



Comparison of the Effect of Explanatory Videos and Regatama Booklets on Adolescents' Compliance in Iron Tablet Consumption

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Abstract

This study aims to compare the effects of explanatory videos and regatama booklets on adolescents' compliance in consuming iron tablets. The problem of low compliance among adolescents in consuming iron tablets can lead to iron deficiency risks that impact health. Therefore, it is essential to investigate the most effective methods to improve compliance. The method used in this study is a quasi-experimental design with a pretest-posttest control group. The sample of this study consists of 100 adolescents, divided into two groups: one receiving explanatory videos and the other receiving regatama booklets. Data were collected through questionnaires measuring adolescents' compliance in consuming iron tablets before and after the intervention. Data analysis used a t-test to compare the two groups. The results showed that both media had a positive effect on adolescents' compliance; however, the explanatory video was more effective than the regatama booklet in increasing compliance in consuming iron tablets. This study suggests using explanatory videos as a more efficient educational method to raise awareness and improve adolescents' compliance with iron tablet consumption.

Keywords

*explanatory video,
regatama booklet,
compliance,
adolescents,
iron tablets*

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Introduction

Iron deficiency among adolescents is one of the most prevalent health issues faced by many countries, including Indonesia. Adolescents, especially adolescent girls, are at a high risk of iron deficiency due to the physiological changes that occur during puberty and menstruation (Putri *et al.*, 2023). Iron deficiency can lead to anemia, which, if not properly managed, can interfere with their growth, physical development, and cognitive function (Mohamad & Arda, 2023). One of the ways to prevent iron deficiency is through regular consumption of iron supplements. However, despite implementing iron supplementation programs, adolescent adherence to taking iron supplements remains low (Madestria *et al.*, 2021).

Adherence to iron supplementation is a critical factor that influences the effectiveness of the supplementation itself. One reason for low adherence is the lack of understanding regarding the importance of iron consumption and the potential side effects of iron deficiency (Oktaviani & Sari, 2024). Therefore, a practical educational approach is needed to raise awareness among adolescents about the importance of taking iron supplements regularly.

The educational media used in the information delivery process can influence adolescents' understanding and adherence. Previous studies have applied various educational methods to improve adherence, including using technology-based media such as videos and booklets (Sari, 2023). Explanatory videos are more engaging and easier to understand than print media such as booklets (Ramadhani *et al.*, 2024). Additionally, explanatory videos allow for more interactive and dynamic delivery of messages, enhancing adolescents' motivation to participate in health programs (Dwistika *et al.*, 2023).

Meanwhile, the Regatama booklet, a printed medium containing information about the importance of iron supplementation, is still widely used in health education programs. This booklet provides more structured and detailed information, although it is less interactive than videos (Alves *et al.*, 2023). Nonetheless, the Regatama booklet still delivers complete and easily readable information to adolescents (Sahertian & Latumenasse, 2017). Therefore, it is important to compare the effectiveness of explanatory videos and Regatama booklets in increasing adolescents' adherence to iron supplementation.

This study examines the impact of explanatory videos and Regatama booklets on adolescent adherence to iron supplementation. Through this research, it is hoped that a more effective educational medium can be identified for use in programs to increase adolescents' adherence to iron consumption. The proper use of media can improve adherence, reducing the incidence of iron deficiency among adolescents.

The Health Belief Model, proposed by Rosenstock *et al.* (1988), serves as the theoretical foundation for this research. This model explains how perceptions of health threats and the benefits of preventive actions (in this case, iron supplementation) can influence an individual's decision to follow health recommendations. According to the model, individuals are more likely to follow health recommendations if they feel threatened by a health condition and believe preventive action will provide significant benefits.

Furthermore, motivation theory is also relevant to this study, as adolescents often face challenges maintaining motivation for actions that do not appear to offer immediate rewards or benefits. Therefore, the educational media used should be able to motivate and attract adolescents' attention, encouraging them to take iron supplements regularly (Kristianti & Metere, 2021).

Additionally, this study is aligned with the rapid development of communication technologies, which opens opportunities for the use of digital media in health education. Previous research has shown that digital media, such as videos, has a greater influence on adolescent behavior, particularly in health education (Anggraeni *et al.*, 2020). By utilizing digital media, adolescents can easily access and understand the conveyed messages.

This study employs a quasi-experimental method with a pretest-posttest control group design. This design allows the researcher to measure adolescent adherence changes after receiving different educational media treatments. The study sample consists of 100 adolescents divided into two

treatment groups: one receiving explanatory videos and the other receiving Regatama booklets. Adherence levels are measured using a questionnaire administered before and after the intervention.

This study is expected to reveal significant differences between the two media regarding their influence on adolescent adherence to iron supplementation. If one medium proves to be more effective than the other, the findings could contribute significantly to developing more effective health education methods, particularly in preventing iron deficiency among adolescents.

Methods

This study employs a quasi-experimental design with a pretest-posttest control group approach to evaluate the impact of explanatory videos and a Regatama booklet on adolescent adherence to iron tablet consumption. This design was chosen because it allows the researcher to measure changes in adherence levels before and after the intervention with two different educational media. The method also facilitates a comparison between the two treatment groups, which is expected to provide more comprehensive and objective information regarding the effectiveness of these two media.

Population and Research Sample

The population of this study consists of adolescents aged between 13 and 18 years residing in urban areas. The selection of this age group is based on the adolescent's increased need for iron supplementation to prevent anemia, particularly for adolescent girls who experience menstruation. The research sample comprises 100 adolescents, randomly divided into two groups of 50 individuals each. The first group provided a video explanation regarding the importance of iron tablet consumption, while the second group was given a booklet containing similar information. These groups were selected based on age, gender, and relevant health status, which align with the research objectives.

Research Instrument

The primary instrument used in this study is a questionnaire designed to measure adolescents' adherence to iron tablet consumption. The questionnaire includes questions on the frequency and consistency of iron tablet consumption over the past two weeks, knowledge about the importance of iron, and attitudes and motivations regarding iron tablet consumption. The questionnaire was constructed using a 5-point Likert scale, which allows the researcher to measure adolescents' adherence across various dimensions. Furthermore, this measurement instrument was validated and tested for reliability before data collection.

Research Procedure

The research procedure begins with administering a pretest to all participants to assess their adherence to iron tablet consumption before the intervention. After the pretest, participants were randomly assigned to one of two treatment groups. The first group received a video explanation containing visual and narrative information about the importance of consuming iron tablets, including long-term health benefits and proper consumption methods. The video also featured testimonials from adolescents who had experienced the benefits of iron tablet consumption. The second group received a printed booklet containing similar information, which participants could read and study in greater detail.

After two weeks of intervention, all participants were administered a posttest to measure any changes in their adherence levels. In addition to measuring adherence, demographic data and additional information regarding external factors that might influence adherence, such as parental support and eating habits, were also collected via an additional questionnaire. The collected data were then analyzed to determine the differences between the group receiving the video explanation and the group receiving the printed booklet.

Data Analysis

The data obtained from the pretest and posttest questionnaires were analyzed using t-test statistical analysis to examine differences between the two groups regarding adherence levels. The t-test was used to determine whether significant differences existed between the group receiving the video explanation and the group receiving the printed booklet. Before performing the t-test, a normality test was conducted to ensure the data followed a normal distribution. Descriptive analysis was also performed to describe the participants' characteristics and adherence levels in the pretest and posttest.

Research Ethics

This research was conducted with high ethical considerations. All participants were provided with clear information regarding the study's purpose and procedures, and their personal data confidentiality was assured. Participants were also allowed to voluntarily consent (informed consent) before participating in the study. Furthermore, participants involved in this research were not forced to consume iron tablets but were simply provided with information to enhance their understanding of the importance of iron tablet consumption. The decision to consume iron tablets remained entirely at the discretion of the participants while ensuring adherence to ethical principles in research.

Results and Discussion

Results

This study examined differences in adolescent compliance with iron tablet consumption following educational interventions delivered through two media: an explanatory video and the Regatama booklet. Compliance was measured using a five-point Likert scale questionnaire administered during the pretest and posttest stages.

Compliance Levels Before and After the Intervention

Descriptive analysis indicates that prior to the intervention, the average level of compliance among adolescents in both groups was low. The mean pretest score for both the video and booklet groups was identical at 2.4. This finding suggests that most respondents had not yet developed consistent habits in consuming iron tablets. ___

After a two-week intervention period, an increase in compliance levels was observed in both groups. However, the magnitude of improvement differed between the two educational media. The group receiving education through the explanatory video achieved a mean posttest score of 4.2, whereas the Regatama booklet group reached a mean score of 3.6. This difference indicates that video-based education resulted in a greater improvement in compliance compared to printed media.

Table 1. Mean Compliance Scores for Iron Tablet Consumption

Educational Media	Pretest (Mean)	Posttest (Mean)	Difference
Explanatory video	2.4	4.2	1.8
Regatama booklet	2.4	3.6	1.2

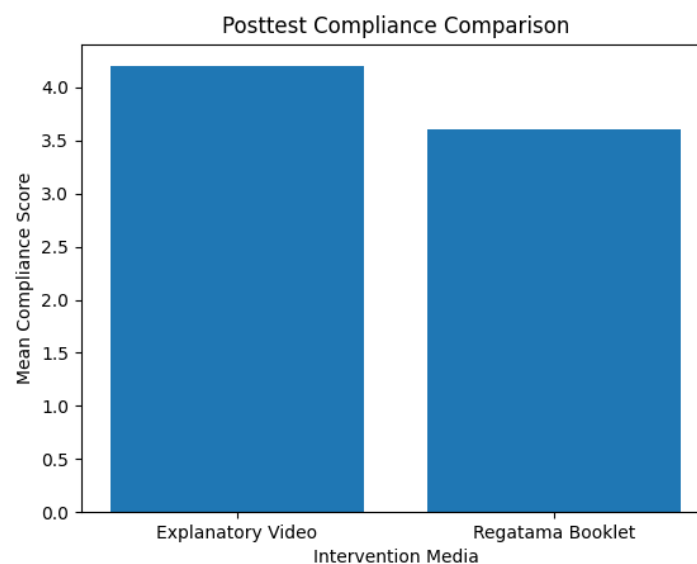
Table 1 demonstrates that the increase in compliance was higher in the video group than in the booklet group. This finding confirms differences in the effectiveness of the two media in influencing adolescent compliance behavior.

Statistical Test of Differences Between Groups

To determine the statistical significance of differences in compliance improvement between groups, a t-test assuming equal variances was conducted. The results yielded a p-value of 0.001, which is below the significance threshold of 0.05. This indicates a statistically significant difference between the video and booklet groups in improving iron tablet consumption compliance. These results confirm that video-based education had a stronger effect than the Regatama booklet.

Diagram of Posttest Compliance Comparison

A bar chart illustrating the differences in posttest compliance scores between the two groups is presented below.



The diagram clearly illustrates the higher mean compliance score achieved by the video group compared to the booklet group.

Discussion

The observed increase in compliance in both groups indicates that health education, delivered through either audiovisual or printed media, plays an important role in improving iron tablet consumption behavior among adolescents. However, the greater effectiveness of video-based media highlights the advantages of audiovisual characteristics in influencing health-related behaviors.

Video media present information simultaneously through visual and auditory elements, facilitating adolescents' understanding of the health messages conveyed. This finding is consistent

with previous studies by Dwistika et al., which reported that audiovisual media enhance comprehension and compliance with iron supplementation among adolescent girls. Visual presentations depicting the consequences of iron deficiency and the benefits of regular iron tablet consumption reinforce perceived susceptibility and perceived benefits, as described within the Health Belief Model framework proposed by Rosenstock et al.

In addition, the videos used in this study incorporated narrative elements and peer testimonials that functioned as motivational reinforcements. These elements contributed to emotional engagement and increased adolescents' confidence in adopting the behaviors demonstrated. Oktaviani and Sari emphasized that emotional involvement plays a critical role in shaping attitudes and compliance related to iron tablet consumption.

Although the Regatama booklet was also effective in improving compliance, its impact was comparatively lower. Printed media allow for systematic and detailed information delivery and can be reread as needed. This finding aligns with Sahertian and Latumenasse, who reported that booklets serve as supportive written information sources for improving adolescent health knowledge. However, limited interactivity and lower visual appeal may reduce adolescents' sustained attention compared to digital media.

Differences in outcomes between groups may also be influenced by adolescents' preferences for technology-based media. Ramadhani et al. reported that adolescents respond more positively to digital media that align with their daily information consumption habits. Consequently, video-based media are more relevant and engaging for contemporary adolescent health education.

Despite the higher effectiveness of video media, adolescent compliance is not determined solely by educational media. External factors such as parental support and daily dietary habits also play a significant role. Mohamad and Arda demonstrated that family involvement strengthens the success of iron supplementation programs. Therefore, media-based interventions should be integrated with environmental support to achieve sustainable behavioral outcomes.

Conclusion

Based on the research results, it can be concluded that educational media plays a crucial role in improving adolescents' adherence to iron tablet consumption. Both media used in this study, explanatory videos and Regatama booklets, positively impacted compliance improvement. However, the explanatory video proved more effective than the Regatama booklet. This is evident from the statistical test results, which show a significant increase in adherence levels in the group that received the video explanation treatment. The advantage of video is its visual and narrative appeal, which can evoke emotions and increase adolescent motivation, making it easier to accept and internalize the health messages conveyed.

This finding aligns with previous research that states that technology-based media, such as videos, are more effective in delivering health messages to a younger generation that is more familiar with digital media. The explanatory video can deliver information concisely yet meaningfully and directly visualize iron deficiency's consequences. On the other hand, while the Regatama booklet can also enhance adolescents' understanding, its limitations in interactivity and emotional engagement make it less optimal in increasing adherence compared to audiovisual media. Nonetheless, the booklet still plays a role as a supporting material that can be used as a written reference and reviewed at any time.

Considering the results of this research, it is recommended that health education programs for adolescents in schools, public health centers, and other related institutions prioritize using video media as a tool for iron tablet consumption counseling. The use of video is not only effective educationally but also efficient in reaching many targets in a short period. Nevertheless, a multimodal educational approach—combining video, booklets, and direct interaction—should still be considered to cater to various learning preferences of adolescents and to strengthen the overall effectiveness of the educational intervention.

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