The Influence of Audio-Visual Social Media on Knowledge of the Impact of Early Marriage on Adolescent Reproductive Health

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Abstract

Early marriage remains a serious issue that negatively impacts the reproductive health, education, economy, and psychology of adolescents. Ironically, social media often romanticizes this practice, thereby potentially reinforcing misperceptions and reducing reproductive health literacy. The lack of empirical research on the role of social media in shaping adolescents' knowledge about early marriage has created a gap in the literature that needs to be addressed. Lo988 A two-group pretest-posttest pre-experimental research design with a sample of 336 adolescents (168 intervention, 168 control) from SMAN 5 and SMAN 7 Cirebon, selected through simple random sampling. The intervention consisted of health education through animated videos and discussions via WhatsApp. Data were analyzed using the Mann-Whitney test with SPSS. The results showed that the intervention group experienced a significant increase in knowledge after education ($p < 0.05$), with the majority of respondents before the intervention, 88 people (52.38%), in the "poor" category. after the intervention, 89 respondents (52.98%) were categorized as "adequate" and 74 respondents (44.05%) were categorized as "good." The control group showed only minimal changes. Therefore, future researchers are advised to develop interventions based on teenage influencers to expand the reach and sustainability of promotion.

Keywords: Early marriage, Adolescent, Reproductive health, Social media, Audiovisual media, Health education, Knowledge

Introduction

Early marriage remains a serious problem in Indonesia because it has a widespread impact on the quality of life of young people. Data from the Cirebon City Religious Affairs Office in 2020 shows that around 19.6% of marriages involve women under the age of 19. (Yuhandini et al., 2023). This phenomenon not only violates the minimum age for marriage under Law No. 16 of 2019, but also poses significant health, educational, and social risks for adolescent girls. (Sekretariat Negara Republik Indonesia, 2019). World Health Organization (WHO) even placing early marriage and unsafe abortion as priority issues in adolescent reproductive health (Barokah & Zolekhah, 2019)

The development of social media has brought about major changes in the way teenagers obtain information and form their outlook on life. Influencers with large numbers of followers play a role in shaping public opinion, including on the issue of early marriage. Many accounts feature content about early marriage in a romantic light, as if portraying marriage at a young age as something ideal and full of happiness. This romanticization influences teenagers' perceptions, making them more accepting or even normalizing the practice of early marriage without considering the long-term risks.

Teenagers' knowledge of reproductive health plays an important role in decision-making. The more sources of information teenagers have access to, the broader their insight in assessing the risks involved. However, low digital literacy and lack of access to educational information make most teenagers vulnerable to the influence of unhealthy social media content. Proper education is needed so that teenagers can sort through information and improve their understanding of the consequences of early marriage. (Ariani et al., 2021).

Early marriage has serious consequences for reproductive health. Girls aged 10–14 are five times more likely to die during pregnancy or childbirth than women aged 20–25. (Tsani, 2021). In addition, immature reproductive organs increase the risk of pregnancy complications, premature birth, and maternal and infant mortality. Psychologically, early marriage can also cause stress, mental pressure, and loss of adolescence. (Chairiyah & Anggraeni, 2022).

In addition to biological factors, early marriage is influenced by culture, economics, education, and a lack of legal awareness. Many families marry off their children at a young age due to tradition, economic constraints, or pregnancy outside of marriage. Therefore, promotional and preventive efforts are needed in the form of early reproductive health education, digital literacy, and the use of social media as a means of education. Through this strategy, it is hoped that adolescents will have sufficient knowledge to reject the practice of early marriage and maintain their reproductive health.

Literature Review

Social Media

Social media is a digital communication tool that is widely accessed by Generation Z teenagers, especially platforms such as Instagram, YouTube, WhatsApp, and Facebook. Influencers play a major role in shaping behavior because they are considered role models by their followers. The content they upload often contains narratives that romanticize early marriage, portraying young marriage as an ideal and happy choice. According to Rambe 2023, social media has a significant influence on changing the attitudes and behaviors of teenagers. This phenomenon is in line with the concept of social learning theory, which states that individuals tend to imitate the behavior of figures they admire or follow. (Rambe et al., 2023)

Level of Knowledge Among Adolescents

Knowledge is the result of a person's cognitive process after receiving information, which can influence attitudes and behavior. The level of knowledge among adolescents about reproductive health is an important factor in preventing early marriage. Yusuf and Hamdi (2021) explain that adolescents' interaction with the media can shape their understanding of health risks. Health education, both formal and informal, can increase adolescents'

awareness of the dangers of early marriage (Adelia & Sulistiawati, 2023). Therefore, measuring knowledge is an important indicator in assessing the effectiveness of educational interventions. (Musfiroh et al., 2020).

The Impact of Early Marriage on Reproductive Health

Marriage at an early age, especially before the age of 19, has serious consequences for reproductive health (Wijayanti et al., 2023). Women aged 10–14 are five times more likely to die during pregnancy or childbirth than women aged 20–25 (Yusuf & Hamdi, 2021). In addition, immature reproductive organs increase the risk of complications during childbirth, premature birth, and stunting (Maptukhah & Anita, 2023). From a psychological perspective, early marriage can cause stress, loss of adolescence, and increase the risk of domestic violence. (Sari et al., 2022)

Social Factors, Education, and Preventive Solutions

The main causes of early marriage include socio-cultural and economic factors, low levels of education, lack of access to information, and pregnancy outside of marriage (Sari et al., 2022). To reduce the rate of early marriage, strategies that can be implemented include reproductive health education, access to quality education, youth-friendly health services, and the use of digital technology for education (Rahmawati Hamzah et al., 2021). Education through social media has proven effective in improving adolescents' understanding of reproductive health because it suits their communication style. (Fida, 2023).
This study is significant in two main aspects. First, it contributes scientifically to enriching the literature on the role of social media and influencers in influencing adolescents' knowledge of reproductive health. Second, it contributes practically in the form of creative and accessible social media-based health promotion strategies for adolescents, which can be used as a promotional-preventive effort to reduce the rate of early marriage.

The results of this study are also expected to support adolescents' digital literacy so that they can be more critical of content that romanticizes early marriage.

Research Method

Type of Research

This study used a pre-experimental design with a two-group pretest-posttest approach. This design allowed researchers to compare the knowledge levels of adolescents before and after health education intervention through social media by comparing the intervention group and the control group.

Population, Sample, and Sampling Technique

The research population consisted of all adolescents in the city of Cirebon, specifically students of SMAN 5 and SMAN 7 Cirebon, totaling 384 people. The sample was determined using simple random sampling. The minimum sample size was calculated using the proportion estimation formula (Santoso, 2024) This yielded 153 respondents. With an additional 10% to anticipate loss to follow-up, the sample size was set at 168 respondents for each group (intervention and control), bringing the total sample to 336 adolescents. The initial measurement (pretest) was conducted on July 30, 2025, while the final measurement (posttest) was conducted on August 22, 2025.

The research instruments used consisted of educational media in the form of animated videos and knowledge questionnaires. The educational animated videos contained material on the definition of early marriage, applicable regulations, and various impacts on reproductive health. These videos were distributed through social media platforms widely used by adolescents, namely WhatsApp groups, Instagram, and TikTok. Meanwhile, the questionnaire was used to measure the level of adolescents' understanding of the impact of early marriage on reproductive health. The results of the knowledge measurement were then categorized into three levels: poor if the score obtained was < 56%, adequate if the

score was 56–75%, and good if the score was 76–100%.

Ethical Review

This study was submitted to obtain ethical approval from the relevant Higher Education/ Institutional Health Research Ethics Committee. Respondents were given an explanation of the purpose and procedures of the study and signed an informed consent form. Inclusion criteria included adolescents aged 15–17 years, unmarried, able to operate a smartphone, and willing to be a respondent. Exclusion criteria included adolescents who were illiterate, color blind, or did not use smartphones.

Data Analysis

The collected data were analyzed using SPSS. Normality tests were performed using Kolmogorov-Smirnov and Shapiro-Wilk, showing that the data were not normally distributed. Therefore, the nonparametric Mann-Whitney test was used to determine the difference in knowledge levels before and after the intervention in both groups. The results of the analysis are presented in the form of frequency distribution tables, percentages, mean values, and p-values with a significance level of $p < 0.05$.

Research Results

Respondent Characteristics

Table 1. Respondent Characteristics

	Intervention		Control	
Age	**f**	**%**	**f**	**%**
15 Years old	84	25.00%	78	23.21%
16 years old	37	11.01%	43	12.80%
17 Years old	47	13.99%	47	13.99%
Total	168	100.00%	168	100.00%
Gender	**f**	**%**	**f**	**%**
Male	77	45.83%	98	58.33%
Female	91	54.17%	70	41.67%
Total	168	100.00%	168	100.00%
Class	**f**	**%**	**f**	**%**
X	65	38.69%	61	36.31%
XI	42	25.00%	77	45.83%
XII	61	36.31%	30	17.86%
Total	168	100.00%	168	100.00%
Ever Educated	**f**	**%**	**f**	**%**
No	73	43.45%	92	54.76%
Yes	95	56.55%	76	45.24%
Total	168	100.00%	168	100.00%
Information Source	**f**	**%**	**f**	**%**
Social Media	86	51.19%	40	23.81%
School	28	16.67%	35	20.83%
Health Workers	32	19.05%	30	17.86%
Parents	10	5.95%	29	17.26%
Other	12	7.14%	34	20.24%
Total	168	100.00%	168	100.00%

Based on the analysis results, the age distribution shows that the majority of respondents in the intervention group were 15 years old, numbering 84 people (25%), while in the control group there were 78 people (23.21%); the gender distribution in the intervention group was entirely female, numbering 168 people (100%), while the control group was dominated by males, with 98 people (58.33%) which is reasonable considering that the issue of early marriage is more often associated with adolescent girls in terms of reproductive health risks and social impacts; the class distribution shows **Effectiveness of Educational Audio-Visuals**

that the largest number of respondents in the intervention group came from class X, with 65 people (38.69%), while in the control group, 77 respondents (45.83%) were from grade XI; the majority of respondents in the intervention group had received education, totaling 95 people (56.55%), in contrast to the control group, where the majority had not received education, totaling 92 people (54.76%). The main source of information for both groups was social media, with 86 people (51.19%) in the intervention group and 40 people (23.81%) in the control group.

Table 2. Pre-Test

Level of Knowledge	Educational Videos	N
Intervensi		
Less	ü	88
Simply		42
Good		38
Control		
Less	x	102
Simply		59
Good		

Table 3. Post Test

Level of Knowledge	Educational Videos	N	p-value
Intervensi			0,001
Less	☐	5	
Simply		89	
Good		74	
Control			
Less	x	88	
Simply		66	
Good		14	

Based on the analysis results, the level of knowledge in the intervention group after receiving education through videos showed a greater improvement compared to the control group. This can be seen from the distribution of categories, where most respondents in the intervention group were in the adequate (89 respondents) and good (74 respondents) categories, while the control group was still dominated by the poor category (88 respondents).

The Mann-Whitney test produced a significance value of 0.000 (< 0.05), which means that there was a significant difference between the two groups. In other words, the intervention in the form of educational videos proved to be effective in increasing the respondents' level of knowledge. This difference can be explained by the fact that video media is more interesting, easy to understand, and able to present information visually and audibly at the same time, thereby strengthening the respondents' understanding compared to relying solely on passive sources

of information in the control group.

These findings confirm that the use of audio-visual media, particularly educational videos, can be an effective learning strategy in efforts to improve health knowledge, especially among adolescents (Millenia et al., 2022).

Discussion

The results show that the intervention group experienced a significant increase in knowledge after education (p < 0.05), with the majority of respondents before the intervention, 88 people (52.38%), in the "poor" category. after the intervention, 89 respondents (52.98%) were categorized as "adequate" and 74 respondents (44.05%) were categorized as "good," while the control group showed only minimal changes.

These findings are in line with Rambe's 2023 study, which states that social media is one of the most frequently accessed communication channels by adolescents and has a major influence on behavioral change. Health education through digital media has been proven to increase adolescents' understanding and awareness of the issue of early marriage (Maptukhah & Anita, 2023).

Early marriage remains a serious problem in Indonesia. Data shows that the risk of pregnancy and childbirth complications among adolescents is much higher than among adult women (Yusuf & Hamdi, 2021). In addition, early marriage increases the risk of dropping out of school, economic hardship, and domestic violence. (Sari et al., 2022). Therefore, educational strategies that utilize social media are relevant for improving reproductive health literacy. The intervention used in this study employed a digital-based health promotion approach, which has been proven effective in increasing knowledge. These results are consistent with previous studies. (Adelia & Sulistiawati, 2023) which found that online health education can improve adolescents' understanding of reproductive health issues. In addition, the use of influencers or public figures on social media reinforces educational messages because adolescents tend to imitate the behavior and views of the figures they follow. (Fida, 2023).

Thus, this study makes an important

contribution to digital literacy and reproductive health. Social media-based interventions need to be further developed with creative, engaging, and accessible content for adolescents. Going forward, cross-sectoral involvement, including schools, health workers, and communities, is needed to expand the impact of this education in preventing early marriage.

Conclusion

This study shows that health education through social media in the form of animated videos is effective in increasing adolescents' knowledge about the impact of early marriage on reproductive health. In the intervention group, there was a significant increase in knowledge levels from poor to adequate and good after the intervention, compared to the control group, which tended to remain stagnant.

These results confirm that social media can be a strategic tool for health promotion, especially in efforts to prevent early marriage, which is still prevalent among adolescents. The use of social media is not only relevant to the lifestyle of the younger generation, but also capable of delivering educational content that is easily accessible, interesting, and has a positive impact.

Thus, this study contributes to the development of digital literacy and adolescent reproductive health. Social media-based interventions can be used as an alternative promotive-preventive solution to increase adolescent awareness of the risks of early marriage. Cross-sectoral involvement (schools, health workers, families, and communities) is needed to strengthen the effectiveness of digital education programs in reducing the rate of early marriage in Indonesia.

Research Limitations

Data collection in this study was hampered by the occurrence of promotion exams and school holidays that coincided with the research period. These conditions limited the researchers' access to students as the main respondents, forcing them to adjust the data collection schedule to the school's

official agenda. This adjustment resulted in the extension of data collection beyond the original schedule, a reduction in the number of respondents from the initial target, and a potential decline in the quality of student responses due to time constraints and fatigue after exams or before holidays. These limitations may affect the completeness of the data and the level of validity and reliability of the research results, particularly in describing adolescents' knowledge of the impact of early marriage on reproductive health.

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