

THE EFFECTIVENESS OF GENTING VIDEOS THROUGH TIKTOK ON ADOLESCENT GIRLS' REPRODUCTIVE HEALTH KNOWLEDGE IN STUNTING PREVENTION

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ABSTRACT

Background: Stunting is a public health issue that remains a serious challenge in Indonesia, including in Riau Province, with long-term impacts on the quality of human resources. Prevention of stunting needs to begin in adolescence, as knowledge of reproductive health plays an important role in preparing for a healthy pregnancy and childbirth. **Objective:** This study aims to determine the effectiveness of Genting (Generation Without Stunting) videos via the TikTok application on adolescent girls' reproductive health knowledge in preventing stunting. **Methods:** The study used a quasi-experimental design with two groups, employing a pre-test and post-test approach in the experimental and control groups. A total of 200 respondents were selected using stratified random sampling, with 100 respondents in each group. The research instrument consisted of a validated reproductive health knowledge questionnaire. Data analysis was performed using univariate and bivariate analysis with the Wilcoxon and Mann-Whitney tests. **Result:** The results showed a significant increase in the experimental group with a p-value of 0.000 (<0.05), while the control group showed no significant change (p=0.120). The Mann-Whitney test showed a significant difference between the two groups (p=0.000). **Conclusion:** Videos posted on TikTok have proven effective in improving adolescent girls' knowledge of reproductive health and have the potential to contribute to early stunting prevention efforts. TikTok-based health education should be further developed, supported by active community involvement, and examined in future studies using additional variables.

Keywords: Adolescent Girls; Educational Videos; Reproductive Health; Stunting

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INTRODUCTION

Stunting is a public health issue that remains a serious challenge worldwide, including in Indonesia, as it has a long-term impact on the quality of human resources (Saputri & Tumangger, 2019). According to the World Health Organization, (2024), the number of children under five years of age who are stunted worldwide has decreased from 259 million in 1990 to 148.1 million, or around 22.3%, in 2022. More than half of global stunting cases originate in Asia (76.6 million children), followed by Africa (63.1 million children). In Southeast Asia, the prevalence of stunting in children under five still reached 30.1% in 2022, which means that three out of ten children suffer from chronic malnutrition. Stunting is not only a nutritional problem but also an indicator of the quality of human development. Children who experience stunting tend to have lower cognitive

abilities, educational achievement, and work productivity, which has a macro impact on the competitiveness of human resources in the future (UNICEF, 2023).

In Indonesia, stunting remains a major health problem that affects the quality of future generations. According to data from the Indonesian (Ministry of Health, 2023), the national prevalence of stunting decreased from 24.4% in 2021 to 21.5% in 2023. Although this shows a downward trend, the figure is still above the WHO threshold of 20%. In Riau Province, the prevalence of stunting has decreased significantly from 22.3% in 2021 to 13.6% in 2023. However, several districts still have rates above the average, such as Rokan Hulu District with a prevalence of 15.9%, which is the location of this study (Ministry of Health, 2023).

Previous studies have shown that stunting is closely related to prenatal and perinatal factors.

Children born to mothers with a height below 145 cm have lower Height-for-Age-Z (HAZ) scores, while pregnant women with anaemia have a 3.23 times higher risk of giving birth to stunted children (Syabania et al., 2022). In addition, closely spaced pregnancies and teenage pregnancies also contribute to an increased risk of stunting (Erawati, 2021). Adolescent girls are a group that needs special attention in stunting prevention efforts because their nutritional status and reproductive health determine the conditions of future pregnancies. Adolescence is also a vulnerable period that requires physical readiness and good reproductive knowledge (Oktafiyanti et al., 2022).

Efforts to improve adolescent knowledge can be carried out through health education, especially by utilising media that is familiar to them (Ministry of Health, 2016). The results of a study by Prawesthi, (2021) state that educational media in the form of videos has been proven to be more effective than leaflets in improving health knowledge. With the development of digital technology, social media has become a strategic tool in health promotion because it can reach a wide range of young people. TikTok is one of the most popular social media platforms with more than 157 million users in Indonesia in 2024 (Irawan, 2024). This platform presents short, interesting and interactive audiovisual content, making it effective in conveying educational messages.

Based on the Health Belief Model theory, audiovisual media has the ability to influence individuals' perceptions of the benefits, risks, and motivations of healthy behaviour through a combination of visual and audio elements (Glanz et al., 2015). Thus, the use of TikTok as a health education medium is expected to increase adolescents' knowledge in a more interesting, easy-to-understand way that suits their lifestyle. One form of innovation in this regard is the Genting (Generation Without Stunting) video, which provides education on adolescent reproductive health and stunting prevention through short content on TikTok.

Based on a preliminary study conducted on 21 January 2025 at Tandun 1 State Senior High School, it was found that 19 out of 20 students

were familiar with TikTok as a popular platform, and 12 students had a basic understanding of reproductive health and its link to stunting prevention. However, the phenomenon of early marriage still occurs, with four female students recorded as having dropped out of school in the last three years due to early marriage. These findings indicate the need for a more effective, engaging, and contextual educational approach for adolescents.

Although much research has been conducted on stunting prevention education, there are still limited studies examining the effectiveness of social media such as TikTok in improving adolescent reproductive health knowledge as a long-term preventive measure. Therefore, this study aims to determine the effectiveness of Genting videos through the TikTok application in increasing reproductive health knowledge of adolescent girls related to stunting prevention so that it can support the development of innovative social media-based health promotion strategies and contribute to community nursing practices in early stunting prevention.

METHOD

This research design uses a quasi-experiment with a two-group design with a pre-test and post-test approach in the experimental and control groups. The research population consists of all female students in grades X, XI, and XII at SMA Negeri 1 Tandun, Rokan Hulu Regency, Riau Province, totalling 400 people. The research sample consisted of 200 respondents selected using stratified random sampling, with 100 respondents in each of the experimental and control groups. The inclusion criteria included female students who owned a smartphone, had internet access, were active users of TikTok social media, and were willing to be research respondents, while the exclusion criteria were female students who were absent during data collection. The research instrument was a questionnaire developed by researchers based on indicators of adolescent reproductive health knowledge.

The questionnaire underwent validity and reliability testing with results ranging from 0.462 to

0.977, which was greater than the table value of 0.444 at a significance level of 5%, and a Cronbach's Alpha value of 0.981, indicating very high reliability. Data collection was conducted online using a questionnaire that had been tested for validity and reliability. The questionnaire was distributed to 200 respondents before and after the intervention, which consisted of showing the Genting (Generation Without Stunting) educational video via the TikTok application. Data analysis was performed univariately to describe the characteristics of the respondents and bivariately to assess the level of knowledge and the effectiveness of the Genting video in increasing adolescent girls' reproductive health knowledge.

The statistical tests used were Wilcoxon and Mann-Whitney with a significance level of 0.05. The entire research process had obtained ethical approval from the Health Research Ethics Committee of the Faculty of Nursing, University of Riau, with letter number 2447/UN19.5.1.8/KEPK.FKp/2025. Data processing was performed using SPSS software.

RESULTS

Table 1 Frequency Distribution of Respondent Characteristics

Characteristics	Experiment (n=100)		control (n=100)		Number (n=200)	
	n	%	n	%	n	%
Age (years)						
(14-16)	54	47.8	59	52.2	113	56.5
(17-18)	46	52.9	41	47.1	87	43.5
Total	100	100	100	100	200	100

Table 1 shows that of the total 200 respondents, the majority were in the mid-adolescent age group (14–16 years), namely 54 respondents (47.8%) in the experimental group and 59 respondents (52.2%) in the control group. Meanwhile, in the late adolescent age group (17–18 years), there were 46 respondents (52.9%) in the experimental group and 41 respondents (47.1%) in the control group.

Table 2 Pre-intervention Knowledge of Respondents

Groups	Mean	SD	Min	Max
Experiment	14.97	2.801	8	18

Control	15.51	2.406	9	18
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Table 2 presents data on the average reproductive health knowledge scores of adolescent girls in the experimental group before the intervention was given, which was 14.97 (SD = 2.801) with a minimum score of 8 and a maximum score of 18. Meanwhile, the average initial knowledge score in the control group was 15.51 (SD = 2.406) with a minimum score of 9 and a maximum score of 18.

Table 3 Post-intervention Knowledge of Respondents

Groups	Mean	SD	Min	Max
Experiment	17.23	0.952	12	18
Control	15.66	2.379	9	18

Table 3 presents data on the average reproductive health knowledge scores of adolescent girls in the experimental group after the intervention, which increased to 17.23 (SD = 0.952) with a minimum score of 12 and a maximum score of 18. Meanwhile, in the control group that did not receive the Genting video intervention through the TikTok application, the average post-test knowledge score only increased slightly, to 15.66 (SD = 2.379), with a minimum score of 9 and a maximum score of 18.

Table 4 Differences in Knowledge Before and After Intervention in the Experimental Group

Experimental Group	n	Mean	SD	p-value
Pre-test	100	14.97	2.801	0.000
Post-test	100	17.23	0.952	

The results of table 4 indicate that in the experimental group, the average score for adolescent girls' reproductive health knowledge increased from 14.97 in the pre-test to 17.23 in the post-test. The Wilcoxon test results showed a p-value of 0.000 < (0.05).

Table 5 Differences in Knowledge Pre and Post Intervention in the Control Group

Experimental Group	n	Mean	SD	p-value
Pre-test	100	15.51	2.406	0.120
Post-test	100	15.66	2.379	

The results of table 5 indicate that in the control group, the average score for adolescent girls' reproductive health knowledge increased from 15.51 in the pre-test to 15.66 in the post-test. The Wilcoxon test results showed a p-value of 0.120 > (0.05).

Table 6 Effectiveness of Genting Videos on TikTok

Variable	Mean	SD	n	p-value
Post-test Eksperimen	17.23	0.952	100	0.000
Post-test Kontrol	15.66	2.379	100	

Table 6 found that the average reproductive health knowledge score of adolescent girls in the experimental group after the intervention was 17.23 with a standard deviation of 0.952, while in the control group it was 15.66 with a standard deviation of 2.379. The Mann Whitney test results for the experimental group and the control group after receiving or not receiving the intervention showed a p-value of 0.000 < (0.05).

DISCUSSION

The results of the study found by researchers show that the majority of respondents were aged 14–16 years (56.5%) and were classified as mid-adolescents according to Indonesian Minister of Health Regulation No. 25 of 2014. At this stage, adolescents experience rapid cognitive and social development, enabling them to think abstractly and form their identity (Wahida et al., 2023). Middle adolescence is an important period in personality formation of health behaviour because the influence of peers and the social environment is very strong. Meanwhile, adolescents aged 17–18 years are in the late adolescence stage, where their emotional regulation and decision-making abilities are more mature (Uhs & Ellison, 2017).

Thus, the age characteristics of the respondents in this study are relevant to the topic of reproductive health education. The intervention in the form of Genting (Generation Without Stunting) videos through the TikTok platform is considered appropriate for the developmental characteristics of adolescents, thus having the potential to effectively increase knowledge and encourage early stunting prevention.

The results showed that before the 'Genting' video intervention was given, the level of reproductive health knowledge among adolescent girls in the experimental and control groups was relatively balanced. The experimental group had an average score of 14.97 (SD 2.801), while the control group had an average score of 15.51 (SD 2.406). This equality confirms that both groups had almost the same knowledge base so that changes after the intervention could be attributed more validly to the treatment given. Research by Putri & Anggraini (2024) states that adolescents' initial knowledge is generally in the moderate category due to limited access to appropriate information, the existence of taboos, and a lack of interesting learning media. Other studies also emphasise that initial knowledge equality is an important indicator of internal validity in intervention, in line with Notoatmodjo's theory at Silitonga et al., (2024) that previous experiences and information influence a person's level of knowledge. Overall, these pre-test results illustrate that adolescent girls have sufficient basic knowledge but still need reinforcement, particularly regarding reproductive health and stunting prevention.

The results of the study indicate a significant increase in knowledge in the experimental group after the intervention. The average knowledge score increased to 17.23 (SD 0.952), much higher than the control group, which only reached 15.66 (SD 2.379). This increase shows that the 'Genting' educational video on TikTok is effective in improving adolescent girls' reproductive health knowledge. These findings are in line with Isrohmaniar & Susanti (2023), who stated that audiovisual media can improve understanding because it combines visuals, sound, and engaging narration. The effectiveness of using TikTok as an educational medium is also supported by Plaisime et al. (2020), who emphasised that adolescents, as active users of the platform, are more receptive to health messages through short and engaging content. Other studies by Saha et al., (2022) and Wahyuni & Arisani, (2022) show that short videos increase awareness and knowledge retention more optimally than conventional media. This is reinforced by Aisah et al., (2021) who affirm that narrative-based and animated educational videos

are effective in strengthening understanding of reproductive health concepts. Overall, these findings demonstrate that the 'Genting' educational video is an innovative and relevant strategy for improving adolescent reproductive health literacy, while also supporting efforts to prevent stunting through early knowledge enhancement.

The results of the study indicate that the Genting video intervention through the TikTok application is effective in improving adolescent girls' reproductive health knowledge in preventing stunting. This effectiveness was proven through a Mann-Whitney test with a p-value of $0.000 < 0.05$, which shows a significant difference between the experimental and control groups. This improvement reflects the success of concise, engaging audiovisual media that aligns with adolescents' digital preferences, as emphasised by Plaisime et al., (2020) that TikTok is a relevant educational platform for young people. Field observations further support the urgency of this intervention. At Tandun 1 State High School, there have been cases of early marriage that have caused female students to drop out of school, which has led to the risk of unhealthy pregnancies and the possibility of giving birth to babies with low birth weight and stunting (Taufikurrahman et al., 2023). Therefore, education for adolescent girls needs to be provided early on, even if they have not yet entered the phase of marriage or pregnancy.

Genting's video content also contains long-term messages such as the importance of balanced nutrition, anaemia prevention, and the dangers of early marriage, in line with the findings of Matahari & Suryani, (2022) that stunting prevention must begin in adolescence. Rosenstock's Health Belief Model theory also explains that increasing knowledge through relevant media can shape risk perceptions and encourage preventive behaviour. This study provides new findings because it targets high school girls, unlike many previous studies that focused on women of childbearing age or pregnant women (Putri & Mareta, 2022). The use of Genting videos via TikTok has been proven to provide comprehensive understanding of reproductive health and stunting prevention while aligning with

the digital habits of adolescents, making the message easier to accept and remember. Thus, the Genting video intervention not only enhances current knowledge but also serves as a long-term health investment, preparing adolescent girls to become healthy prospective mothers capable of breaking the intergenerational cycle of stunting.

The findings of this study confirm that TikTok-based health education has the potential to be a relevant nursing intervention for adolescents in improving reproductive health knowledge for the prevention of stunting. However, this study has limitations, including the dissemination of videos online without direct supervision by researchers and the possibility of re-access through other TikTok accounts, which could affect the control of the intervention. Furthermore, the study did not include certain demographic variables such as parental occupation and birth order, thereby limiting the scope of the analysis. Future research should consider these factors to obtain more comprehensive results.

CONCLUSION

The Genting video intervention delivered through TikTok effectively improved adolescents' reproductive health knowledge as part of early stunting prevention efforts. Future programs are encouraged to further develop digital health education through TikTok and other platforms to reach a broader adolescent audience, while future studies should consider incorporating additional variables to produce more comprehensive findings.

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