0	0
Total	20	100	21	100
Has anyone ever shown their genitals to you?				
Yes	1	5	2	9,5
No	18	90	17	81
Don't know / Not sure	1	5	2	9,5
Total	20	100	21	100
Reproductive Health Information				
Have received	5	75	4	19
Have not received	15	25	17	81
Total	20	100	21	100

Of the total 41 respondents, a pretest, intervention, and then a posttest were conducted, the results of which can be seen in the following research statistics table:

Table 3.
Descriptive Results of Pretest and Posttest

Group	Variable	N	Range	Min Score	Max Score	Total score	Mean	Dev Std	Varians
Intervention	Pretest	20	7	18	25	453	22,65	2,110	4,450
	Posttest	20	5	20	25	466	23,30	1,559	2,432
Control	Pretest	21	9	16	25	471	22,43	2,014	4,057
	Posttest	21	8	17	25	472	22,48	2,482	6,162

After identifying the characteristics of the respondents and the descriptive characteristics of the questionnaire results, normality and homogeneity tests were conducted to determine the analytical test that would be used to determine the effect of health promotion on student knowledge. The following table shows the results of the pretest and posttest normality tests between groups:

Table 4.
Normality Test Results

Test of Normality					
Saphiro-Wilk					
Group	Variable	Statistic	Df	Sig.	Conclusion
Intervention	Pretest	0,799	20	0,001	Not normal
	Pretest	0,764	20	0,000	Not normal
Control	Pretest	0,905	20	0,051	Normal
	Pretest	0,897	20	0,036	Not normal

Therefore, from the table of normality test results for each research variable, it can be seen that the knowledge level variable for both the treatment and control groups is not normally distributed. Therefore, to compare the pretest and posttest scores of students' knowledge levels, the Wilcoxon Signed Rank Test

will be used, and to compare the effectiveness of each intervention, the Mann-Whitney Test will be used. The homogeneity test is one of the requirements for determining the selection of subsequent analysis tests after the normality test. The results of the homogeneity test can be seen in the table:

Table 5.
Homogeneity Test Results

	Levene Statistic		df1	df2	Sig.
Value	Based on mean	3,566	1	39,0	0,066
	Based on median	0,555	1	39,0	0,461
	Based on median and with adjusted df	0,555	1	24,7	0,463
	Based on trimmed mean	2,573	1	39,0	0,117

Based on the table, it is known that the significance value based on the average is 0.066 > 0.05, so it can be concluded that the variance of the data for all groups is the same or homogeneous. After determining that the data were not normally distributed and homogeneous, the analysis was continued. The analysis test used to determine the difference in the average pretest and posttest results of the treatment and control groups was a non-parametric test, namely the Wilcoxon Signed Rank Test. Meanwhile, a comparison of the average difference in knowledge levels between the research groups was used to determine which group was more effective or significantly influenced the research. The Mann-Whitney test was used because the data were not paired, the results of the data normality test were not normally distributed, and the data were homogeneous in the homogeneity test. The results of the Wilcoxon Signed Rank Test and the Mann-Whitney Test can be seen in the following table:

Table 6.
Results of the Wilcoxon Signed Rank Test and Mann-Whitney Test Analysis

Group	n	Variable	Mean	Difference	Z count	Asymp. Sig. (2-tailed)*	Asymp. Sig. (2-tailed)**
Intervention	20	Pretest	22,65	0,65	-2,040	0,041	0,614
	20	Posttest	23,30				
Control	21	Pretest	22,43	0,05	-0,305	0,761	
	21	Posttest	22,48				

Notes:
*) Results of the Wilcoxon Signed-Rank Test analysis.
**) Results of the Mann-Whitney Test analysis.

In the treatment group, the mass media method (audiovisual), the Asymp, was used. Sig. (2-tailed) The value was 0.041 < 0.05, thus concluding that using the mass media learning method significantly increased knowledge of reproductive and sexual health. Meanwhile, in the control group using the lecture method, the Asymp. Sig. (2-tailed) The value was 0.761 > 0.05, thus concluding that the lecture method did not significantly increase knowledge of reproductive and sexual health. Meanwhile, the Mann-Whitney Test was used to compare the effectiveness of each method. The Asymp. Sig. (2-tailed) The value for the difference in the average between the treatment group and the control group was 0.614 > 0.05, so according to statistical calculations, there was no significant difference between audiovisual and lectures in promoting reproductive and sexual health.

This study demonstrates that Comprehensive Sexuality Education (CSE) delivered through audiovisual media significantly improves elementary school students' knowledge of reproductive and sexual health. The increase in mean scores and a p-value of 0.041 < 0.05 in the intervention group indicates the effectiveness of using engaging and contextualized media in delivering sensitive educational content to children aged 9–12 years. These findings are consistent with those of Rahmasari & Fathiyah (2023), who found that audiovisual interventions significantly improved elementary students' understanding of personal boundaries and safe behaviors. Audiovisual media is proven to stimulate both visual and

auditory senses, enhancing memory retention and comprehension in children, particularly for abstract or taboo topics like reproductive health (Rahmasari & Fathiyah, 2023b).

The use of audiovisual tools also aligns with the principles of the International Technical Guidance on Sexuality Education (UNESCO, 2018), which emphasizes the importance of age-appropriate, culturally relevant, and participatory methods (UNESCO, 2018). In this study, videos facilitated discussions on bodily autonomy, gender, consent, and healthy relationships, domains often neglected in conventional lecture-based instruction. Meanwhile, the control group, which received lecture-only interventions, showed no statistically significant improvement ($p = 0.761 > 0.05$), reinforcing the need to shift from didactic to interactive pedagogies. Comparative findings are also presented by Widyastuti et al. (2022), whose quasi-experimental research reported that audiovisual-based education increased adolescents' reproductive health knowledge by up to 21% compared to conventional counseling (Widiyastuti & Hakiki, 2022). Similarly, Robbani et al. (2025) noted significant improvements in knowledge scores among junior high school students after exposure to animated CSE videos. This further supports the idea that integrating multimedia content in sexuality education is crucial, especially in contexts where discussion around sex and reproductive health is stigmatized (Robbani et al., 2025).

Interestingly, the Mann-Whitney test in this study showed no statistically significant difference between the intervention and control groups ($p = 0.614 > 0.05$). This finding may suggest limitations in sample size or intervention duration. However, the within-group difference in the treatment arm still underscores the value of audiovisual CSE tools. Future studies with larger sample sizes and longitudinal follow-up are needed to capture lasting knowledge retention and behavior change outcomes. Furthermore, the study reveals that although children possess baseline knowledge, particularly in domains like gender and healthy life skills, substantial gaps remain in topics such as consent, sexual violence prevention, and emotional development. This aligns with Meadors et al. (2022), who highlighted that reproductive health curricula in Indonesia often lack psychological and relational components, leaving children unprepared to navigate real-life situations involving personal safety and social interaction(Meadors et al., 2022).

The lecture method is the oldest method in health promotion, but it is considered the most difficult, because it requires mastery of lecture skills and tends to make the subject passive. Health promotion using the lecture method must be designed appropriately for its use, which requires special expertise, or combined with various other methods to increase its effectiveness (Ogunlowo & Ajibade, 2024). In the "cone of experience", that there are differences in effectiveness in delivering material through verbal, visual, involvement, and action. The source also states that if verbal delivery is 1x effective, then if done through visuals it will increase its effectiveness to 3.5x, and increases to 6x if through verbal-visual media (Cecep et al., 2024).

In terms of cultural relevance, Todesco et al. (2023) emphasized the necessity of culturally adapted CSE models in Indonesia, where religious and traditional norms often conflict with open discussions of sexuality. Audiovisual media, when tailored properly, can bridge this gap by presenting sensitive content in a neutral and non-threatening manner (Violita & Hadi, 2019). The success of the audiovisual intervention in this study reinforces the potential of multimedia content to overcome cultural barriers and stimulate meaningful learning (Todesco et al., 2023). Finally, the inclusion of domains such as sexual violence prevention and gender equality in the CSE intervention echoes global priorities highlighted in the UN SDG Goal 5 on gender equality and elimination of violence. Educating children from an early age using comprehensive and engaging tools equips them with critical thinking skills, self-awareness, and respect for others, elements that contribute to healthier societies.

CONCLUSION

Comprehensive Sexuality Education (CSE) delivered through audiovisual media significantly enhances elementary students' knowledge of reproductive and sexual health. The intervention increased understanding across various domains, particularly in recognizing bodily autonomy, safe and unsafe touch, and social interactions. Compared to the lecture method, audiovisual tools provide a more effective, engaging, and age-appropriate approach to discussing sensitive topics. Despite the Mann-Whitney test result showing no statistically significant difference between intervention and control groups, the within-group gain in the treatment arm highlights the practical advantage of audiovisual methods. These findings underscore the importance of integrating innovative and culturally adapted teaching media into the school curriculum to build children's capacity to make informed, safe, and respectful decisions regarding their bodies and relationships.

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