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Effectiveness of Providing Education Using Leaflets on Knowledge and Compliance with Iron Supplement Tablet (IST) Consumption in Adolescent Girls at SMPN 1 Kromengan

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A R T I C L E I N F O

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A B S T R A C T

This study aims to evaluate the effectiveness of providing education using leaflets on knowledge and compliance with Iron Supplement Tablet (IST) consumption in adolescent girls (rematri) at SMPN 1 Kromengan, Malang. The research design used was quasi-experimental with a pre-test and post-test design in the intervention group. The study sample consisted of 50 7th grade female students selected using a purposive sampling technique conducted for 5 days. The results showed that there was a significant increase in the level of knowledge and compliance with Iron Supplement Tablet (IST) consumption after education was provided through leaflets. The average knowledge score increased from the "sufficient" category to "good" with ap value <0.05. Compliance with Iron Supplement Tablet (IST) consumption also increased significantly, with most respondents reaching the high compliance category. Education using leaflets has proven effective in increasing students' understanding of the importance of Iron Supplement Tablet (IST) consumption to prevent anemia. The conclusion of this study confirms that leaflet media can be used as a health promotion tool to increase knowledge of effective consumption of Iron Supplement Tablets in schools. Implementation of similar educational programs at a wider level is recommended to support government efforts in reducing the prevalence of anemia in adolescent girls in Indonesia.

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INTRODUCTION

Teenagers are individuals who are between the ages of 10-19 years where the age of teenagers is divided into 3 categories, namely early adolescence (10-12 years), middle adolescence (13-15 years) and late adolescence (16-19 years). Teenagers have an important role in the development and growth of a nation, because healthy teenagers are an investment for the future (Hafsah et al. 2023). Adolescence is a vulnerable period for nutritional problems, one of the nutritional problems that occurs in adolescent girls is anemia.(Marzuki et al. 2024).

When the hemoglobin (Hb) level in red blood cells is lower than normal, it is called anemia. For Rematri, anemia is defined as Hb less than 12 gr/dl. Hemoglobin will bind oxygen and transport it to all body tissue cells, including the brain and muscles, so that they can perform their functions. Anemia is usually indicated by 5 L, namely lethargic, tired, exhausted, weak, and limp.(Ministry of Health of the Republic of Indonesia 2020).

Based on Riskesdas 2018 data, the prevalence of anemia in Indonesia in adolescent girls (Rematri) aged 15 years and above is 32%. Several factors that cause anemia include low levels of nutritional knowledge, lack of iron consumption due to inhibitors, and lack of nutritional intake such as vitamin C, iron, and protein (Handriyanti 2022).

Anemia has serious impacts on adolescent girls, such as decreased concentration in learning and has the potential to cause long-term problems such as pregnancy complications that can lead to the birth of low birth weight (LBW) babies and stunting.(Princess 2021). Therefore, preventing anemia can be done by consuming Blood Supplement Tablets (TTD) since adolescence. The high rate of anemia in adolescent girls also has a negative impact on the quality of human resources, causing cognitive dysfunction, low academic ability, and decreased physical capacity (Ministry of Health of the Republic of Indonesia 2020).

The Iron Tablet Program, launched for adolescent girls in 2014, is one of the initiatives the Indonesian government has undertaken to prevent girls from developing anemia. The program is now part of a special initiative to reduce stunting (Ministry of Health of the Republic of Indonesia 2020). As a result of long-term problems caused by anemia, Kromengan Health Center has a goal of providing a Iron Supplement Tablet program that is in line with the Indonesian government program, namely to prevent stunting (Handriyanti 2022).

Based on the results of anemia screening carried out during the UKS activities of the Kromengan Health Center, Malang Regency in 2023, out of 216 children examined, 111 (48.9%) children experienced anemia, for mild anemia as many as 59 (26%) children, moderate anemia as many as 50 (22%) children, and severe anemia as many as 2 (0.89%) children. The data on children with anemia was obtained from the number of children with anemia compared to the entire population of children in grade 7 of junior high schools in the Kromengan sub-district. However, the amount of data cannot represent the exact number of children in the Kromengan area, because some teenage girls go to school outside the Kromengan sub-district and some students who go to school in the Kromengan sub-district live in other sub-districts. The public health index (PHI)

indicator shows that this percentage is included in the category that is very vulnerable to community nutritional problems. In fact, according to reports, it shows that the Kromengan Health Center, Malang Regency, has distributed the Iron Supplement Tablet in full (100%) in its working area (Sa'adah 2021).

Based on the results of interviews conducted by the author in several junior high schools in Kromengan District, it can be seen that on average, teenagers often experience symptoms of anemia because they rarely or even do not consume the provided Iron Supplement Tablet because of the unpleasant smell, nausea, and dizziness after consuming them. In addition, it was revealed that on average, teenagers in Kromengan District do not yet know the importance of the benefits of consuming the TTD provided. This condition significantly increases the risk of anemia in teenagers (Sa'adah 2021).

Therefore, we are interested in conducting a research based on community service on "The Effectiveness of Providing Education Media Leaflets and Monubara on Knowledge and Compliance of Consumption of Iron Supplement Tablets in Adolescent Girls (Rematri) at SMPN 1 Kromengan". SMPN 1 Kromengan was chosen as the location for community service because it has the largest number of female students so it is quite representative and the results of 2023 data at SMPN 1 Kromengan detected 2 adolescents with severe anemia. For this reason, we hope that providing this education can have an impact on increasing awareness of the importance of consuming Iron Supplement Tablets to prevent anemia.

IMPLEMENTATION AND METHOD

Types and Design of Research

This study uses quantitative research, with a quasi-experimental design with a Pre-test and Post-test Group Design. In this study, a pre-test was given before treatment and a post-test was given after treatment on changes in knowledge and compliance with consuming Iron Supplement Tablets (TTD).

Quasy Experimental Research Design

Knowledge and compliance	X1	→	P1	→	I1	→	Po1
	X2	→	P2	———	———	———	Po2

Information :
X1 : Intervention group
X2 : Control group
I1 : Intervention
Po1 : Post test of intervention group
Po2 : Post test of control group
P1 : Pretest of intervention group
P2 : Pretest control group

Population and Sample Size

The general population in this study were all 7th grade female students in Kromengan District, which was 227 female students. While the special population was all 7th grade female students at SMPN 1 Kromengan, totaling 100 people. In this study, samples were taken during the implementation of UKS screening at SMPN 1 Kromengan. The target sample according to the Slovin formula is at least 50 people.

Sampling Techniques and Respondent Characteristics

The sampling technique used was non-probability sampling with purposive sampling. The characteristics of respondents in this study were female students who were registered as active in SMPN 1 Kromengan in grade 7, had undergone Hb level checks and received Iron Supplement Tablet which had previously been screened for Hb at school.

Time and Place of Research

The research was conducted in October 2024. The research location was at SMPN 1 Kromengan for a period of 5 days.

Research Instruments

The instruments used in this study consisted of 2 questionnaires including a knowledge questionnaire consisting of 20 multiple choice questions, a compliance questionnaire on consuming Iron Tablets consisting of 10 multiple choice questions, and educational media in the form of leaflets. The leaflet contains the definition of anemia, risk factors for anemia, what are the symptoms of anemia, an explanation of the impact of anemia on adolescent girls, how to prevent anemia, how to consume Iron Tablets properly, and how to overcome the side effects of consuming Iron Tablets.

Statistical Analysis Test

Before the statistical analysis test was conducted, the knowledge questionnaire and the Iron Supplement Tablet consumption compliance questionnaire had been tested for questionnaire validity and declared reliable. The leaflet media was validated by expert validators from the Kromengan Health Center and the UNISMA Medical Faculty. The leaflet media that had been tested for validity could then be used as an intervention method in the study.

The data obtained will then be tested with the Wilcoxon test to determine whether there is a difference in the average pre-test and post-test values in the intervention group and the control group. In addition, the Wilcoxon test was chosen in this study because the scale of the research variables uses an ordinal scale and a nominal scale, then the Wilcoxon test is used to determine the difference in the average of two paired samples in our study. If the sig. value <0.05 then there is a significant difference, and if the sig. value >0.05 then there is no significant difference. Furthermore, to determine the difference in values between the intervention group and the control group, a post hoc LSD test will be carried out.

RESULT

Respondent Characteristics

This study was conducted at SMPN 1 Kromengan, the respondents of this study were aged 11 to 13 years and were still studying at the Junior High School (SMP) level. The distribution of age, class, and anemia category of respondents in the control group and intervention group can be seen in Table 1. In the control group, there were no children aged 11 years, while for children aged 12 years there were 12%, and children aged 13 years there were 78%. Furthermore, in the intervention group, there were 2% of 11-year-olds, 32% of 12-year-olds, and 66% of 13-year-olds. Furthermore, it is the percentage of distribution of class groups in the control and intervention groups starting from class A to class F. In the intervention group, there were 34% of class A, 28% of class B, and 38% of class C. Furthermore, in the control group, there were 32% of class D, 36% of class E, and 32% of class F.

Next is the percentage of anemia category of adolescent girls in the intervention and control groups. Adolescent girls in the intervention group who had normal Hb levels amounted to 88%, then adolescent girls with mild anemia category were obtained as many as 6%, moderate anemia category was obtained 6%, and no adolescent girls with severe anemia category were found. Furthermore, in the control group, 84% of adolescent girls had normal Hb levels, then adolescent girls with mild anemia category were obtained as many as 10%, moderate anemia category was obtained 6%, and no adolescent girls with severe anemia category were found. Based on these data, we can conclude that the dominant age in this study was 13 years old with a total of 66% in the intervention group and 78% in the control group.

Table 1.Distribution of Respondents' Age, Class, and Anemia Category

Kategori	Kontrol		Pengetahuan Kontrol (Pre test- Post test)			Kepatuhan Kontrol (Pre test- Post test)			Intervensi		Pengetahuan intervensi (Pre test- Post test)			Kepatuhan Intervensi (Pre test- Post test)		
	Jumlah	Persentase (%)	B	C	K	T	S	R	Jumlah	Persentase (%)	B	C	K	T	S	R
Usia																
11	-	-							1	(2%)						
12	11	(22%)							16	(32%)						
13	39	(78%)							33	(66%)						
Kelas																
A									17	(34%)						
B									14	(28%)						
C									19	(38%)						
D	16	(32%)														
E	18	(36%)														
F	16	(32%)														
Kategori Anemia																
Normal	42	(84%)	0-3	21-25	21-14	22-20	13-15	7-7	44	(88%)	2-15	16-22	26-7	12-21	24-18	8-5
Anemia ringan	5	(10%)	0-1	1-3	4-1	1-2	4-3	0-0	3	(6%)	0-2	2-1	1-0	0-1	3-2	0-0
Anemia Sedang	3	(6%)	0-0	1-2	2-1	1-0	2-3	0-0	3	(6%)	0-0	1-3	2-0	0-2	2-1	1-0

Information: B = Good, C = Fair, K = Poor, T = High, S = Medium, R = Low

Results of the Difference in Average Pre-Test and Post-Test Values of Knowledge and Compliance of TTD Consumption in the Control Group

The results of the Wilcoxon test comparing the pre-test and post-test knowledge and compliance with consumption of Iron Tablets in the control group are shown in Table 2. The results for the control group showed Sig = 0.012, with a p value <0.05, indicating that there was a significant difference in values

between the pre-test and post-test on knowledge of consumption of Iron Tablets (Windi et al. 2022).

Furthermore, the Wilcoxon test for compliance with consumption of Iron Supplement Tablet in the control group produced a Sig value = 1,000, with a p value> 0.05. These results indicate that there is no significant difference in value between the pre-test and post-test for compliance with consumption of Iron Supplement Tablet in the control group (Windi, Taufiq, and Muhammad 2022).

Results of the Difference in Average Pre-Test and Post-Test Values of Knowledge and Compliance with TTD Consumption in the Intervention Group

The results of the Wilcoxon pre-test and post-test of knowledge and compliance of the control group regarding the consumption of Iron Tablets are shown in Table 2. The intervention group had results with a Sig value = 0.00, and a p value <0.05 indicating that there was a significant difference in values between the pre-test and post-test on the knowledge of consuming Iron Tablets (Windi et al. 2022).

Furthermore, in the Wilcoxon test for compliance with consumption of Iron Supplement Tablet in the intervention group, results were found with Sig = 0.020, with a p value <0.05, indicating that there was a significant difference in value between the pre-test and post-test for compliance with consumption of Iron Supplement Tablet in the intervention group (Windi et al. 2022).

Differences in Knowledge Values and Compliance with TTD Consumption between the Intervention Group and the Control Group.

The results of the Post Hoc LSD knowledge test on consuming Iron Supplement Tablet between the control group and the intervention group are shown in Table 5.6. A Sig value of 0.00 was obtained for the comparison of the post-test knowledge value of the control group with the post-test value of the intervention group. These results indicate that the p value <0.05, which means that there is a significant difference in knowledge about consuming Iron Supplement Tablet after the intervention (Septiana and Ardiaria 2017).

Furthermore, the post-test value of compliance with consumption of Iron Supplement Tablet in the control group and the intervention group was obtained, with a Sig value = 0.625. This result has a p value > 0.05, which indicates that there is no significant difference in compliance with consumption of Iron Supplement Tablet in both groups (Septiana and Ardiaria 2017).

Table 5.6 Percentage of Pre-Test and Post-Test Values of Knowledge and Compliance of Consumption of Iron Supplement Tablets, Results of Wilcoxon Test and Post Hoc LSD Test

Variabel	Kontrol (n= 42)				Hasil Uji Wilcoxon Kelompok Kontrol	Intervensi (n = 46)				Hasil Uji Wilcoxon Kelompok Intervensi	Hasil Uji Post Hoc LSD Post-test ke Post-test
	Pre-test		Post-test			Pre-test		Post-test			
Pengetahuan											
Baik	5	10%	3	6%	0,012	2	4%	18	36%	0,00*	0,000*
Cukup	19	38%	31	62%		18	36%	26	52%		
Kurang	26	52%	16	32%		30	60%	6	12%		
Kepatuhan											
Tinggi	25	50%	23	46%	1,000	13	26%	24	48%	0,020	0,625
Sedang	19	38%	20	40%		28	56%	21	42%		
Rendah	6	12%	7	14%		9	18%	5	10%		

Information: Good knowledge category = respondents have a score of more than 80, Medium = respondents have a score of 60-80, Poor = respondents have a score of less than 60. Good compliance category = respondents have a score of more than or equal to 75, Medium = respondents have a score of 50-74, Low = respondents have a score below 50.

DISCUSSION

Respondent Characteristics

This study involved 100 respondents who received education using two-way counseling with leaflet media. Respondents were 7th grade female students at SMPN 1 Kromengan. Most of the dominant ages in this study were 13 years old with a total of 66% in the intervention group and 78% in the control group. Based on the percentage of class group distribution in the control and intervention groups starting from class A to class F. In the intervention group, class A was 34%, class B 28%, and class C 38%. Furthermore, in the control group, class D was 32%, class E 36%, and class F was 32%. Based on the category of anemia in adolescent girls in the intervention and control groups, in the intervention group, 88% (normal Hb), 6% (mild anemia), 6% (moderate anemia), and no adolescent girls with severe anemia were found. While in the control group, 84% (normal Hb), 10% (mild anemia), 6% (moderate anemia), and no adolescent girls with severe anemia were found.

The Effect of Providing Leaflet Media Education on Knowledge of Consuming Iron Supplement Tablets (TTD) in 7th Grade Female Adolescents at SMPN 1 Kromengan

The results of the study showed that the two-way educational counseling method using leaflet media was effective in increasing knowledge of consuming Iron Tablets in grade 7 female students at SMPN 1 Kromengan. The results of the analysis of different tests using the Wilcoxon test Based on the results of the Wilcoxon pre-test and post-test knowledge in the control group, the results of Sig = 0.012 were obtained. These results have a p value <0.05 which indicates that there is a significant difference in value between the pre-test and post-test on the knowledge of consuming Iron Tablets in the control group(Windi et al. 2022). Judging from the pre-test scores in the control group, students who have a low level of knowledge are 52%, sufficient knowledge is 38%, and good knowledge

is 10%. While in the post-test scores, the level of knowledge is 16%, sufficient knowledge is 62%, and good knowledge is 6%. The level of knowledge in the control group increased from pre-test to post-test, namely at a level of sufficient knowledge from 38% to 62%. This could be due to several factors such as the environment, the influence of friends, students' curiosity, and also information that can be obtained from the internet, television, and so on. SMPN 1 Kromengan is one of the leading junior high schools in the Kromengan sub-district, so that the students of SMPN 1 Kromengan are smart students, so that they are likely to have a high curiosity about information that is not yet known. From this curiosity, students can seek further information about material that is not yet known, so that it can affect the results of the post-test that is carried out (Windi et al. 2022).

However, the results of the Wilcoxon pre-test and post-test knowledge tests in the intervention group produced a Sig = 0.00 result, with a p value <0.05. These results indicate that there is a significant difference in value between the pre-test and post-test on the knowledge of consuming Iron Supplement Tablets in the intervention group. Judging from the pre-test value of the intervention group's knowledge, students who have a low level of knowledge are 60%, sufficient knowledge is 36%, and good knowledge is 4%. For the results of the post-test value, the level of knowledge is low as much as 12%, sufficient knowledge is 52%, and good knowledge is 36%%. The level of knowledge of the intervention group increased due to the provision of intervention in the form of counseling with leaflet media, which also increased knowledge in the intervention group students (Windi et al. 2022).

This is in line with other studies showing that early health education is very important to prevent anemia. Indirect prevention of anemia can prevent stunting in the future, which is currently a priority program of the government (Munir, Sari, and Hidayat 2022). Education about anemia is greatly influenced by the use of teaching aids; educational media can support the health education process (Kusuma, 2022). Media is a tool that can be used to convey messages. In addition, media can be defined as anything that can send information to the person who receives it (Sari, Subardjo, and Zaki, 2019).

The use of leaflet media causes interaction during education which can increase knowledge. Leaflets are also printed media that can facilitate the delivery and understanding of information (Damayanti and Mulyanto 2022). According to the results of research conducted by Lestari, Heryani, Ariani (2024), it was shown that anemia education for female adolescents at SMPN 1 Ciamis with a counseling method using leaflet media was able to improve female adolescents' knowledge regarding anemia better.(Lestari, Heryani, and Ariani 2024). A significant increase in knowledge after being given education through leaflets shows that it is very effective in increasing the knowledge of adolescents, especially adolescent girls (Lestari et al. 2024). Providing education through leaflets can increase information and insight into rematri so that it can affect the level of knowledge of rematri TTD consumption. This is because the information obtained by a person can provide a short-term impact (immediate impact) so that it can affect a person's level of knowledge (Fachira Kasmarini and Ratih

Kurniasari 2022). Their knowledge can influence the attitudes and behavior of young women in choosing the food they consume. Young women who have good knowledge are more active in preventing anemia than young women who have less knowledge (Afina et al. 2021).

Post Hoc LSD test results of Knowledge of Consuming Iron Supplement Tablet between the control group and the intervention group. The Sig value = 0.00 was obtained to compare the post-test value of knowledge of the control group with the post-test value of the intervention group. The results showed that the p value <0.05, which means that there is a significant difference in knowledge about consuming Iron Supplement Tablet after education [8].

This is in line with research conducted by Attari (2020), which found that knowledge about anemia increased after being given education using leaflet media, with a p-value of 0.000 <0.05 [16]. This is also in line with previous research, which found that respondents who were given leaflet media had a p-value of 0.000 <0.05, indicating that there was a significant difference between the pre-test and post-test values on average (Hannanti, Ibn Malkan Bakhrul Ilmi, and Muh. Nur Hasan Syah 2021).

In addition, in another study, the p-value of 0.000 was less than 0.05. Previous studies also showed that the knowledge of adolescent girls about anemia before being given education was 19.47 ± 2.48. However, their knowledge after being given education increased to 22.73 ± 2.54, proving that intervention with education using leaflets has benefits for adolescent girls' knowledge about anemia (Sugiarti, Lindayani, and Mahayati 2020).

The Effect of Providing Leaflet Media Education on Compliance in Consuming Iron Supplement Tablets (TTD) in 7th Grade Female Adolescents at SMPN 1 Kromengan

The results of the study showed that the two-way education counseling method using leaflet media was effective in increasing the behavior of compliance in taking Iron Supplement Tablets at SMPN 1 Kromengan. The results of the analysis of the difference test using the Wilcoxon test obtained the results of Sig = 1,000 p value > 0.05 which showed that there was no significant difference in the control group. Judging from the pre-test value, it was found that those with low compliance were 12%, medium 38%, and high 50% and in the post-test value, the low compliance level was 14%, medium 40%, and high 46%. This could have happened because the level of compliance of the control group was good from the start, supported by the acquisition of pre-test values related to compliance from the control group being better than the intervention group. Another possibility related to this is the influence of the internet which affects the high level of compliance of rematri in the control group (Windi et al. 2022).

The results of the analysis of the difference test using the Wilcoxon test showed a significant difference in the pre-test to post-test values in the intervention group, as described by the results of Sig = 0.020, namely the p value <0.05. The pre-test compliance value was low 18%, medium 56%, and high 26%. For the post-test compliance value results, low 10%, medium 42%, and high 48%. The level of compliance of the intervention group increased due to the provision of intervention in the form of counseling with leaflet media which is two-way

communication so that it increases knowledge and can influence the level of compliance of female students from the intervention group.(Windi et al. 2022).

Furthermore, in the inter-group difference test with the Post Hoc LSD test by comparing the post-test value of compliance with TTD consumption in the control group with the intervention group, a sig value of 0.65 was obtained, indicating a p value> 0.05, indicating that there was no significant difference in compliance between the two groups. This could have happened because the level of compliance of the control group was already good from the start, supported by the post-test value obtained regarding compliance from the control group which was already good even though they were not given education regarding anemia and TTD consumption (Septiana and Ardiaria 2017).

The intervention carried out was effective in increasing compliance with taking TTD because the intervention provided in-depth education regarding anemia and regular TTD consumption according to recommendations, as shown by the pre-test and post-test results of increased knowledge in the intervention group with a p value of 0.000. Increased knowledge was in line with the increasing pre-test and post-test results of compliance with taking Iron Supplement Tablets in the intervention group with a p value of 0.020, indicating a significant influence on compliance with TTD consumption (Septiana and Ardiaria 2017; Windi et al. 2022).

Implementation of Problem Solving Plan with Monitoring of Consumption of Blood Supplements (MONUBARA)

The results of the study showed that there are still many female students who are still lacking in knowledge of anemia and compliance with TTD consumption. Efforts that can be made to improve respondent knowledge include conducting regular health promotions. This study proved that the results of increased knowledge and compliance were seen from the comparison of the pre-test and post-test results carried out after the intervention. Other innovations to support respondent knowledge related to knowledge can use other simple promotional media such as books and interesting content on social media about anemia containing definitions, risk factors, complications, prevention and therapy which are also explained to the family or companions of female students (Astuti 2023).

By utilizing the existing convenience, there are many innovations to improve knowledge and healthy living behavior through the current digital era. People are very dependent on smartphone-based mobile phones because of the increasingly sophisticated technology in the modern era today. This makes them very dependent on smartphones to do almost everything. Smartphone User Persona Report (SUPR) data shows that the age group under 30 years is the most mobile phone users. And 61% of mobile phone users are teenagers. In this case, smartphones have become everyday friends when doing activities (Alfian, Malik, and Arfania 2023).

Therefore, we made an innovation by using "MONUBARA", which is Monitoring of Consumption of Blood Supplements. The monitoring is carried out using gform. The system used aims to continuously monitor female adolescents regarding compliance in consuming Iron Supplement Tablet. Each student is

given a link to access the gform and is required to fill it in. The gform contains the student's identity and evidence in the form of photos/videos when taking the medicine. This is done as a previous evaluation, where monitoring is carried out using a checklist by the teacher. To ensure compliance in consuming Iron Supplement Tablet, by filling out the gform and including video evidence when consuming it, it is hoped that there will be an increase in compliance and awareness in preventing anemia by routinely consuming Iron Supplement Tablet according to the recommendations that have been given (Suaib, Rowa, and Adwiah 2024).

In its implementation, the Monubara program went quite well. As many as 64% of female students with anemia filled out the gform according to the instructions that had been given. This made it easier for PJ to monitor the compliance of female students in taking TTD and ensure that the students actually consumed it because it was accompanied by evidence when consuming it. However, several female students experienced obstacles in filling out the gform, one of which was because the students failed to log in to their email to fill it out. In addition, the number of female students also decreased if they were not given reminders to fill out Monubara.

To overcome these obstacles, in the future additional features can be provided in the form of reminders to each student who has anemia to fill in Monubara, so that the program is expected to run better and more effectively. In addition, support is also needed from teachers and families, as well as cooperation with PJ UKS and Nutrition Puskesmas Kromengan and collaborating with each other in reducing the number of anemia in adolescent girls so that the program continues to run in the future.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the analysis of research data after being given an intervention in the form of education through leaflet media along with Monitoring of Consumption of Blood Supplements (MONUBARA) taken from 100 respondents of 7th grade female students at SMPN 1 Kromengan, it was concluded that:

1. Providing education through leaflet media can increase knowledge of consuming Iron Supplement Tablets in the intervention group of female adolescents at SMPN 1 Kromengan.
2. Providing education through leaflet media can increase compliance in consuming Iron Supplement Tablets in the intervention group of female adolescents at SMPN 1 Kromengan.
3. There is a significant difference in knowledge of consuming Iron Supplement Tablets in the control group of female adolescents at SMPN 1 Kromengan.
4. There was no significant difference in compliance with consumption of Iron Supplement Tablets in the control group of female adolescents at SMPN 1 Kromengan.
5. In the Post Hoc LSD test results, there was a significant difference in the post-test knowledge of consuming Iron Supplement Tablet in the control group and the intervention group. While in the compliance test for consuming Iron

Supplement Tablet, there was no significant difference between the control group and the intervention group.

6. In order to achieve good program effectiveness, further monitoring is needed on female adolescents at SMPN 1 Kromengan. Therefore, the researcher created a monitoring method with the Monitoring of Consumption of Blood Supplements (MONUBARA) form in order to achieve a decrease in anemia rates in female adolescents at SMPN 1 Kromengan.

Recommendation

1. For Health Service Institutions

It is expected that the Community Health Center as a health service institution can continue to implement monitoring using Google forms for female students who experience anemia, so that compliance with taking TTD can increase.

2. For Educational Institutions

It is hoped that the results of this study can be used as additional information, a source of literature and a reference regarding the level of knowledge and compliance with the consumption of Iron Supplement Tablets in adolescent girls.

3. For Other Researchers

It is expected that the results of this study can provide information for further researchers who want to conduct research related to the effectiveness of MONUBARA media on knowledge and compliance with TTD consumption in adolescent girls. Then it is expected that the results of this study can also provide information for further researchers who want to conduct research by continuing the research using different variables or using different research methods. This research really needs further research. This can be obtained through deeper data mining directly to the community.

REFERENCES

Afina, Angelita, Arif Putri, Amirah Salwa, and Utami Wahyuningsih. 2021. "Edukasi Mengenai Anemia Defisiensi Besi Bagi Remaja." *Seminar Nasional Hasil Penelitian Dan Pengabdian Kepada Masyarakat 2021 Pengembangan Ekonomi Bangsa Melalui Inovasi Digital Hasil Penelitian Dan Pengabdian Kepada Masyarakat* 279–88.

Alfian, Yudi, Mira Malik, and Maya Arfania. 2023. "Penyebab Anemia Pada Remaja Puteri." *Jurnal Ilmiah Wahana Pendidikan* 9(6 SE-Full Articles). doi: 10.5281/zenodo.7790245.

Astuti, Eka Rati. 2023. "Literature Review: Faktor-Faktor Penyebab Anemia Pada Remaja Putri Literature Review: Factors Causes Anemia In Adolescent Women the License CC BY-SA 4.0." *Jambura Journal of Health Science and Research* 5(2):550–61.

Damayanti, Lystia Ika, and Tatag Mulyanto. 2022. "Efektifitas Penggunaan Media E-Leaflet Terhadap Pengetahuan Tentang Penyakit Hipertensi Di Wilayah UPTD Puskesmas Bahagia Kab. Bekasi Tahun 2022." *Jurnal Pendidikan Dan Konseling (JPDK)* 4(4 SE-Articles):491–500. doi:

10.31004/jpdk.v4i4.5277.

Fachira Kasmarini, and Ratih Kurniasari. 2022. "Pengaruh Pemanfaatan Media Edukasi Gizi Untuk Meningkatkan Pengetahuan Terkait Anemia Pada Remaja Putri : Literature Review: Effects of Utilizing Nutrition Education Media to Increase Knowledge Related to Anemia in Young Women : Literature Review." *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)* 5(11 SE-Review Article):1329–35. doi: 10.56338/mppki.v5i11.2291.

Hafsah, Hafsah, Husnul Hatima, Nurul Fitrahminarsih N, Nirwana Nirwana, Nurayni Wahdaniyah, Ainun Azzarah Annur, and Hutri Rara Panggalo. 2023. "Pedoman Pemberian Tablet Tambah Darah (TTD) Bagi Remaja Putri Di Madrasah Aliah Negeri 2 Makassar Guidelines For Giving Blood Supplement Tablets For Adolescent Girls In Madrasah Aliah Negeri 2 Makassar." *Jurnal Pengabdian Bidang Kesehatan* 1(4):122–27.

Handriyanti, Richa Fitriani. 2022. "Hubungan Pengetahuan Gizi, Frekuensi Konsumsi Inhibitor Zat Besi, Asupan Vitamin C, Zat Besi, Dan Protein Dengan Kejadian Anemia Pada Siswi Smkn 5 Kota Bekasi." *Jurnal Kesehatan Saintika Meditory* 5(2):28. doi: 10.30633/jsm.v5i2.1533.

Hannanti, Herdara, Ibnu Malkan Bakhrul Ilmi, and Muh. Nur Hasan Syah. 2021. "Pengaruh Edukasi Gizi Melalui Komik Dan Leaflet Terhadap Peningkatan Pengetahuan Terkait Anemia Pada Remaja Putri Di Sma Negeri 14 Jakarta." *Jurnal Gizi Dan Kesehatan* 13(1):40–53. doi: 10.35473/jgk.v13i1.85.

Kemenkes RI. 2020. "Pedoman Pemberian Tablet Tambah Darah (TTD) Bagi Remaja Putri Pada Masa Pandemi COVID-19." *Kementrian Kesehatan RI* 22.

Kusuma, Triya Ulva. 2022. "Peran Edukasi Gizi Dalam Pencegahan Anemia Pada Remaja Di Indonesia: Literature Review." *Jurnal Surya Muda* 4(1):61–78. doi: 10.38102/jsm.v4i1.162.

Lestari, Lusi, Heni Heryani, and Dini Ariani. 2024. "Edukasi Anemia Pada Remaja Putri Melalui E-Leaflet Berbasis WhatsApp Messengger." *Archive: Jurnal Pengabdian Kepada Masyarakat* 3(2):349–59. doi: 10.55506/arch.v3i2.114.

Marzuki, Dian Saputra, Nurmutmainna Tahrim, Muh. Rizaldy As Sahid, Nurul Mutiara Syahputri Sudirman, Nisya Nadira Putri, Syahria Shava Tepu Arny, Firdi Athaya, and Lathifatunnisa Lathifatunnisa. 2024. "Emo Demo Pentingnya Zat Besi Dan Tablet Tambah Darah Di SMPN 1 Marang, Pangkep." *Jurnal Altifani Penelitian Dan Pengabdian Kepada Masyarakat* 4(2):169–83. doi: 10.59395/altifani.v4i2.531.

Munir, Rindasari, Anita Sari, and Dea Fitria Hidayat. 2022. "Pendidikan Kesehatan : Pengetahuan Remaja Tentang Anemia." *Jurnal Pemberdayaan*

Dan Pendidikan Kesehatan (JPPK) 1(02):83–93. doi: 10.34305/jppk.v1i02.432.

Putri, Fildzah Karunia. 2021. "Emo-Demo Pentingnya Zat Besi Dan Tablet Tambah Darah." *Seminar Nasional Pengabdian Masyarakat* 130–35.

Sa'adah, Irfani. 2021. "Hubungan Perilaku Remaja Dengan Anemia Pada Remaja Putri Di SMAN 2 Malang." *Gema Bidan Indonesia* 10. doi: 10.36568/gebindo.v10i3.28.

Sari, Hesti Permata, Yovita Puri Subardjo, and Ibnu Zaki. 2019. "Nutrition Education, Hemoglobin Levels, and Nutrition Knowledge of Adolescent Girls in Banyumas District." *Jurnal Gizi Dan Dietetik Indonesia (Indonesian Journal of Nutrition and Dietetics)* 6(3):107. doi: 10.21927/ijnd.2018.6(3).107-112.

Septiana, Wayan Chitra, and Martha Ardiaria. 2017. "Efek Pemberian Seduhan Kulit Buah Naga Merah (Hylocereus Polyrhizus) Terhadap Kadar Malondialdehyde (Mda) Tikus Sprague Dawley Dislipidemia." *Journal of Nutrition College; Vol 5, No 4 (2016): Oktober*. doi: 10.14710/jnc.v5i4.16434.

Suaib, Fatmawaty, Sitti Sahariah Rowa, and Wirdatul Adwiah. 2024. "Hubungan Kepatuhan Konsumsi Tablet Tambah Darah Dengan Kejadian Anemia Pada Remaja Putri." *Media Kesehatan Politeknik Kesehatan Makassar* 19(1):71–76. doi: 10.32382/medkes.v19i1.549.

Sugiarti, Ni Nyoman Manik, I. Komang Lindayani, and Ni Made Dwi Mahayati. 2020. "Manfaat Penyuluhan Dengan Media Leaflet Terhadap Pengetahuan Remaja Putri Tentang Anemia." *Jurnal Ilmiah Kebidanan* 8(1):18–23.

Windi, Windi Astuti, Muhammad Taufiq, and Taofik Muhammad. 2022. "Implementasi Wilcoxon Signed Rank Test Untuk Mengukur Efektifitas Pemberian Video Tutorial Dan Ppt Untuk Mengukur Nilai Teori." *Produktif : Jurnal Ilmiah Pendidikan Teknologi Informasi* 5(1):405–10. doi: 10.35568/produktif.v5i1.1004.