

The Influence of Health Education Using Video Media on The Level of Knowledge of Anemia Prevention in Adolescent Girls

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ABSTRACT

Background: Anemia among female adolescence will have an impact on health. Based on data from the Ministry of Health's Riskesdas R! In 2021, the prevalence of anemia in adolescents was 32%, meaning that 3-4 out of 10 adolescents suffered from anemia. The government's efforts to prevent and control anemia in adolescents include a program that provides iron tablets to adolescents every year. Providing information or knowledge can be done through health education. Several educational media developments with advanced technology have been carried out, such as through an audiovisual (video) approach. Not only does it have an attractive appearance, but animated videos make the information provided last longer in the memory and make respondents satisfied/happy. The effectiveness of a video can also be seen from the length of time the information can remain in a person's memory. This study's aim was to determine the effect of video media on knowledge of anemia prevention among adolescents girls.

Methods: This type of research uses a quasi-experimental pretest-posttest group design. The population in the study was 58 respondents using a total sampling technique, with data analysis using the Mann-Whitney test.

Result: The results of the study showed that the knowledge of adolescents girls before providing health education using video media obtained results with a median of 21.97 with the lowest value being 12 and the highest value being 29. The knowledge of adolescents girls after providing health education using video media obtained results with a median of 26.62 with the lowest value being 21. and the highest score is 30. There is an influence of video media on knowledge of anemia prevention in young women (P value 0.000).

Conclusions: Health workers, especially midwives, in providing health services can provide information to the public, especially female, especially about anemia by encouraging a program to take iron tablets correctly and appropriately.

Keywords : Videos, Knowledge, Anemia Prevention

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Background. Adolescent girls suffer from anemia if blood hemoglobin levels show values less than 12 gr/dl (Putri et al., 2021). Anemia in adolescent girls is a concern because adolescent girls are at risk of anemia ten times compared to young men, and anemia that is not resolved will have a negative impact when young women become adults, one of which is if young women marry, then get pregnant and give birth. Adverse impacts can occur on mothers and babies they give birth to (Permanasari et al., 2021). Anemia in adolescent girls will have an impact on health and achievement in school and will later be at risk of anemia when becoming pregnant women which can cause fetal growth and development that is not optimal and has the

potential to cause complications of pregnancy and childbirth as well as maternal and child death (Kemenkes RI, 2020).

Anemia is a nutritional problem that is widely found throughout the world, which not only occurs in developing countries but also in developed countries. Anemia sufferers are estimated at two billion, with the highest prevalence in Asia and Africa. WHO also states that anemia is the 10 biggest health problems in this modern century, and groups at high risk of suffering from anemia are women of reproductive age, pregnant women, school-age children, and adolescents (Briawan, 2021). Based on Riskesdas 2018 data, the prevalence of anemia in adolescents is 32%, meaning that 3-4 out of 10 adolescents suffer from anemia

and the prevalence rate of anemia in Central Java reaches 51.7% (Kemenkes RI, 2019).

Anemia in adolescent girls will have an impact on health and achievement in school and will later be at risk of anemia when becoming pregnant women which can cause fetal growth and development that is not optimal and has the potential to cause complications of pregnancy and childbirth and maternal and child death (Ministry of Health RI, 2020). A factor influencing the eating habits of adolescents is knowledge. Knowledge of anemia greatly influences the tendency of adolescent girls to choose foods with high nutritional value and high iron content and if you have high knowledge about anemia, you can avoid foods and drinks that can inhibit iron absorption (Permanasari et al., 2021).

Some development of educational media with advanced technology has been carried out, such as through audiovisual (video) approaches. Not only does it have an attractive appearance, animated videos make the information provided more lasting on memory and make respondents satisfied / happy (Goad et al., 2018). The effectiveness of video can also be seen from the length of time information can stay in a person's memory (Cleeren et al., 2014)

Government efforts in the prevention and control of anemia in adolescents with a program of giving iron tablets to adolescents every year. Young women are recommended to consume 1 iron tablet every week and 1 iron tablet every day during menstruation for 10 days (Ministry of Health RI, 2018), but in fact there are still many adolescent girls who experience anemia.

Increasing the knowledge of adolescent girls about anemia is one of them by providing nutrition education by providing health education. This is because the higher the knowledge of nutrition will affect the attitude and behavior of food consumption. Education can be done through several media and methods. Health education carried out with the help of the media will facilitate and clarify the audience in receiving and understanding the material presented (Safitri & Fitranti, 2016).

The provision of information or knowledge can be done through health education. Health education is essentially an activity to convey health messages to the community, group or individual. One dimension where the implementation of health education

can be carried out in schools with the target of students through health promotion methods (Permanasari et al., 2021).

The level of knowledge of adolescents can be influenced by the information obtained, the less information received, the smaller the level of knowledge of a person. Video is a medium that uses audio and visual which is an intermediary about the material so as to build conditions that make adolescents able to acquire knowledge and skills. Media in health education has benefits to clarify the material presented, overcome the limitations of space, time and sensory power, and overcome passive attitudes (Suraoka & Supariasa, 2014).

This nutrition education activity is carried out online by disseminating a video link with the theme 'Anemia in Adolescents.' which is aimed at Young Women. By distributing questionnaires before and after watching Educational videos. This educational activity began with the distribution of fleyers that included links to pre-test questionnaires (before watching the video) and post-test (after watching the video) The results of calculating statistical knowledge data about anemia in adolescent girls showed that the pre-test and post-test experienced a significant increase with a value of <0.05 . The average pre-test score was 16.6 and the average score during the post test was 18.8. It is said that there is an increase in knowledge of adolescent girls related to anemia when after education, it can be seen from the average results of pre-test and post test scores that have increased (Fadhillah, 2022).

Based on data in Jambon Village, Gemawang District, Temanggung Regency, there were 139 adolescents based on data from the Youth Posyandu in February 2023, and based on the data collection results, 43 were found to have anemia. The implementation of anemia prevention activities has been carried out by providing counseling to every adolescent posyandu activity on how to prevent anemia and how to take Fe tablets correctly. Counseling is carried out in the form of lectures, but in reality there are still young women who have anemia.

Based on this background, the author is interested in conducting research on the influence of video media on knowledge of anemia prevention in adolescent girls.

Methods. This type of research uses quasi-experimental pretest-posttest group design.

The population in the study of 58 respondents with total sampling techniques, with data analysis using the Mann Whitney test. The instrument used in this study was in the form of a questionnaire about knowledge and family support. The validity test of this research questionnaire uses expert judgment by S2 lecturers of the Magelang Midwifery Study Program and Promkes. Meanwhile, the animation video was validated by multimedia experts, namely teachers of SMK Muhammadiyah Temanggung. In this study, no reliability test was carried out. The scoring for the assessment of the questionnaire is on the statement that the score is 1 true and the score is 0 false, while the unfavourable statement has a score of 0 true and 1 false. The questionnaire contains 30 statements. The maximum score of the questionnaire answer is 30.

Result and Discussion.

Table 1 Knowledge before providing health education with video media to adolescent girls

Group Categories	Med	Min	Max
Knowledge before providing health education with video media to adolescent girls	21,97	12	29

Based on the results of data analysis, the median knowledge of adolescent girls before providing health education with video media was 21.97 with the lowest score of 12 and the highest value of 29, where 84% of respondents still did not understand the normal limit of hemoglobin levels. Nutritional anemia does not affect changes in height, the effect of drinking iron tablets seems to be constipation or constipation.

The results of respondents' answers before being given health education are still lacking, because respondents still do not know about the importance of anemia prevention. Adolescents become a group that is prone to anemia which can be caused because in general adolescent girls consume more plant foods that contain little iron, compared to animal foods, so that the body's need for iron is not met. Young women also usually want to look slim, so limit food intake, besides that young women experience menstruation every month, so they will lose iron ± 1.3 mg / day (Winarsih, 2018).

Lack of knowledge of adolescents can be caused due to lack of information about anemia prevention. The provision of nutritional counseling is fundamental and it is important to explain that the bioavailability of iron obtained from meat consumption (red or white meat) is greater. It should also be encouraged to consume plant-based sources such as citric fruits (sweets, pickles), vegetables and legumes and be warned to avoid excessive soda, tea, coffee, dairy, and cereals that reduce iron absorption. Some studies recommend giving iron supplements, given the high prevalence of iron deficiency anemia in the adolescent population (Farhati & Resmana, 2020).

Table 2 Knowledge after providing health education with video media to adolescent girls

Group Categories	Med	Min	Max
Knowledge after providing health education with video media to adolescent girls	26,62	21	30

Based on the results of data analysis, the median of adolescent girls' knowledge after providing health education with video media was 26.62 with the lowest value of 21 and the highest value of 30, with the results of the distribution of respondents' answers there were 3 statement items that respondents had understood before the correct answer, namely items number 1, 27 and 28 about anemia is a condition with hemoglobin levels lower than normal values, Routine drinking red guava juice can increase hemoglobin levels in the body, and milk that can help increase hemoglobin levels is soy milk, then there are 14 items that remain the answer, meaning there is no increase after the post test, namely about the symptoms of anemia, the impact of anemia and prevention of anemia.

Increasing the knowledge of adolescent girls about anemia is one of them by providing nutrition education by providing health education. This is because the higher the knowledge of nutrition will affect the attitude and behavior of food consumption. Education can be done through several media and methods. Health education carried out with the help of the media will facilitate and clarify the audience in receiving and understanding the material presented (Safitri & Fitranti, 2016).

The provision of information or knowledge can be done through health education. Health education is essentially an activity to convey health messages to the community, group or individual. One dimension where the implementation of health education can be carried out in schools targeting students through health promotion methods (Permanasari et al., 2021).

The level of knowledge of adolescents can be influenced by the information obtained, the less information received, the smaller the level of knowledge of a person. Video is a medium that uses audio and visual which is an intermediary about the material so as to build conditions that make adolescents able to acquire knowledge and skills. Media in health education has benefits to clarify the material presented, overcome the limitations of space, time and sensory power, and overcome passive attitudes (Suraoka & Supariasa, 2014).

Table 3 The effect of video media on knowledge of anemia prevention in adolescent girls

Information	Result	P Value	Z Score
Increase	57		
Decreased	0	0,000	6,585
Remain	1		

The results showed that the value of respondents' knowledge increased after receiving health education with video media as many as 57 respondents, and still as many as 1 respondent, while the results of the analysis using the Wilcoxon test obtained p values of $0.000 < 0.05$, so that the working hypothesis (H_a) was received, meaning that there was an influence of video media on knowledge of anemia prevention in adolescent girls, with Z score 6.585 meaning that video media 6 times more influenced the knowledge of adolescent girls than the method other.

This is in line with research conducted by Mahadewi (2019) that the value of Asymp. Sig (2-tailed) < 0.05 which is 0.015, that H_a is accepted, and H_o is rejected so that it can be concluded that there is an increase in knowledge by counseling using video media and leaflets, where in the video media group shows better results on knowledge.

This nutrition education activity is carried out online by disseminating a video link with the theme 'Anemia in Adolescents.' which is aimed at Young Women. By distributing

questionnaires before and after watching Educational videos. This educational activity began with the distribution of questionnaires that included links to pre-test questionnaires (before watching the video) and post-test (after watching the video) The results of calculating statistical knowledge data about anemia in adolescent girls showed that the pre-test and post-test experienced a significant increase with a value of < 0.05 . The average pre-test score was 16.6 and the average score during the post test was 18.8. This is said that there is an increase in knowledge of adolescent girls related to anemia after education, this can be seen from the average results of pre-test and post test scores that have increased (Fadhillah, 2022).

The results of the same study were shown from previous studies which showed there was a difference in the average level of knowledge of respondents between before and after being given health education through videos (Anifah, 2020).

Knowledge about anemia greatly influences the tendency of adolescent girls to choose foods with high nutritional value and high iron content and if they have high knowledge about anemia, they can avoid foods and drinks that can inhibit iron absorption (Permanasari et al., 2021).

The provision of health education through video media has an influence on knowledge about early detection of breast cancer in adolescent girls (Mawaddah et al., 2019). The level of knowledge of adolescents can be influenced by the information obtained, the less information received, the smaller the level of knowledge of a person. Video is a medium that uses audio and visual which is an intermediary about the material so as to build conditions that make adolescents able to acquire knowledge and skills.

Video media is appropriate to increase knowledge because according to Edgar Dale's theory in Nursalam and Effendi (2012) techniques and media (direct experience) used in health education stimulate the most of participants' senses. Text or reading (the highest degree of abstraction) will stimulate the visual organs only, if the purpose of health education is only to change knowledge then reading techniques and media are the most appropriate, and the use of video means that respondents can see directly, can absorb material 30%.

Conclusion and Suggestions. The knowledge of adolescent girls before providing health education with video media obtained results with a median of 21.97 with the lowest score of 12 and the highest score of 29. The knowledge of adolescent girls after providing health education with video media obtained results with a median of 26.62 with the lowest score of 21 and the highest score of 30. There is an influence of video media on knowledge of anemia prevention in adolescent girls (P value 0.000).

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