

Research Development Of Tiktok Video Media About Anemia Prevention In Adolescent Girls At SMP Negeri 18 Surakarta

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ABSTRACT

Anemia is one of the health problems that occur in adolescents. According to Basic Health Research in 2018, in Indonesia the prevalence of anemia in adolescents is 32%, which means that 3-4 out of 10 adolescents suffer from anemia. The purpose of this research is to develop health media through Tiktok videos about the prevention of anemia in adolescent girls at SMP Negeri 18 Surakarta. This study uses the Research and Development (R&D) method of the Borg & Gall development model with data collection, research planning, product design, design validation, design revision, product testing and product revision. The subject of the small-scale research was 10 students as a sample and field trials were carried out with 30 students. The results of this study show that the average score of the material expert validation test is 90% with the very feasible category and the validation of media experts is 90% with the very feasible category. The feasibility test of the product with student validation of 91% with the category of very feasible. The conclusion of the research and development of Tiktok video-based audio-visual media is very feasible to be used in the educational process of preventing anemia in adolescent girls.

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INTRODUCTION

Anemia is a condition in which hemoglobin (Hb) levels, hematocrit, and red blood cell counts are below normal values (Puspikawati et al., 2021). According to the Ministry of Health (KEMENKES), the cause of anemia in Indonesia is a lack of iron necessary for the formation of Hb, so it is called Iron Nutritional Anemia (AGB) or iron deficiency anemia (Kemenkes, 2015). Iron (Fe) is needed for the formation of Hb. The higher the intake (Fe), the higher the Hb level will increase, so it can cause low anemia (Sholicha & Muniroh, 2019). One of the health problems that occur in adolescents is anemia (Kurniawati, D., 2019). The incidence of anemia is generally higher in developing countries with a prevalence of 51% compared to developed countries of 14% (Brahmana & Suryani, 2023).

In Indonesia, according to Basic Health Research (Riskesdas, 2018) the prevalence of anemia in adolescents is 32%, which means that 3-4 out of 10 adolescents suffer from anemia, and there is an increase in the prevalence of anemia in the age group of 15-24 years from 2013 which was previously 18.4% (Apriningsih et al., 2020). The prevalence of anemia in Central Java Province is 57.7% and is still a public health problem,

because the percentage is >20% (Sulistiani et al., 2021). The prevalence of anemia in Surakarta City in adolescent girls is 1.02% (Novitasari et al., 2014). The lack of information on electronic media and families leads to a decrease in adolescents' knowledge to prevent anemia (Indrawatiningsih et al., 2021). Efforts to prevent anemia in adolescents can be carried out through the provision (TTD) recommended by WHO to pregnant women, but the program target is added to adolescent girls (Kemenkes, 2018). Activities to overcome anemia in adolescent girls and WUS carried out by the Surakarta City Government are by preventing anemia in school children (adolescent girls) independently. According to the Surakarta City Health Office, this activity depends on the respective school (Dinas Kesehatan Surakarta, 2019).

The use of media can make it easier to convey information and make it easier for the audience to receive information (Suprato et al., 2022). From this statement, to help understand information not limited by time and place, a new innovation was developed in the form of videos packaged in the Tiktok application (Rasida Luisandrith & Yanuartuti, 2020). Tiktok is a short video application with unique and interesting special effects, and has music support that allows users to perform in various styles and encourages creativity as content creators (Luthan & Asmoro Putri, 2021).

The Tiktok application was created by a company from China, China. The Bytedance company first created an app that creates short-duration videos called Douyin. The Douyin application within 1 year has 100 million users and 1 billion video views every day (Herry & Wijaya, 2022). Some of the world's most popular platforms, the Tiktok app reached the highest average monthly users during 2022. The Tiktok application spent an average of almost 23 hours and 28 minutes per month between January and December of 2022, higher than Youtube which spent 23 hours 09 minutes per month in 2022 (We Are Social, 2023).

The results of a preliminary study at SMP Negeri 18 Surakarta, obtained from the results of interviews with counseling guidance teachers (BK), said that the prevention of anemia in adolescent girls is low. So that the development of Tiktok video media was carried out to increase understanding of anemia prevention in adolescent girls. The purpose of this study is to develop health media through Tiktok videos about the prevention of anemia in adolescent girls at SMP Negeri 18 Surakarta.

METHOD

Research and Development (R&D) is defined as a process or step to develop a new product or improve an existing product (Putra et al., 2020). The research and development of Tiktok video media in this study is useful as information for further education in higher education with the research approach of Borg & Gall. Borg & Gall says that research and development is a process used to validate and develop products. Research and development (R&D) is divided into 10 steps. However, due to the limited time and energy during research, researchers modify the stages or steps of research and development (R&D) to the stage of revising the product.

The population of this study is all active students of SMP Negeri 18 Surakarta. The population of this study is 340 female students who can be classified as inclusion and exclusion criteria. The inclusion criteria in this study consisted of students in grade VII, grade VIII, and students who participated in the study. The exclusion criteria in this study consisted of grade IX students who did not participate in the study. The trial sample in this study was aimed at 40 students consisting of grade VII and grade VIII students. The trial sample in this study was carried out with a small-scale trial with 10 female students and a field trial of 30 female students representing the target population. The research data is sourced from interviews with BK teachers, the number of students in grades VII, VIII and IX, as well as a preliminary study on the characteristics of Tiktok videos. The data collection technique uses a questionnaire to determine the feasibility of the product developed based on validation from material experts and media experts. Data analysis in this study uses a validation questionnaire of material experts and media experts and data analysis uses a questionnaire of student responses to the development of audio-visual media developed.

The effectiveness test of the questionnaire of material experts and media experts was analyzed using a quantitative descriptive method in providing input and suggestions for media, language, material, and content by giving scores based on the Likert Scale. The assessment results are categorized into 4 categories with assessment score guidelines, namely the criteria for strongly agreeing with the score of 4, the criteria for agreeing with the score of 3, the criteria for disagreeing with the score of 2, and the criteria for strongly disagreeing with the score of 1. The results of the questionnaire assessment were analyzed using eligibility criteria of 0%-25% with the category of not feasible, 26%-50% with the category of not feasible, 51%-75% with the category of feasible, 76%-100% with the category of very feasible.

RESULTS

The main result of this research and development is audio-visual media as an education for anemia prevention for adolescent girls at SMP Negeri 18 Surakarta. The product developed is packaged in the form of a Tiktok video. The first stage is to find out the initial needs in developing audio-visual media, the researcher conducts a preliminary study interview at the research site. Information was obtained from BK teachers of SMP Negeri 18 Surakarta. Other information obtained from female students regarding the questionnaire on the characteristics of Tiktok videos among teenagers includes the concept of Tiktok videos, the duration of Tiktok videos, and the backsound of Tiktok videos. In the second stage, the researcher made a concise audio-visual media design so that it was easy for young women to understand. The determination of the development of Tiktok video media is based on a questionnaire filled out by female students in accordance with the characteristics of trending among young women. Next, determine talent, dance compilation and backsound that are trending, as well as editing software, namely the Filmora application. In the third stage, the determination of content content, initial display of media, display of media content, final display of media, compilation of backsound, media duration, video editing, and video playback rules during the study.

The fourth stage is the initial field trial stage where validation is carried out from material experts and media experts. Validation of material experts is carried out via Email and face-to-face, each method is carried out 1x. The validation score of the first phase of material experts is 50% into the audio-visual media of Tiktok videos which is included in the "Less Feasible" category. The validation score of the second phase of material experts of 90% is a Tiktok video audio-visual media product that is included in the "Very Feasible" category. Meanwhile, the trial with media experts was carried out through zoom meetings and google forms. The validation score of the first phase of media experts of 67.5% is a Tiktok video audio-visual media product that is included in the "Feasible" category. The validation score of phase II media experts of 90% is a Tiktok video audio-visual media product that is included in the "Very Feasible" category.

The fifth stage is the product revision stage I based on the validation of material experts and media experts. The following is an explanation of the product revision from material experts and media experts:

Table 1. Product Revision

Revision of Material Expert Products Phase I	Revision of Media Expert Products Phase I
Reliable reference sources	Use easy-to-read font colors
Language in sentences	Use a visual image of the message payload
Customize the content of the material	Add a visualization image

The sixth stage, namely the field trial stage in research and development, is the Tiktok video media trial stage which is carried out is a small-scale trial and a field trial. In a small-scale trial, it was carried out by 10 students of SMP Negeri 18 Surakarta and the average result was 69% with the category "Feasible". The field trial was carried out by 30 students of SMP Negeri 18 Surakarta and the average result was 91% with the category "Very Feasible". After testing material experts, media experts, and students, the acquisition of audio-visual media results is interpreted as feasible if the eligibility percentage is $\geq 51\%$ (Adawiyah & Kowiyah, 2021). The seventh stage, namely the phase II product revision stage, can be concluded that the Tiktok video media trial has not undergone revisions and can be used for anemia prevention education for SMP Negeri 18 Surakarta students.

DISCUSSION

In the first stage, the researcher collected information related to the characteristics of the target audience and obtained group characteristics. Information about audience characteristics comes from BK teachers who said that adolescent girls have not implemented anemia prevention. This is in line with Puriana's research, which said that BK teachers also provide information that adolescent girls have not implemented anemia prevention (Puriana, 2023). Research on the prevention of anemia in adolescent girls at SMP Negeri 18 Surakarta using Tiktok video media has never existed, this statement was revealed by the school's BK teacher. This is in accordance with Atmaja's research, which carried out research at SMP Negeri 18 Surakarta to develop Instagram visual media (Atmaja, 2022). Therefore, the researcher plans to develop Tiktok video media as education to prevent anemia in adolescent girls.

At the research planning stage, the researcher received information from BK teachers of SMP Negeri 18 Surakarta regarding the problem of lack of anemia prevention in adolescent girls. So the researcher designed an educational media design delivery to improve the prevention of anemia. The result of the design is the audio-visual media of the Tiktok application. This is in line with Firdawiyanti's research, which developed a Tiktok video media about anemia knowledge (Sovani Firdawiyanti & Kurniasari, 2023). At this stage, the initial process of the Tiktok audio-visual video media product is designed using the Filmora application. This is in

accordance with Aliwijaya's research, which said that the process of developing audio-visual media and editing content uses the Filmora application (Aliwijaya, 2023). Finally, the development of this product design was determined to develop an audio-visual media, namely the Tiktok video media. The Tiktok application is very popular thanks to the interesting videos of users. This application is also very friendly to smartphone devices, in fact it is specifically for its users and has been used by more than 85% of the population on earth. This is in accordance with Nurimah's research which said that the influence of the Tiktok application for adolescents is when viewed from educational psychology (Nurimah et al., 2024).

The initial field trial stage is a stage ready to use because it has gone through several stages of validation tests from material experts and media experts. This is in accordance with the Borg & Gall Theory which suggests limiting research and development to ten stages to seven stages with small-scale and large-scale target audiences. This statement is in accordance with Hafifah's research, which states that the development research carried out is several steps out of the ten steps of the Borg & Gall Theory (Hafifah, 2022). The product revision stage is validated by material experts and media experts twice. The product revision stage is also carried out after field trials and is the end of the audio-visual media product development stage. This is in line with Andani's research, which states that the validation assessment is carried out after consultation with field experts with a maximum total score categorized as feasible without revision (Andani et al., 2022). In this study, the media developed received a "Very Feasible" assessment at the end of the validation of material experts and the validation of media experts, which is with a percentage of 90%.

At the field trial stage, it is carried out through 2 stages, namely small-scale trials and field trials. The small-scale trial was carried out with 10 students in grades VII and VIII while the field trial was carried out with 30 students. This is in line with Atmaja's research, which states that it uses field tests through 2 stages (Atmaja, 2022)z, 2022). In this second phase of product revision, the researcher improved the audio-visual media, namely the Tiktok video media that has been tested. Then, after the Tiktok video media product has gone through the refinement stage, the researcher posts the final results of the audio-visual media developed on the Tiktok application.

CONCLUSION

The development of Tiktok video media uses Borg & Gall Theory with 7 stages of development, namely Research and Information Collecting, Planning, Develop Preliminary Form of Product, Preliminary Field Testing, Main Product Revision, Main Field Testing, Operational Product Revision. In the information collection and planning stage of this study, the researcher designed audio-visual media with a duration of less than 1 minute using the concept of a dance/dance video accompanied by a viral dance song/background. The development stage of this research product draft, media development based on product drafts. The assessment resulting from the validation of material experts and media experts obtained the same percentage result of 90% with the category "Very Feasible".

The revision stage of Tiktok video media products is carried out in accordance with suggestions and inputs from material experts and media experts. The assessment aspect in the small-scale trial obtained an average percentage of 69% which was already included in the "Feasible" category. Then, the field trial assessment aspect obtained an average percentage of 91% with the category "Very Feasible". The second phase of product revision was not carried out because it did not get advice from research respondents, namely students of SMP Negeri 18 Surakarta.

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