THE EFFECT OF ANEMIA EDUCATION VIDEOS ON COMPLIANCE TAKE BLOOD BOOSTER TABLETS

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ABSTRACT

Background: The proportion of adolescent girls who received blood-boosting tablets in the last 12 months was 76.2%, but only 1.4% of adolescent girls took blood-boosting tablets as recommended. The coverage of giving blood booster tablets for adolescent girls in North Kalimantan in 2022 is 54.2%, including Tana Tidung Regency. Efforts that can be made are to provide information about the importance of preventing anemia and consuming blood supplement tablets regularly. One of the interesting information media is video.

Purpose: To analyze the effect of educational videos on the adherence to taking blood supplement tablets at SMPN 6 Tana Tidung.

Methods: Quantitative research with pre-experimental design method One group pretest and posttest. The population of adolescent girls at SMPN 6 Tana Tidung. A sample of 143 adolescents. Data analysis using the Wilcoxon Test.

Results: adolescent median adherence score before the intervention 1.15, median 1.00, SD 0.393 and 95%CI between 1.08-1.21. After being given educational videos, there was a reduction in the non-compliant category and an increase in the compliant category with a mean of 1.32 with a median value of 1.00, elementary school of 0.525 and a 95%CI between 1.08-1.21. The results of the statistical test obtained a p value = 0.000 (p value < 0.05). The Wilcoxon test obtained a p-value of 0.000.

Conclusion: there is an effect of educational videos on adherence to taking blood supplement tablets in adolescent girls at SMPN 6 Tana Tidung. The effect of educational videos on the adherence to taking blood supplement tablets will be better if accompanied by regular consumption of blood supplement tablets 1 time per week at school and at home.

Keywords: Anemia, adolescent women, blood supplement tablets, educational videos
INTRODUCTION

Adolescence is an individual development that starts from the age of 10 to 19 years and is characterized by the emergence of secondary sexual characteristics until sexual maturity is reached (WHO, 2022). According to Wirienviona & Riris (2020) in their book, adolescence is a period of growth towards maturity. The maturity in question is not only in the form of physical, social and psychological maturity but is accompanied by changes in several things including knowledge, feelings, social and moral. Complex changes will occur during this period so it requires good preparation from the teenager himself.

A productive, healthy and quality generation needs attention from an early age. In order for this to be realized, there are still many things that need to be considered, one of which is nutritional issues. One of the health problems of adolescents due to iron deficiency is anemia, which can interfere with growth and reduce the quality of the population. Growth-related anemia often occurs in adolescents who experience significant spikes in physical growth during puberty. Anemia is a condition in which the number of red blood cells in the human body decreases or the number of red blood cells in the body is below the normal limit. This may occur due to a lack of hemoglobin in the body, which affects the production of red blood cells (Ministry of Health of the Republic of Indonesia, 2023). Low hemoglobin levels due to a lack of iron in the blood cannot support the work of the blood in delivering oxygen to all tissues and result in impaired growth and development and can damage brain cells or tissues, so that the physical working capacity and body temperature regulation are not optimal (Durrani, 2018).

Some of the effects of anemia on adolescent girls are quite concerning. Data from the 2018 Basic Health Research (Riskesdas) stated that 70.1% of adolescent girls aged 10-19 years have experienced menstruation and as many as 29.9% have not had menstruation. During adolescence, iron requirements will increase dramatically as a result of the total expansion of blood volume, increased body fat mass and the occurrence of menstruation. The direct impact of anemia on adolescent girls includes fatigue, memory impairment, declining academics, susceptibility to infections, and reduced physical ability. The long-term effects of anemia in adolescent girls are increasing the risk of maternal death during childbirth, giving birth to premature babies and low birth weight/BBLR (Nurhayati & Titik Susilowati, 2022). The increase in iron needs in adolescent girls peaks at the age of 14-15 years. At this time, adolescent girls begin to experience menstruation after 1 year of peak growth. This causes the need for iron to increase due to the loss of iron during menstruation. Iron loss due to menstruation is 12.5-15mg/month (Fikawati, 2017).

WHO estimates that worldwide 40% (children aged 6 to 59 months), 37% (pregnant women) and 30% (women aged 15 to 49 years) experience anemia (WHO, 2023). Anemia is also one of the major public health problems in India, affecting almost 90% of poor children, young women, and adult women and is considered a "women's disease" in India (Ayurveda, 2021). In Riskesdas in 2013, the prevalence of anemia in 15-24 years old was 18.4% and increased by 32% in 2018. The prevalence of anemia, which is usually a major health problem in adolescent girls, is ≥40.0 while the average value is 20.0-39.9%. According to Riskesdas data in 2018, the prevalence of anemia in adolescents in Indonesia is 32%, meaning that 3 to 4 out of 10 adolescents experience anemia. This shows that the number of adolescent girls who take iron tablets weekly ≥52 tablets with a presentation is only 1.4%, while 98.6% of adolescent girls take <52 tablets of blood supplement tablets/year. Adherence to taking blood-boosting tablets in adolescent girls is currently still low. The proportion of adolescent girls who have received blood-boosting tablets in the last 12 months is 76.2%, but only 1.4% of adolescent girls have taken blood-boosting tablets as recommended (Ministry of Health of the Republic of Indonesia, 2022).

The coverage of giving blood booster tablets for adolescent girls in North Kalimantan in 2022 is 54.2%, including Tana Tidung Regency (Dinkes Summit, 2022). This is inversely proportional to the results of the prevalence of stunting rates in North Kalimantan based on the 2022 SSGI where Tana Tidung Regency ranks first with a figure of 30.7%. According to the Chairman of the Indonesian Nutritionist Association (Persagi), Agust Suwandy in the Kaltara Newspaper (2022), the factor causing stunting, especially in North Kalimantan, is the lack of public knowledge about nutrition. Therefore, since adolescence, every woman should not suffer from anemia, malnutrition and chronic lack of energy. By preparing from an early age for adolescent girls, the program of giving blood booster tablets to adolescents to prevent anemia should be carried out regularly.

The local government of Tana Tidung Regency has carried out stunting-specific interventions in reducing the increase in stunting rates by screening for anemia and providing blood...
supplement tablets to adolescent girls. It is hoped that by giving blood supplement tablets to adolescent girls, it can prevent anemia and help mothers-to-be give birth to healthy and stunting-free babies. One of the schools that received attention from the Tana Tidung local government was SMPN 6. SMPN 6 Tana Tidung has 531 students with a total of 222 female students. Screening results carried out at the Tideng Pale Health Center in August 2022 in class VI found 21 students with anemia. During the screening, health workers conducted interviews about anemia and blood supplement tablets. It is known from some respondents that they do not know the importance of taking blood supplement tablets because of the lack of information they receive and non-compliance in consuming blood supplement tablets.

Quraini et al (2020) in their journal entitled "Compliance Behavior of Adolescent Girls in Jember, Indonesia" from 328 respondents (junior high school students in Jember), 187 respondents (57%) had the intention to obey taking Blood Supplement Tablets regularly with strong behavioral control (52.7%). Behavioral control was obtained from personal experience related to compliance with the consumption of blood supplement tablets, as well as other behavior-related information obtained from the experiences of people they know, friends, and other factors that increase the understanding of regular consumption of blood supplement tablets. There is a relationship between behavior control and obedient intentions in taking blood supplement tablets regularly. In a journal review entitled "The Effectiveness of Providing Interesting and Innovative Nutrition Education Media for the Prevention of Anemia to Adolescent Women: A Literature Review" conducted by Az-zahra & Kurniasari (2022), nutrition education was also carried out with interesting animated materials. It is known that from the 5 journals studied, the knowledge of respondents after the intervention increased to 7.9 points with an average score from 69.88 to 77.70. The provision of educational materials through audiovisual media turns out to add its own attraction in conveying information. This shows that the use of animation media is a more effective way to provide education compared to educational media using print media.

Given the high incidence of anemia in Indonesia, especially in adolescent girls and the high prevalence of stunting in Tana Tidung Regency due to the lack of socialization or health education, it is necessary to make promotive and preventive efforts. Efforts that can be made include providing complete information about the importance of anemia, how to prevent it, and efforts to prevent it through regular consumption of blood supplement tablets. Providing anemia education with attractive media can make it easier for young women to understand. Choosing the right media also helps motivate young women to learn. One of the interesting learning media for young women to learn balanced diet guidelines is videos. Video is an audiovisual media that successfully arouses interest and a sense of independence so that it allows adolescents to actively participate in the learning process (Sutriso & Yuniarto, 2021). Therefore, the author is interested in analyzing the influence of health education media through videos on adolescent girls' compliance in consuming blood supplement tablets at SMPN 6 Tana Tidung.

RESEARCH METHODS

The type of quantitative research with the Pre-experimental design research method is in the form of One group pretest and posttest. The population of young girls at SMPN 6 Tana Tidung is 222 people. The sample used 143 respondents with the Proportionate Stratified Random Sampling technique. The research was conducted at SMPN 6 TANA TIDUNG November to December 2023. The instrument used the MMAS-8 Questionnaire. Univariate and bivariate data analysis (t-test).

RESEARCH RESULTS

Univariate Analysis

Table 1 shows the number of respondents as many as 143 SMPN 6 students or adolescent girls, most of whom are from grade 7 with an age range of 11-13 years (55.2%), with moderate anemia status before receiving the intervention (49%) and after being given the intervention, there was a change in the anemia status of the most respondents from moderate anemia to non-anemia (42%).

Table 2 shows that adolescent girls' compliance in consuming blood-boosting tablets before being given the intervention in the form of educational videos shows that the mean score of adolescent girls' compliance in taking blood-boosting tablets before the intervention is 1.15 with a median value of 1.00, a standard deviation value of 0.393 and a 95%CI between 1.08-1.21.

Table 3 shows that the mean score of adolescent girls taking blood-boosting tablets before the intervention is 1.32 with a median value of 1.00, a standard deviation value of 0.525 and a 95%CI between 1.08-1.21.
Table 1
Characteristics of adolescent girls at SMPN 6 Tana Tidung

<table>
<thead>
<tr>
<th>Categories</th>
<th>Frequency</th>
<th>Presentase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>78</td>
<td>54.2</td>
</tr>
<tr>
<td>8</td>
<td>29</td>
<td>20.3</td>
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<td>9</td>
<td>36</td>
<td>25.2</td>
</tr>
<tr>
<td>Age Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-13 years</td>
<td>79</td>
<td>55.2</td>
</tr>
<tr>
<td>14-15 years</td>
<td>28</td>
<td>19.6</td>
</tr>
<tr>
<td>16-17 years</td>
<td>36</td>
<td>25.2</td>
</tr>
<tr>
<td>Anemia Status Pre test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14 gr/dL</td>
<td>47</td>
<td>32.9</td>
</tr>
<tr>
<td>11.0-11.9 gr/dL</td>
<td>26</td>
<td>18.2</td>
</tr>
<tr>
<td>8.0-10.9 gr/dL</td>
<td>70</td>
<td>49</td>
</tr>
<tr>
<td>&lt; 8 gr/dL</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Anemia Status Post test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-14 gr/dL</td>
<td>60</td>
<td>42</td>
</tr>
<tr>
<td>11.0-11.9 gr/dL</td>
<td>35</td>
<td>24.5</td>
</tr>
<tr>
<td>8.0-10.9 gr/dL</td>
<td>48</td>
<td>33.6</td>
</tr>
<tr>
<td>&lt; 8 gr/dL</td>
<td>0</td>
<td>0</td>
</tr>
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</table>

Table 2
Adolescent women's compliance in consuming blood-boosting tablets before being given video education media

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Min-Max</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>1,15</td>
<td>1,00</td>
<td>0.393</td>
<td>1-3</td>
<td>1.08-1.21</td>
</tr>
</tbody>
</table>

Table 3
Adolescent girls' compliance in consuming blood-boosting tablets after being given video education media

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Min-Max</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest</td>
<td>1,32</td>
<td>1,00</td>
<td>0.525</td>
<td>1-3</td>
<td>1.23-1.41</td>
</tr>
</tbody>
</table>

Bivariate Analysis

Based on table 4, the results of the normality test of adolescent adolescent adherence level pre test and post test show a result of 0.000 so that the p value ≤ 0.05, so it is concluded that the data is abnormally distributed, so in this study, the researcher uses the Wilcoxon sign rank test.

Based on table 5, it is known that out of 143 respondents, there are 26 respondents who show an increase in compliance level and 116 respondents whose scores are the same between pre-test and post-test. The results of the analysis used the Wilcoxon sign rank test because the data was abnormally distributed and a p-value of 0.000 was obtained. Because the sig value is 0.000 < 0.05, it can be said that there is a difference in compliance between pre-test and post-test. So it can be said that providing education to adolescent girls with video media is influential in increasing adolescent girls' compliance in consuming blood-boosting tablets (TTD).
DISCUSSIONS
Characteristics of young girls at SMPN 6 Tana Tidung

The respondents in this study were adolescent girls who were students at SMPN 6 Tana Tidung grades 7 to 9 with an age range from 11-13 years to 16-17 years with the distribution of respondents in each class which has been presented in Table 4.1 The most respondents came from grade 7 totaling 78 adolescent girls with an age range of 11-13 years (55.2%). With the adherence of taking blood supplement tablets before receiving the intervention, the low compliance category was dominated by 124 respondents (86.7%) with mild anemia status before receiving the intervention (49%).

The results of this study obtained adolescent girls before receiving health education through video, there were 70 respondents (49%) who experienced severe anemia. It showed that most of the respondents did not take blood supplement tablets (TTD) per week when they were not menstruating and did not consume blood supplement tablets (TTD) per day during menstruation. This is in line with the research of Rahayuningtyas et al (2021) where adolescents have a strong desire to be accepted and liked by their peers so that there is habit imitation, namely 49.9% of respondents will follow their peers if their friends do not take blood supplement tablets (TTD). The results of Amir & Djokus undjo's (2019) research show that many factors affect the consumption of blood supplement tablets (TTD) in adolescent girls in Indonesia, namely teacher support (p=0.000), attitude (p=0.031), culture (p=0.012), family support (p=0.029), perceived threat (p=0.02), perceived benefit (p=0.01), perceived barrier (p=0.02), and self efficacy (p=0.00). The blood supplement tablet (TTD) program for adolescent girls is an Indonesian government program in an effort to prevent anemia and overcome stunting. These programs include taking blood supplement tablets (TTD) regularly, one tablet every week when not menstruating, and taking blood supplement tablets (TTD) per day during menstruation. This is so that adolescents do not get anemia and remain healthy (Ministry of Health of the Republic of Indonesia, 2018).

Research conducted by Pramardika and Fitriana (2019) in (Widiastuti & Rusmini, 2019a) the results of a bivariate analysis between the variables of adherence to taking blood-boosting tablets and the incidence of anemia were obtained that there was a unidirectional relationship between the two variables, meaning that the more adolescent girls were obedient in consuming blood-boosting tablets, the higher the Hb levels of adolescent girls would increase. It was also shown that the program of giving blood supplement tablets carried out by the health center went quite well based on the results of measuring Hb levels where 71.1% of the total 45 respondents had an Hb ≥ 12 gr/dl. The role of health center officers and the role of UKS teachers in providing counseling about TTD affects compliance.

Adolescent women's compliance in consuming blood supplement tablets before being given video education media

Based on the results of the study, it was known that the mean score of adolescent girls' compliance with taking blood-boosting tablets before the intervention was 1.15 with a median value of 1.00, a standard deviation value of 0.393 and a 95%CI between 1.08-1.21. Adolescent girls have a high level of adherence if the total MMAS score is >8 (2), moderate adherence is 6-7 (17), and adherence is low 0-5 (124). Of the eight statements contained in the MMAS-8 questionnaire, the most...
respondents answered "yes" only to statements number 3 and 5. In this study, the median score was 0.00 so that the level of adolescent girls’ compliance with consuming blood supplement tablets before being given anemia education videos was declared low.

According to Susanti (2016) in Putra (2020), the factor that affects compliance is the knowledge of the respondents. Knowledge is one of the predisposing factors that can influence an individual’s behavior to take blood supplement tablets, because knowledge is the dominant factor for the formation of a person’s actions. Knowledge is all information that a person receives from outside himself and is accompanied by an understanding of the information obtained (Susanti, 2016). This research is supported by Quraini (2020) who explains the characteristics of adolescents at the age of 11-16 years who tend to believe more in what is in their minds, not willing to accept an opinion without a reasonable reason. The adolescent girls have been able to plan for adherence or non-adherence to taking the blood supplement tablets regularly once a week throughout the year correctly and have been able to consider the consequences of such behavior. In this study, respondents received the distribution of blood supplement tablets for 2 consecutive weeks (1 tablet per week) after an examination of the anemia status of each adolescent girl before the intervention was carried out to play educational videos about anemia and blood supplement tablets.

Research conducted by Pramardika and Fitriana (2019) the results of a bivariate analysis between the variables of adherence to taking blood-boosting tablets and the incidence of anemia were obtained that the relationship was unidirectional between the two variables, which means that the more adolescent girls obey in consuming blood-boosting tablets, the Hb levels of adolescent girls will increase. It was also shown that the TTD program carried out by the health center was running quite well based on the results of measuring Hb levels where 71.1% of the total 45 respondents had an Hb ≥ of 12 gr/dl. The role of health center officers and the role of UKS teachers in providing counseling on blood supplement tablets affects compliance.

Adolescent women's compliance in consuming blood supplement tablets after being given video education media

Based on the results of the study after being given video education, it was known that the mean value of adolescent girls' compliance with taking blood supplement tablets before being given the intervention was 1.32 with a median value of 1.00, a standard deviation value of 0.525 and a 95%CI between 1.08-1.21. The compliance level is said to be high compliance if the total MMAS score is >8 (4), moderate compliance is 6-7 (38), and compliance is low 0-5 (101). In this study, the median score was 1.00, so that adolescent girls' compliance with taking blood supplement tablets after being given educational media using videos was quite good. This indicates that there is a change The level of compliance goes from low compliance to medium compliance and high compliance.

In educational activities on the prevention of anemia and compliance with the consumption of blood supplement tablets, there was an increase in knowledge among adolescent girls about anemia and changes in attitudes related to compliance with taking blood supplement tablets. After being given health education using video media, the anemia status of adolescent girls at SMPN 6 Tana Tidung increased from adolescent girls with moderate anemia to non-anemia of 60 respondents (42%). This is in accordance with the research of Balqis
The effect of video education media on adolescent girls’ compliance in consuming blood supplement tablets before and after education

The results of the analysis test using the Wilcoxon Test showed a Sig value of 0.000 (P value < 0.05) so that it can be concluded that H0 was rejected and Ha was accepted, meaning that there is an influence of health education with video on adolescent girls’ compliance in taking blood supplement tablets.
SUGGESTIONS
Anemia Education Videos Can Be Used As A Means To Increase Adolescent Adherence In Consuming Blood-Boosting Tablets

REFERENCES
Medika Indonesia, 1(1), 33–40.


