
The Influence Of Animated Video Media On Knowledge, Attitudes, And Behavior Of Anemia Prevention In Adolescent Girls At Smp Negeri 1 Trucuk Bojonegoro Based On Health Promotion Model Theory

Vivin Liana Sari¹⁾, Sri Mulyani²⁾, Wiwik Utami³⁾, Agus Ari Afandi⁴⁾

^{1,2,3,4)} Program Studi Sarjana Keperawatan Sekolah Tinggi Ilmu Kesehatan Rajekwesi Bojonegoro

*Corresponding Author

Email: vivinlianaa80@gmail.com

Abstract

Adolescent girls are susceptible to anemia, so prevention education that is appropriate to their characteristics is needed. To determine the effect of animated video media on knowledge, attitudes, and behavior in preventing anemia. Quantitative research with a one-group pretest-posttest design. The population was 231 female adolescents in grades VII and VIII at SMP Negeri 1 Trucuk Bojonegoro, with a sample of 147 respondents selected using proportionate stratified random sampling. The instrument was a questionnaire on knowledge, attitudes, and behavior adapted from Khoiria (2023). Data were analyzed using the Wilcoxon Signed Rank Test with $\alpha = 0.05$. Animated video media had a significant effect on knowledge ($p = 0.000$), but did not affect attitudes ($p = 0.259$) and behavior ($p = 0.540$). Animated videos are effective in increasing knowledge, but have not produced significant changes in attitudes and behavior in preventing anemia.

Keywords: *Anemia, Health Promotion, Health Promotion Model, Adolescent Girls, Animated Video*

INTRODUCTION

Adolescence is a crucial stage in the transition from childhood to adulthood, marked by various physical and psychological changes (Rahmawati, 2024). In adolescent girls, rapid growth accompanied by increased iron requirements and blood loss during menstruation makes this group more susceptible to anemia (Ni Made Sri Rahyanti, 2025). Anemia in adolescent girls is a health problem that requires attention because it can affect physical condition, cognitive function, academic achievement, and quality of life. In addition to biological factors, the incidence of anemia is also related to poor knowledge about anemia prevention, an unbalanced diet, low iron intake, and suboptimal preventive behaviors (Stephanie Victoria Ester, 2021). These conditions indicate that adolescence is a critical period for strengthening promotive and preventive efforts by increasing knowledge and developing healthy behaviors from an early age.

The problem of anemia in adolescent girls is also evident in the high prevalence of anemia in various regions. According to a 2019 World Health Organization (WHO) report cited in Siti Windari (2024), approximately 30% of women aged 15–49 years experience anemia. In Indonesia, the prevalence of anemia in adolescent girls reaches 27.2%, higher than in adolescent boys at 20.3%, while the prevalence of anemia in the adolescent group reaches 32%. In East Java Province, the prevalence of anemia in adolescent girls reaches 42%, while the Bojonegoro Regency Health Office reported 1,800 cases of anemia in adolescent girls in 2023 (Siti Windari, 2024). This condition is increasingly relevant to the results of a preliminary study at SMP Negeri 1 Trucuk, Bojonegoro Regency, which showed that adolescent girls have not received a program to provide Iron Supplement Tablets (TTD) and have never received health promotion regarding anemia prevention in a structured and sustainable manner. This situation indicates that anemia prevention efforts in the school environment are still not optimal and need to be strengthened through health education.

Anemia that is not prevented during adolescence can have various impacts on the daily lives and development of young women. Anemia can cause fatigue, lethargy, decreased concentration, impaired cognitive function, and decreased academic achievement. Iron

deficiency can also disrupt central nervous system function by reducing the formation of neurotransmitters that play a role in learning and emotional regulation (Rika Ariana, 2024). In the long term, anemia that occurs during adolescence can increase the risk of reproductive complications, such as premature birth and low birth weight (LBW) babies (Karina Az-zahra, 2022). Therefore, anemia prevention needs to be carried out early by developing knowledge, attitudes, and behaviors that support anemia prevention in young women.

One effort that can be made to support anemia prevention is providing health education through engaging media that is appropriate to the characteristics of adolescents. This study uses the Health Promotion Model (HPM) nursing theory developed by Nola J. Pender as a foundation for understanding health promotion behavior. This theory explains that health promotion behavior is influenced by individual characteristics, perceptions of benefits and barriers, self-efficacy, and commitment to healthy behaviors. Based on this framework, animated video media was chosen as an educational medium because it can convey information visually, attractively, and easily understood, so it is expected to increase adolescent girls' knowledge about anemia prevention. Increasing knowledge through animated video media is further expected to shape positive attitudes and encourage anemia-preventive behaviors in adolescent girls (Tri Valda Gilby Renata, 2024).

Issues that need to be studied relate not only to increasing knowledge but also to changes in attitudes and behaviors related to anemia prevention. Knowledge is information or understanding gained by individuals through experience and learning processes, while attitudes are individual tendencies in responding to an object, influenced by cognitive, affective, and conative aspects. Meanwhile, behavior is a concrete action formed through learning, experience, and habituation (Dila Rukmi Octaviana, 2021; Khoriantri, 2022; Marsela Juliawati Alfa Berhimpung, 2020). In the Health Promotion Model theory, knowledge increases can occur more quickly after individuals acquire information, while changes in attitudes and behavior are more complex processes because they are influenced by individual characteristics and experiences, perceptions of benefits and barriers, self-efficacy, interpersonal influences, situational influences, and commitment to the action plan (Euis Purwatyningsih, 2024). Therefore, providing education through animated videos needs to be studied not only based on changes in knowledge but also on changes in attitudes and behaviors related to anemia prevention in adolescent girls.

Based on these conditions, this study aims to determine the effect of animated video media on knowledge, attitudes, and behavior in preventing anemia in adolescent girls at SMP Negeri 1 Trucuk Bojonegoro, by identifying the conditions of knowledge, attitudes, and behavior before and after being given education using animated video media. This study is important to be conducted as an effort to support the development of community nursing science, especially in the field of health promotion regarding the prevention of anemia in adolescent girls, as well as providing considerations for schools and nurses in selecting health education media that are appropriate to the characteristics of adolescent girls. The novelty of this study lies in the study of the influence of animated video media simultaneously on three aspects, namely knowledge, attitudes, and behavior in preventing anemia in adolescent girls at SMP Negeri 1 Trucuk Bojonegoro using the theoretical basis of the Health Promotion Model. This approach becomes the basis for studying changes in cognitive aspects as well as health attitudes and behavior in the context of preventing anemia in adolescent girls at the research location.

RESEARCH METHODS

Research Type and Methods. This study employed a quantitative approach with a pre-experimental design and a one-group pretest-posttest design. This design was used to determine changes in knowledge, attitudes, and behavior regarding anemia prevention in one group of respondents before and after receiving an educational intervention using animated video media. Initial measurements were conducted through a pretest, followed by education using animated video media, and subsequent measurements were conducted through a posttest. The independent variable in this study was animated video media as a health education method regarding anemia, while the dependent variables included knowledge, attitudes, and behavior regarding anemia prevention in adolescent girls. Research variables are understood as attributes, traits, or values that have certain variations and are selected for study and then conclusions are drawn (Sugiyono, 2021).

Data analysis instruments and techniques. Data collection was conducted using a questionnaire adapted from Khoiria's (2023) research and adjusted to the research objectives regarding anemia prevention in adolescent girls. The instrument consisted of respondent identity, a questionnaire on knowledge, attitudes, and behavior regarding anemia prevention. Knowledge was measured using 15 multiple-choice questions covering the definition, causes, signs and symptoms, impacts, and prevention of anemia, with a score of 1 for correct answers and 0 for incorrect answers. Attitudes were measured using 10 statements with a Likert scale, while behavior was measured using 7 statements with a frequency scale, namely always, often, sometimes, and never. Before use, the instrument was piloted on 30 respondents with similar characteristics. The results of the validity test showed that all instrument items were valid with a Corrected Item-Total Correlation value greater than r table 0.361. The reliability test using Cronbach's Alpha produced a value of 0.749 for knowledge, 0.752 for attitudes, and 0.792 for behavior, so the instrument was declared reliable and suitable for use. The data was then processed through editing, coding, scoring, and tabulating stages, then analyzed using the Statistical Package for the Social Sciences (SPSS) program. The analysis was conducted using the Wilcoxon Signed Rank Test with a significance level of $\alpha = 0.05$ to determine the effect of animated video media on knowledge, attitudes, and behavior regarding anemia prevention.

Population and Sample. The study population was 231 respondents from grades VII and VIII who had experienced menstruation at SMP Negeri 1 Trucuk Bojonegoro. A population is a generalization area consisting of objects or subjects with certain qualities and characteristics that are determined to be studied and then conclusions drawn (Sugiyono, 2021). The study sample consisted of 147 adolescent girls obtained using the Slovin formula with a population of 231 people and a 5% error rate, resulting in a calculation result of 146.43 and rounded up to 147 respondents. Sampling used a proportionate stratified random sampling technique based on strata of grades VII and VIII. The number of samples in each stratum was determined proportionally according to the population size of each class, then respondents were randomly selected based on predetermined inclusion and exclusion criteria. Inclusion criteria included adolescent girls who had experienced menstruation, were willing to participate in the entire research series and sign informed consent, and were able to read and communicate well. Meanwhile, respondents who were absent during the intervention, withdrew during the study, or completed the questionnaire incompletely were included in the exclusion criteria.

Research procedures. The research was conducted at SMP Negeri 1 Trucuk Bojonegoro, East Java, from May 21 to June 22, 2026, which included the preparation, implementation, and data analysis stages. The data collection procedure was carried out through the planning, implementation, and evaluation stages. In the planning stage, the

researcher submitted a research permit to the LPPM STIKes Rajekwesi Bojonegoro, submitted permission to SMP Negeri 1 Trucuk Bojonegoro, coordinated the time and place of the research, and prepared questionnaires, animated video media, informed consent sheets, and research equipment. In the implementation stage, the researcher explained the objectives, benefits, and procedures of the research to potential respondents, then provided informed consent. Respondents who were willing to participate in the research were given a pretest using a questionnaire on knowledge, attitudes, and behaviors for preventing anemia. Furthermore, an intervention was given in the form of health education using animated video media about anemia. The animated video was played twice with a duration of 4 minutes 06 seconds and contained material on the definition of anemia, adolescent Hb levels, risk factors, causes, symptoms, impacts, prevention, rules for consuming Iron Supplement Tablets (TTD), side effects, and how to overcome them. After the intervention was completed, respondents were given a posttest using the same questionnaire to determine changes in knowledge, attitudes, and behavior. The evaluation phase involved checking the completeness of answers, coding the data, entering it into SPSS, analyzing it using the Wilcoxon Signed Rank Test, presenting the results in tables and narratives, and drawing conclusions.

RESULTS AND DISCUSSION

Respondent General Data
Respondent Characteristics Based on Age

Table 1. Frequency distribution of respondent characteristics based on age in the study of the influence of animated video media on knowledge, attitudes, and behavior in preventing anemia can be seen in the following table:

		N	Percentage(%)
Age	12 years old	5	3.4%
	13 years old	69	46.9%
	14 years	61	41.5%
	15 years	11	7.5%
	16 years	1	0.7%
	Total	147	100%

Source: Primary Data 2026

Based on Table 1 above, it is known that from a total of 147 female adolescent respondents at SMP in Trucuk, the distribution of respondents' ages varies from 12 years to 16 years. The majority of respondents are in the 13-year-old age group, namely 69 female students (46.9%), followed by the 14-year-old age group as many as 61 female students (41.5%). Meanwhile, the proportion of respondents aged 15 years is as many as 11 female students (7.5%), aged 12 years is as many as 5 female students (3.4%), and the smallest proportion is in the 16-year-old age group, namely 1 female student (0.7%).

Respondent Characteristics Based on Class

Table 2. Frequency distribution of respondent characteristics based on class in the study of the influence of animated video media on knowledge, attitudes, and behavior in preventing anemia can be seen in the following table:

		N	Percentage (%)
Class	7A	18	12.2%
	7B	17	11.6%
	7C	12	8.2%
	7D	14	9.5%
	7E	16	10.9%
	7F	15	10.2%

	8A	14	9.5%
	8B	12	8.2%
	8C	5	3.4%
	8D	11	7.5%
	8E	7	4.8%
	8F	6	4.1%
	Total	147	100%

Source:Primary Data 2026

Based on Table 2, it is known that the research respondents numbered 147 female students spread across 12 classes at SMPN 1 Trucuk. The largest number of respondents came from class 7A with 18 students (12.2%), while the fewest number of respondents came from class 8C with 5 students (3.4%).

Special Data
Knowledge about Anemia Prevention in Adolescent Girls Before and After Being Provided Education Using Animated Video Media

	Knowledge							
	Good		Enough		Not enough		Total	
	F	%	F	%	F	%	F	%
Pre-Test	132	89.8	8	5.4	7	4.8	147	100
Post Test	146	99.3	1	0.7	0	0	147	100

Source:Primary Data 2026

Based on the table above, it is known that before being given education using animated video media, most of the female adolescents had a good level of knowledge category of 132 respondents (89.8%), while after being given education using animated video media, the majority of female adolescents had a good level of knowledge category of 146 respondents (99.3%). This shows an increase in the percentage of respondents who had a good level of knowledge category of 9.5%, namely from 89.8% before being given education to 99.3% after being given education using animated video media.

Attitudes about Anemia Prevention in Adolescent Girls Before and After Being Provided Education Using Animated Video Media

	Attitude					
	Positive		Negative		Total	
	F	%	F	%	F	%
Pre-Test	84	57.1	63	42.9	147	100
Post Test	85	57.8	62	42.2	147	100

Source:Primary Data 2026

Based on Table d above, it is known that before being given education using animated video media, more than half of the female teenagers had a positive attitude as many as 84 respondents (57.1%), while after being given education using animated video media, almost half of the female teenagers had a positive attitude as many as 85 respondents (57.8%). The percentage of respondents who had a positive attitude changed by 0.7%, namely from 57.1% before being given education to 57.8% after being given education using animated video media.

Behavior regarding Anemia Prevention in Adolescent Girls Before and After Being Provided Education Using Animated Video Media

	Behavior							
	Good		Enough		Not enough		Total	
	F	%	F	%	F	%	F	%
Pre-Test	31	21.1	38	25.9	78	53.1	147	100
Post Test	26	17.7	57	38.8	64	43.5	147	100

Source:Primary Data 2026

Based on the table above, it is known that before being given education using animated video media, more than half of the female adolescents had anemia prevention behavior in the less category as many as 78 respondents (53.1%), while after being given education using animated video media, almost half of the female adolescents had anemia prevention behavior in the less category as many as 64 respondents (43.5%). The percentage of respondents in the less category decreased by 9.6%, namely from 53.1% to 43.5%. In addition, the percentage of respondents in the sufficient category increased by 12.9%, namely from 25.9% to 38.8%, while the percentage of respondents in the good category decreased by 3.4%, namely from 21.1% to 17.7%.

The Influence of Animated Video Media on Knowledge, Attitudes, and Behavior in Preventing Anemia

Table 3. Results of the Wilcoxon Signed Rank Test of the Effect of Animated Video Media on Knowledge, Attitudes, and Behavior of Anemia Prevention in Female Adolescents at SMP Negeri 1 Trucuk Bojonegoro

Variables	Asymp. Sig. (2-tailed)	α (0.05)	Decision	Conclusion
Knowledge	0.000	0.05	H_0 rejected, H_a accepted	There is an influence of animated video media on the knowledge of adolescent girls regarding anemia prevention.
Attitude	0.259	0.05	H_0 accepted, H_a rejected	There is no influence of animated video media on the attitudes of adolescent girls regarding anemia prevention.
Behavior	0.540	0.05	H_0 accepted, H_a rejected	There is no influence of animated video media on anemia prevention behavior in adolescent girls.

Source: Primary Data 2026

Based on Table 3, the results of the Wilcoxon Signed Rank Test show that the knowledge variable obtained an Asymp. Sig. (2-tailed) value of 0.000. This value is smaller than α (0.05), so H_0 is rejected and H_a is accepted. This indicates that there is an influence of animated video media on the knowledge of adolescent girls regarding anemia prevention at SMP Negeri 1 Trucuk Bojonegoro. On the attitude variable, the Asymp. Sig. (2-tailed) value of 0.259 is obtained. This value is greater than α (0.05), so H_0 is accepted and H_a is rejected. This indicates that there is no influence of animated video media on the attitudes of adolescent girls regarding anemia prevention at SMP Negeri 1 Trucuk Bojonegoro. Furthermore, on the behavior variable, the Asymp. Sig. (2-tailed) value of 0.540 is obtained. This value is greater than α (0.05), so H_0 is accepted and H_a is rejected. This shows that there is no influence of animated video media on anemia prevention behavior in female students at SMP Negeri 1 Trucuk Bojonegoro.

Discussion

Identification of Knowledge About Anemia Prevention in Adolescent Girls Before and After Providing Education Using Animated Video Media at SMP Negeri 1 Trucuk

The results of the study showed that before being given education using animated video media, most respondents had a good level of knowledge regarding anemia prevention, namely 132 respondents (89.8%) out of a total of 147 respondents. After being given education using animated video media, the majority of respondents had a good level of knowledge, namely 146 respondents (99.3%), while 1 respondent (0.7%) had a sufficient level of knowledge and there were no respondents in the poor category. These results indicate that there was an increase in the proportion of respondents with a good level of knowledge by 9.5% after being given animated video media.

Knowledge is the result of a process of knowing that is obtained by someone after seeing, hearing, experiencing, or recognizing an object or information.(Dila Rukmi Octaviana, 2021)Knowledge about anemia prevention is a very important domain and needs to be owned by adolescent girls because it is the basis for forming anemia prevention measures.(Ellita Alifia Nadiawati, 2022)In the Health Promotion Model (HPM) theory, knowledge plays a role as the basis for forming individual perceptions of the benefits of health behavior (perceived benefits of action), so that it can encourage individuals to carry out health promotion behavior, including efforts to prevent anemia.(Euis Purwatyningsih, 2024). The results of this study are in line with research conducted by Endang Lestiawati (2025), which showed that education using animated video media can significantly increase the knowledge of adolescent girls about anemia after being given an intervention ($p = 0.003$).

According to the researcher, the high level of knowledge of respondents before receiving education indicates that most respondents already had basic knowledge about anemia. This is likely influenced by information obtained from various sources, such as school learning, health workers, social media, and other digital media. However, there were still some respondents who did not understand the material more specifically, such as hemoglobin levels as an indicator of anemia, risk factors, and appropriate anemia prevention efforts. After receiving education using animated video media, the level of knowledge of respondents increased, as indicated by the increase in the number of respondents with good knowledge category from 89.8% to 99.3%. This increase indicates that animated video media is able to convey information in an interesting, systematic, and easy-to-understand manner through a combination of images, text, sound, and animation, making it easier for respondents to receive, understand, and remember the material provided. However, increased knowledge is not only influenced by the provision of animated video media, but can also be influenced by learning experiences, exposure to information from schools, health workers, social media, and the respondents' surrounding environment.

Identification of Attitudes Towards Anemia Prevention in Adolescent Girls Before and After Education Using Animated Video Media at SMP Negeri 1 Trucuk Bojonegoro in 2026

The results of the study showed that before being given animated video media, more than half of the respondents had a positive attitude towards anemia prevention, namely 84 respondents (57.1%), while almost half of the respondents had a negative attitude, namely 63 respondents (42.9%). After being given animated video media, the number of respondents with a positive attitude increased to 85 respondents (57.8%), while respondents with a negative attitude decreased to 62 respondents (42.2%). These results indicate that there was an increase in the proportion of respondents with a positive attitude by 0.7% after being given animated video media.

Attitude is a person's response or tendency to evaluate, feel, and act toward a particular object, event, or situation. Attitudes can be positive or negative, reflected in feelings of like or dislike, agreement or disagreement, and an individual's readiness to express a particular reaction.(Khoriantri, 2022)According to the Health Promotion Model (HPM), attitude formation is influenced by individual characteristics and experiences, perceptions of the benefits and barriers of an action, self-efficacy, and interpersonal and situational support. These factors also influence the process of attitude formation toward health behaviors, so attitude change does not occur instantly and is influenced by various factors.(Euis Purwatyningsih, 2024)Research by Saputri (2022) showed no significant relationship between attitudes regarding anemia and the incidence of anemia ($p=0.920$). This finding suggests that attitudes alone are not necessarily related to health outcomes, as they are influenced by various other factors.

According to the researchers, although there was an increase in the proportion of respondents with positive attitudes from 57.1% to 57.8%, the change was still relatively small. This indicates that the increase in positive attitudes after the provision of animated video media was not optimal. Attitude change is a process that takes time and is influenced by various factors, such as individual experience, perceptions of benefits and barriers, self-efficacy, and support from family, school, peers, and health professionals. Therefore, providing education using animated video media is not sufficient to form optimal attitude change because attitude change requires ongoing reinforcement and support.

Identification of Anemia Prevention Behavior in Adolescent Girls Before and After Education Using Animated Video Media at SMP Negeri 1 Trucuk Bojonegoro in 2026

The results of the study showed that before being given animated video media, more than half of the respondents had anemia prevention behavior in the poor category, namely 78 respondents (53.1%), while respondents with sufficient category behavior were 38 respondents (25.9%) and good category were 31 respondents (21.1%). After being given animated video media, the number of respondents with poor category behavior decreased to 64 respondents (43.5%), the sufficient category increased to 57 respondents (38.8%), while the good category decreased to 26 respondents (17.7%). These results indicate that there was a change in the distribution of anemia prevention behavior categories after being given animated video media, with a decrease in the poor category by 9.6%, an increase in the sufficient category by 12.9%, and a decrease in the good category by 3.4%.

Behavior is an individual's response to various stimuli, both internal and external. Behavior is formed through an individual's experiences and interactions with the environment, which are reflected in their knowledge, attitudes, and actions. (Resky Amalia, 2023). In theory *Health Promotion Model* (HPM), health behavior is influenced by individual characteristics and experiences, perceptions of the benefits and barriers to an action, interpersonal influences, situational influences, and commitment to a plan of action to implement health promoting behaviors (Euis Purwatyningsih, 2024). In early adolescence, health behaviors are still developing and are therefore heavily influenced by various factors, both internal and social. Furthermore, not experiencing symptoms of anemia can lead to low motivation among young women to take preventive measures or check their hemoglobin (Hb) levels, resulting in anemia prevention behaviors not yet becoming a consistent habit. The results of this study align with research conducted by (Filia Sofiani Ikasari, 2024), which showed that animated video media did not significantly influence adolescents' practices regarding balanced nutrition to prevent stunting ($p = 0.231$). These results indicate that changes in health practices or behaviors cannot occur instantly, but require a process of habituation, reinforcement, and a longer period of time for consistent implementation.

According to the researchers, although the proportion of respondents with poor behavior decreased from 53.1% to 43.5%, this change did not show a statistically significant difference. Behavioral change requires a gradual process because it is influenced by habits, experiences, motivation, and support from family, school, peers, and health workers. Furthermore, the absence of a program to provide iron-fortified iron tablets (TTD) in schools is thought to have prevented respondents from having the opportunity to practice anemia prevention behavior. Therefore, even though respondents have received education using animated videos, changes in anemia prevention behavior have not been optimally formed and still require ongoing practice and support.

Identification of the Influence of Animated Video Media on Knowledge, Attitudes, and Behavior of Anemia Prevention in Adolescent Girls at SMP Negeri 1 Trucuk Bojonegoro in 2026

Based on the results of the Wilcoxon Signed Rank Test, the Asymp. Sig. (2-tailed) value for the knowledge variable was 0.000 (<0.05), so it can be concluded that animated

video media has an effect on knowledge of anemia prevention in female students of SMP Negeri 1 Trucuk Bojonegoro. Meanwhile, for the attitude variable, the Asymp. Sig. (2-tailed) value was 0.259 (>0.05), and for the behavior variable, the value was 0.540 (>0.05), so it can be concluded that animated video media has no effect on attitudes and behavior of anemia prevention.

According to (Dila Rukmi Octaviana, 2021), Knowledge is information or understanding that individuals acquire through experience and the learning process, thus becoming the basis for understanding an object or phenomenon. Attitude is an individual's tendency to respond to an object that is influenced by cognitive, affective, and conative aspects. (Khorindri, 2022) Meanwhile, behavior is a real action that is formed through the process of learning, experience, and habituation. (Marsela Juliawati Alfa Berhimpong, 2020) In the Health Promotion Model (HPM) theory, increased knowledge can occur more quickly after an individual obtains information, while changes in attitudes and behavior require a more complex process because they are influenced by individual characteristics and experiences, perceptions of benefits and barriers, beliefs in one's own abilities (self-efficacy), interpersonal influences, situational influences, and commitment to the action plan. Therefore, increased knowledge is not always followed by changes in attitudes and behavior in a short time. (Euis Purwatyningsih, 2024) This is in line with research (Ben Singh, 2024) which states that the formation of healthy behavioral habits is a gradual process that requires consistent repetition and generally takes around 2–5 months.

According to the researchers, animated video media is effective in increasing the knowledge of adolescent girls regarding anemia prevention because the material is presented through a combination of images, text, sound, and animation, making it more engaging, easier to understand, and memorable for respondents. However, this increase in knowledge has not been followed by significant changes in attitudes and behavior. This indicates that changes in attitudes and behavior are influenced not only by knowledge, but also by experience, habits, motivation, support from family, teachers, peers, health workers, and the environment. Furthermore, the absence of a program to provide Iron Supplements (TTD) in schools potentially prevents respondents from having the opportunity to directly apply one of the anemia prevention efforts studied. Family socioeconomic factors are also suspected to influence respondents' ability to obtain TTD independently because most adolescents do not have their own income and are still dependent on their parents. Furthermore, the relatively short timeframe for the study meant that changes in attitudes and behavior could not be optimally observed. Therefore, ongoing health education and support from schools, families, health workers, and anemia prevention programs are needed so that existing knowledge can develop into positive attitudes and more optimal anemia prevention behavior.

CONCLUSION

This study shows that animated video media has a significant influence on the knowledge of adolescent girls regarding anemia prevention, with an Asymp. Sig. (2-tailed) value of 0.000. The proportion of respondents with good knowledge category increased from 89.8% before the intervention to 99.3% after the intervention. In contrast, animated video media did not show a significant influence on attitudes and behavior, with p values of 0.259 and 0.540, respectively. Changes in the distribution of behavior showed a decrease in the less category from 53.1% to 43.5%, but this increase was not statistically significant. These findings indicate that animated videos are effective as educational media to increase knowledge aspects, but increased knowledge has not directly resulted in changes in attitudes and behavior in preventing anemia in a short time. Practically, animated video media can be used by schools and health workers as an attractive and easy-to-understand health promotion

media, while changes in attitudes and behavior require reinforcement through continuous education, habituation, and environmental support.

Limitations of this study relate to the relatively short intervention and observation period and the use of a one-group pretest-posttest design without a control group. Therefore, changes in attitudes and behavior could not be optimally observed, and the influence of other factors could not be completely separated from the effects of the intervention. Future research is recommended to use a longer intervention and follow-up period, involve a control group, and consider the support of family, school, peers, and the Iron Supplement program as factors that can support the formation of anemia prevention behavior. Thus, subsequent research can provide a more comprehensive picture of the sustainability of changes in attitudes and behavior after animated video education.

REFERENCES

- Ben Singh, A. M. (2024). A systematic review and meta-analysis of health behaviour habit formation: Time to form a habit.
- Dila Rukmi Octaviana, R. A. (2021). Hakikat manusia: Pengetahuan (*knowledge*), ilmu pengetahuan (sains), filsafat dan agama. *Jurnal Tawadhu*.
- Euis Purwatyningsih, I. N. (2024). Model teori konsep keperawatan Nola J Pender *Health Promotion Model*. *Journal of Health and Medical Research*.
- Endang Lestiawati, D. C. (2025). Edukasi media video animasi meningkatkan pengetahuan anemia pada remaja putri. *Jurnal Kesehatan*, 229–236.
- Filia Sofiani Ikasari, I. P. (2024). Media video animasi meningkatkan sikap remaja tentang gizi seimbang dalam rangka mencegah stunting. *Media Publikasi Promosi Kesehatan Indonesia*.
- Karina Az-Zahra, R. K. (2022). Efektivitas pemberian media edukasi gizi yang menarik dan inovatif terhadap pencegahan anemia kepada remaja putri. *The Indonesian Journal of Health Promotion*.
- Khoiria, S. (2023). Pengaruh pemberdayaan anggota PMR sebagai tutor teman sebaya terhadap pencegahan anemia pada remaja putri di SMPN 1 Kraksaan Probolinggo.
- Khoriandri, D. A. (2022). Gambaran sikap dan perilaku remaja putri dalam konsumsi tablet Fe di masa pandemi COVID-19 di SMAN 1 Bantul. Poltekkes Kemenkes Yogyakarta.
- Marsela Juliawati Alfa Berhimpung, A. J. (2020). Analisis implementasi aktivitas fisik berdasarkan *Health Belief Model* oleh tenaga kesehatan di puskesmas. *Journal of Public Health and Community Medicine*.
- Ni Made Sri Rahyanti, A. A. (2025). Pencegahan anemia melalui program Sekolah Cantik (Cegah Anemia dan Stunting untuk Kesehatan) remaja putri. *Jurnal Kreativitas Pengabdian Kepada Masyarakat (PKM)*, 1005–1014.
- Rahmawati. (2024). Bagaimana pemahaman pribadi remaja tentang kondisi psikologisnya. *Jurnal Dunia Pendidikan*.
- Resky Amalia, F. A. (2023). Peran keluarga dalam membentuk perilaku anak. *Jurnal Bimbingan dan Konseling*.
- Rika Ariana, N. A. (2024). Analisis faktor risiko kejadian anemia pada remaja putri. *Jurnal Kesehatan Komunitas*, 133–140.
- Saputri, M. D. (2022). Hubungan antara pengetahuan, sikap, perilaku terkait anemia dan asupan zat besi dengan kejadian anemia pada mahasiswi baru STIKes Mitra Keluarga. *Jurnal Penelitian Kesehatan Suara Forikes*, 349–352.
- Siti Windari, E. D. (2024). Gambaran pengetahuan remaja putri tentang konsumsi tablet Fe dengan kejadian anemia di SMA Negeri 1 Ngraho Bojonegoro. *IJOH: Indonesian Journal of Public Health*, 148–162.

Stephanie Victoria Ester, R. K. (2021). Pengaruh edukasi tentang anemia melalui media cetak dan media audio visual kepada remaja putri.

Sugiyono. (2021). *Metode penelitian kuantitatif, kualitatif, dan R&D.*

Tri Valda Gilby Renata, S. N. (2024). Evaluasi efektifitas edukasi anemia pada remaja putri melalui permainan *flashcard*: Studi di SMPN 2 Jabon Kabupaten Sidoarjo. *Jurnal Sago Gizi dan Kesehatan.*