



## EFFECTIVENESS OF EDUCATIONAL VIDEOS ABOUT STUNTING VIA TIKTOK AND INSTAGRAM on ADOLESCENT KNOWLEDGE

Rini Ernawati

DIII Nursing Study Program, Faculty of Nursing, Universitas Muhammadiyah Kalimantan Timur, Jl. Ir. H. Juanda No.15, Sidodadi, Samarinda, Kalimantan Timur 75124, Indonesia  
[re840@umkt.ac.id](mailto:re840@umkt.ac.id)

### ABSTRACT

Stunting is a nutritional disorder in toddlers, marked by height below the average for their age due to chronic malnutrition. This condition results in growth failure, impaired cognitive function, and a higher risk of degenerative diseases like diabetes, hypertension, and stroke. Teenagers, as future parents, have an essential role in breaking the cycle of stunting. Currently, teenagers are active social media users, particularly on TikTok and Instagram, which can serve as educational platforms. This study aims to assess the impact of educational videos on stunting through TikTok and Instagram on grade 11 students' knowledge at SMA Negeri 4 Samarinda. The research design is quasi-experimental with a pretest-posttest control group. Purposive sampling selected 80 students from a population of 235. Data were collected through pre-test and post-test questionnaires. Univariate and bivariate data analysis included the Wilcoxon test and paired t-test. Results showed significant effects on knowledge, with p-values of 0.001 for TikTok (Wilcoxon test) and 0.000 for Instagram (paired t-test). This study highlights the potential of social media as a tool for health promotion, especially in educating adolescents on stunting prevention.

Keywords: adolescents; instagram; knowledge; stunting; tiktok

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## INTRODUCTION

Stunting is a condition in which toddlers experience slow growth (short) which is often referred to as stunting. This condition is triggered by chronic malnutrition due to low nutrient intake, both in terms of quantity and quality, over a long period of time. Stunting occurs due to nutritional deficiencies that are cumulative and last continuously during the first 1000 days of life, which is from pregnancy until the child is 2 years old. Therefore, health is an important priority as it affects the productivity and quality of life of Human Resources (HR). Currently, one of the health problems that is of concern to the government as part of efforts to improve the quality of human resources is nutrition, and stunting in children is a major nutrition issue in Indonesia. (Indonesian Ministry of Health, 2020). According to the World Health Organization (WHO, 2018), Indonesia ranks 4th largest in the world in terms of stunting problems, with a prevalence of 37% or around 9 million toddlers experiencing stunting. Based on the 2018 Global Nutrition Report, Indonesia is one of 26 countries facing stunting nutrition problems with prevalence above WHO standards (>20%). Data from the 2018 Basic Health Research (Riskesdas) shows that the prevalence of stunted and severely stunted toddlers in Indonesia reached 30.8%, which is still high because it is above the threshold (>20%). (Riskesdas, 2018).

Based on the results of the Indonesian Nutrition Status Survey (SSGI) in 2022 from the Ministry of Health, the prevalence of stunting in East Kalimantan reached 23.9%. When viewed by district/city in East Kalimantan Province, Kutai Kartanegara District and Samarinda City have the highest prevalence of stunting, with 27.1% in Kutai Kartanegara District and 25.3% in Samarinda City. (Indonesian Ministry of Health, 2017) From several studies, it shows that there are several factors that cause stunting, among others. lack of food, inadequate parenting, short heredity, not exclusive breastfeeding, not doing IMD, LBW, poor environmental sanitation, pregnant women with anemia. (Ernawati, 2021). Supported by Yanti's research that maternal knowledge, parenting patterns, nutritional intake, LBW and economic status also affect the occurrence of stunting. (Yanti; et al., 2020).. Another study states that environmental sanitation factors can also cause stunting in toddlers with a p value of 0.000. (Ernawati et al., 2024)

Stunting can have short-term and long-term effects, including inhibited cognitive function, growth failure, hormonal disorders, diabetes mellitus, hypertension, obesity and endocrine disorders. (Soliman et al., 2021). Stunting in childhood is a linear growth failure due to chronic malnutrition, children who are stunted before the age of 24 months can experience physical and neurocognitive damage that is difficult to repair, thus becoming a major obstacle to human development.(Soliman et al., 2021)Prevention of stunting can be done in various ways, one of which is through education. Research states that education can help the community understand various efforts to prevent stunting (fitriahadi et al, 2023). Educating the community on the importance of breastfeeding, complementary feeding and nutritious food to prevent stunting, and it is hoped that the community can apply it in meeting children's nutritional needs.(Kadafi et al., 2023).

Adolescents are a group of young people, the teenage group is a very appropriate age range to get education about stunting, because adolescents are the generation that will give birth to the nation's children, it is important to provide education to adolescents in an easy and preferred way. Research states that education in adolescent groups at the Five towers foundation boarding school shows an increase in knowledge after education, which is an average of 70%. (Jamiyanti et al., 2024).. Supported by research (Arini, 2023) that stunting education in adolescents through the media game estu so in puja is effective and easier to disseminate information about stunting. This study aims to determine the effect of educational videos through social media tiktok and instagram on adolescents' knowledge about stunting at the high school level by collecting data and statistical analysis.

## **METHOD**

Types of quantitative research include descriptive, comparative, correlation, survey, experiment, quasi-experiment and evaluation methods. (Syahrizal & Jailani, 2023) In this study using quantitative methods and the design used was quasi-experiment with pre test - post test with control group design. The population in this study was 235 people, and the number of samples taken was 80 people with purposive sampling technique, the sample consisted of 2 groups, namely 40 people for the treatment group and 40 people for the control group, each group was divided into 2, namely for social media tiktok and instagram. The instruments in this study were educational videos about stunting and questionnaires for pre tests and post tests that had been tested for validity and reliability on grade 11 students in different classes from the study as many as 30 people. Data were collected by conducting a pre-test using a questionnaire before the treatment of educational video playback through tiktok and instagram media in each treatment group, and also a pre-test in the control group. In the treatment group, educational videos about stunting were played and in the control group

no action was taken. After video playback, a post test was carried out in the treatment group and in the control group a post test was also carried out. Univariate data analysis using percentages and bivariate analysis for tiktok social media using wilcoxon and instagram social media using paired t test.

## RESULT

### Characteristics

The characteristics of SMA Negeri 4 Samarinda students in the treatment and control groups consisted of 16 to 17 years of age and male and female gender groups.

Table 1.  
Characteristics of respondents

Characteristics Respondents	f	%
Treatment group		
Age		
16 years old	11	27,5
17 years old	29	72,5
Gender		
Male	16	40
Female	24	60
Control group		
Age		
16 years old	9	22,5
17 years old	31	77,5
Gender		
Male	13	32,5
Female	27	67,5

In table 1 it can be seen that the distribution of respondents in the treatment group based on age was mostly 17 years old as many as 29 people (72%), and the most female gender was 24 people (60%). For the control group, most were 17 years old as many as 31 people (77.5%) and the most female gender was 27 people (67.5%).

### Knowledge

Respondents' knowledge consists of pre-test and post-test scores of the treatment group and control group. Social media treatment groups tik tok and instagram in the pre test and post test.

Table 2.  
Respondents' knowledge

Knowledge	Min	Max	Mean	%
Treatment group				
Pre test	3	10	6,40	42,6
Post test	10	15	14,20	94,6
Control Group				
Pre test	4	11	7,95	53
Post test	4	12	8,20	54,6

Based on table 2, it can be seen that the pre-test results related to the knowledge of adolescents in the treatment group averaged 6.40 and the post-test obtained an average of 14.20. The results of the pre-test knowledge of adolescents in the control group averaged 7.95 and post test 8.20.

Table 3.

Bivariate test results for education intervention with tiktok social media using the Wilcoxon test and Instagram social media using the paired t test.

Knowledge	f	mean	P value
TikTok social media			
Before intervention	20	6,40	0,001
After intervention	20	14,20	
Instagram			
Before intervention	20	5,95	0,000
After intervention	20	13,70	

Judging from table 3, it is known that there is an increase in the average educational knowledge on the tiktok social media platform 14.20 and Instagram 13.70. The wilcoxon statistical test for tiktok social media obtained a p value of 0.001, this shows that tiktok media has an effect on the knowledge of adolescents in public high school 4 Samarinda with, and the paired t test statistical test for Instagram social media obtained a p value of 0.000, meaning that education through Instagram has an effect on the knowledge of adolescents in public high school 4 Samarinda.

## DISCUSSION

Knowledge is something that can only be owned by humans and is the result of efforts made in solving the problems faced and is a very important domain in shaping action. Knowledge will increase in accordance with the process and experience experienced, and actions or behaviors based on knowledge will last longer (Darsini et al., 2019) A person's ability to think can be influenced by age, the more mature a person is, the better the ability to receive information. The level of knowledge is influenced by the amount of information received, the more received, the more knowledge increases. Knowledge of each individual has a different level, this is due to internal factors, namely; age, IQ and external factors; education, work, information, experience and environment. (Yohanes Nipa et al., 2023).. An adolescent will one day become a prospective parent, therefore adolescents are the main target in preventing stunting. Teenagers not only know and understand but must be able to form behaviors in preventing stunting and also become agents of change by spreading information to others in their environment. (Andiani et al., 2023).

Prevention of stunting in adolescents is very important, because currently many marriages are carried out under the standard age of marriage law, namely women over 19 years and men over 20 years. Teenagers who marry too early can be at risk of giving birth to an unhealthy generation and even stunting, due to ignorance about the concept of pregnancy, what preparations must be made, nutrition for pregnant women and health checks. Research states that teenage pregnancy is associated with stunting with a p value of 0.000. (Ernawati, 2021). Another study states that the impact of early marriage can cause stunting, so there must be rules or procedures for handling early marriage and must participate in pre-marital counseling, in order to prevent the birth of stunted children. (Burhanudin Elmasry et al., 2024).. Supported by the statement that increasing one's knowledge can reduce cases of early marriage and stunting in the baratan urban village (Agustinus et al., 2023). Adolescents who have good knowledge about stunting will have a better ability to make the right decisions regarding the future life of their future babies, including nutrition for themselves and for their future children. This knowledge is very important in order to break the cycle of stunting between generations.

Education is knowledge that has a formative influence on characteristics or ideas in individuals, Health education is a planned process that aims to achieve health by combining

various learning methods.(Maharani et al., 2021). In the current digital 4.0 era, education can be carried out with various social media. Ears and eyes have an important role in the teaching and learning process, and media that involve these two senses are called audiovisual media. Examples of audiovisual media include recording devices, digital media and broadcasting media. Media that can be seen and heard simultaneously are referred to as audiovisual media, so there is no doubt that learning using this media will have a significant impact on the smooth running of the learning process.

Based on APJII (Association of Indonesian Internet Service Providers) survey of internet users in Indonesia. In 2024 the number of internet users reached 221,563,479 people from a total population of 278,696,200 people. Most internet users are at the age of 19 - 34 years by 73.84%. (Oktavionika et al., 2023). . Teenagers are more active in spending time on social media, so this condition is an opportunity to be able to provide useful information and education for teenagers. Current Instagram social media users are 85.3% and tiktok is 73.5%, this shows that the platform is very popular, and this is a way to make it easier to increase the knowledge of internet users, especially teenagers, especially education about stunting. The role of social media can be a source of information to answer misinformation about stunting. Research states that teenagers like TikTok social media more, so TikTok can be used as a medium for generation z education. (rahmana, amalia, 2024).

Adolescents are individuals who are in the age range of children and adults, during this period there are many changes both physically, mentally and socially. Teenagers are very concerned about social relationships, if they are not accepted or feel left behind, then this is very painful for adolescents. (Suryana et al., 2022). There are many ways for teenagers to have social interactions, namely through social media. There are two types of social media that are most favored by teenagers, namely TikTok and Instagram. This is in line with research showing that audiovisual applications through online web media can increase mothers' knowledge in order to monitor the growth and development of toddlers for stunting prevention. (Ernawati, Rini, 2019). This is supported by research which states that counseling using audio-visual media through the lecture method can improve the knowledge, attitudes and behavior of adolescents in preventing TB disease in the pesantren environment. (Yanti et al., 2022).

Social media is a platform to interact with friends, family, colleagues. Through social media users can share text, images and audio-visual content. One of the currently popular social media platforms is Instagram, which now has 1 billion active users. The large number of active users is often called netizens, this condition is utilized by various accounts to display their existence by sharing useful content. As an image-based social media, Instagram encourages content creators who are also social media activists to produce content with effective visual communication, informative, persuasive and educational. (Guntar et al., 2023)

Changes in people's knowledge and behavior resulting from content interventions on various social media platforms are very useful in the development of science. Yuliam stated that educational videos about the first 1000 days of life have a positive influence on increasing adolescents' knowledge and attitudes. (Hanisa Yuliam & Mariyani, 2023).. TikTok and Instagram social media are platforms that are favored by the public, especially teenagers. The results showed that TikTok social media with a variety of features that are dancing and easy to use, can be utilized appropriately and efficiently as an educational medium. (Rasdin et al., 2021)The results of this study show that tiktok social media with a variety of dancing and user-friendly features can be used appropriately and efficiently as an educational medium (Rasdin et al., 2021). (Syahidah et al., 2023).. Instagram was chosen as a platform for the

community education movement where the content presented serves as a stimulus to improve perceptions related to social media behavior, besides that the digital communication strategy implemented can be a reference in interacting with the community. (Putra & Astina, 2019) TikTok and Instagram, which are image-based and audio-visual social media, can be utilized as a means of health education in order to increase public knowledge, especially the younger generation or adolescents, in order to break the chain of the stunting cycle.

## **CONCLUSION**

Education through social media, particularly TikTok and Instagram, has proven to be an effective platform in improving adolescents' health-related knowledge and behavior, including stunting prevention. Adolescents who are in a period of physical, mental and social development utilize social media to interact, and both platforms offer audiovisual features that are engaging and easy to use. Social media can significantly facilitate health education, both through audiovisual applications and digital extension methods, which affect knowledge and positive attitudes, therefore, TikTok and Instagram have great potential to be used as efficient health education tools in an effort to increase awareness among adolescents, help break the cycle of stunting, and improve the welfare of society in general.

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