**The Effect of Giving Fe Tablets In Increasing Hb Level For Adolescents At Age 15-18 Years Old In Senior High School 3 Lahat 2019**

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**ABSTRACT**

The main causes that can cause anemia in women are blood loss during menstruation and lack of nutrients in the formation of blood such as iron, protein, folic acid and B12. This study aims to determine the effect of giving Fe Tablets in increasing Hb levels in adolescents aged 15-18 years at Senior High School 3 (SMAN 3 ) of Lahat.

Method:This type of research is quantitative with the design of Quasy Experiment One Group Pretest Postest. Samples were taken using purposive sampling as many as 46 respondents. The measuring instrument used is the Hb meter.

Results: The results showed that before giving Fe tablets, it was found that of 46 respondents, 11 respondents (24%) had anemia. In the measurement after giving Fe tablets from 46 respondents there were 5 respondents (10.9%) having anemia. Test Dependent Test showed significant results (p = 0.001). This shows that there is an effect of giving Fe tablets in increasing Hb levels in adolescents aged 15-18 years.

Conclusion:After giving Fe Tablet using the T test, it was obtained (P value = 0.001), where P value is less than 0.05, it means that there is a significant difference between Fe tablet administration on Hb levels of girls in Senior High School 3 (SMAN 3) of Lahat.

**Keywords:** Anemia, Fe Tablets, Hb

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**BACKGROUND**

Health problems that occur in various countries with a high prevalence are anemia. Data from the *Word Health Organization* (WHO) in the *Worldwide Prevalence of Anemia* show that the world's population who suffer from anemia is 1.62 billion people with a pre-school age prevalence of 47.4%, school age 25.4%, women aged fertile 41.8% (WHO, 2008) .¹ In a study in Denizli Turkey, the prevalence of anemia that occurs in adolescents aged 12-16 years is known that 63 adolescents (56%) have anemia, 37 adolescents (59%) have anemia iron and 26 adolescents (41%) had iron and vitamin B12 anemia. In addition, 135 students (63.7%) had anemia in Vantamuri village of Belagavi.3 The main nutritional problem in Indonesia for young women is anemia.4 to measure the decrease in the concentration of hemoglobin (Hb), an iron-rich protein in the blood that carries oxygen to all cells, and hematocrit.5 The prevalence of anemia in Indonesia in 2013 reached 21.7% nationally. Based on the age group, it was found in children 12-59 months of 28.1%, then in adolescents aged 15-24 years it was 18.8%, then at the age of 25-34 years it was 16.9%, at the age of 35-44 years it was 18 , 3%, and 37.1% pregnant women, anemia tends to decrease at the age of school children, adolescents to young adults (34 years), but will increase again at an increasing age. In addition, based on gender, anemia in women is higher than in men.6

Environmental support for the consumption of Blood Plus Tablets is also obtained from the government. The Indonesian Ministry of Health issued a policy in the Healthy Indonesia Development Program and the 2015-2019 National Medium Term Development Plan (RPJMN), which is to foster community nutrition improvement, one of which is the provision of Blood Plus Tablets (TTD) for young women with a target of 30% by 2019.7.

**METHODS**

This research is a quantitative study with a *quasi-experimental,* this study uses aapproach *non-randomized* with *one group pretest-posttest design.* This research will be conducted at SMAN 3 Lahat, Lahat Regency. XI grade students of SMAN 3 Lahat.

The population of this study were students of SMA Negeri 3 Lahat class XI (Eleven). The sampling technique used in this study was purposive sampling, which is a sample determination technique among populations as desired by the researcher, so that the sample can represent the characteristics of a previously known population. The number of respondents used in this study was a sample of 46 students. The data collected includes primary data in the form of respondent code, name, age of child and gender. Meanwhile, secondary data is the number of students in SMAN 3 Lahat Class XI. Primary data obtained from the measurement of Hb levels before and after giving Hb levels. And secondary data obtained from the register book or student attendance and BP teachers at SMAN 3 Lahat Class XI. Univariate analysis was carried out on each research variable. This analysis is used to determine the frequency distribution of the increase in Hb levels of students *(dependent variable)* before and after giving Fe Tablets *(Independent Variable)* at SMAN 3 Lahat*.* Bivariate analysis, namely the independent variable (giving Fe Tablets) and the dependent variable (Hb levels) which are thought to be related or correlation. The statistical test used in this study is the *Dependent T Test.*

**RESULTS**

The results of the analysis are presented in the form of a respondent frequency distribution table based on age can be seen in Table 1 and the frequency distribution of respondents based on Hb levels before giving Fe Tablets in table 2. Table 1 shows that SMAN 3 Lahat students who became respondents in this study were 46 0 people. Most were 16 years old as many as 32 people (69.6%), 15 years 7 people (15.2%) and 17 years 7 people (15.2%). Hb levels before giving Fe tablets can be seen in table 2 Respondents who were not Anemic were 35 (76%) and 11 people (24%) were Anemia.

**Table 1. Frequency Distribution of Respondents based on Age in Adolescents at SMAN 3 Lahat in 2019**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Age** | **Frequency (n)** | **Percentage (%)** |
| 1 | 15 Years | 7 | 15.2 |
| 2 | 16 Years | 32 | 69.6 |
| 3 | 17 Years | 7 | 15.2 |
| 4 | 18 Years | 0 | 0 |
| **Total** |  | **46** | **100%** |

Based on table 1 of the age frequency distribution, it is found that most respondents have an age of 16 years as many as 32 respondents (69.6%).

**Table 2. Frequency distribution of respondents based on Hb levels before giving Fe tablets to adolescents at SMAN 3 Lahat in 2019**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Hb levels** | **Frequency (n)** | **Presentation (%)** |
| 1 | No anemia | 35 | 76 |
| 2 | Anemia | 11 | 24 |
| **Total** | | **46** | **100%** |

Based on table 2 above, the frequency distribution of respondents based on Hb levels before giving Fe tablets found that 35 respondents did not experience anemia (76% ). Meanwhile, 11 respondents (24%) had anemia.

**Table 3. Frequency distribution of respondents based on Hb levels after giving Fe tablets to students at SMAN 3 Lahat in 2019**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Hb levels** | **Frequency (n)** | **Presentation (%)** |
| 1 | No anemia | 41 | 89.1 |
| 2 | Anemia | 5 | 10.9 |
| **Total** | | **46** | **100%** |

Based on table 3 above, the frequency distribution based on Hb levels after giving Fe tablets found that 41 respondents did not experience anemia (89.1 %). Meanwhile, respondents who experienced anemia were 5 respondents (10.9%).

**Table 4. Distribution of Average Hb Levels of Respondents According to Hb Levels Before and After Administration of Fe Tablets to Adolescents at SMAN 3 Lahat.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **NO** | **Variable** | **N** | **Mean** | **SD** | **SE** | ***P* Value** |
| **1** | Hb levels before giving Fe tablets | 34 | 1.62 | .493 | .085 | 0.001 |
| **2** | Hb levels after giving Fe tablets | 34 | 1.91 | .288 | .049 |

Based on table 4 above, the average Hb levels of respondents before giving Fe tablets are 1.62 with a standard deviation of 0.493. After giving Table Fe was 1.91 with a standard deviation of 0.588. The statistical test results obtained a value of 0.01. So it can be concluded that there is an increase in Hb levels between before giving Fe tablets and after giving Fe tablets

**DISCUSSION**

The most frequency distribution of respondents based on age in young women at SMAN 3 Lahat was 16 years old, as many as 46 respondents (69.6%). SMAN 3 Lahat students are adolescents who are experiencing psychological development and identification patterns from childhood to adulthood. This can be seen from the stage of physical development when the secondary sexual signs reach sexual maturity and there is a transition from dependence.8

Adolescents are one of the next generations and determine the quality of sustainable reproduction. The large number of adolescents will affect adolescent problems. Adolescent problems will be directly related to the quality of life of adolescents in the future. These problems include nutritional problems. Iron deficiency anemia is a nutritional problem that is still high in prevalence in adolescents.8

The frequency distribution of Hb levels before being given Fe tablets were 35 respondents (76%) who did not experience anemia while 11 respondents (24%) had anemia. Blood added tablet (Fe) is a supplement to treat iron deficiency anemia. The composition of the blood added tablet (Fe) that was distributed contained Ferrous sulfate and folic acid. In addition there is another composition, namely ferrous Fummarate.9 The benefits of blood booster tablets (Fe) for young women are, a) young women experience menstruation every month, so they need additional iron to replace lost blood, b) young women will become pregnant, and breastfeeding so they need high iron, which needs to be prepared as early as possible since adolescence, c) treating adolescent girls who have anemia, d) increasing learning abilities, productivity, and the quality of human resources as well as future generations, e) improving the nutritional status and health of young women.10

The frequency distribution of Hb levels after being given Fe tablets for 7 days was the most respondents who did not experience anemia as many as 41 respondents (89.1%). Meanwhile, respondents who experienced anemia were 5 respondents (10.9%).

After statistical tests were carried out with SPSS, the average Hb level of respondents before giving Fe tablets was 1.62 with a standard deviation of 0.493. After giving Fe tablets was 1.91 with a standard deviation of 0.588. The statistical test results obtained a value of 0.001. Using the T test, the obtained P value = 0.001, where the P value is smaller than 0.05, meaning that there is a significant difference before and after giving Fe tablets to the Hb levels of adolescent girls at SMAN 3 Lahat.

In a study conducted at SLTPN I Donorejo after being given Fe tablets, it was found that those suffering from anemia had decreased from 102 female students 964.56%) to 70 students (44.33%).11

The results of this study are in line with research conducted in the district. Grobogan, namely an increase in hemoglobin levels before and after giving blood added tablets (Fe) to female students at Al-Hidayah Islamic Boarding School, Grobogan Regency (p value = 0.001).12

The results of this study are also in line with research conducted on female adolescents in the city of Bogor, namely an increase in Hb levels after consuming blood-supplemented tablets.13

In addition to giving Tablet Fe increase hemoglobin levels can also be affected by the food based on the research results literature this review is that giving supplements Fe, consumption of foods that contain iron such as yams, and consumption of foods containing auxiliary absorption of Fe (enhancer Fe) as tinutuan , fruits that contain vitamin C such as guava juice, red spinach and beets, as well as foods high in vitamin B9 and B12 such as green beans and seaweed can increase blood hemoglobin levels in pregnant women. In addition, limiting foods containing substances that can inhibit Fe absorption (inhibitors) also has an effect on optimizing the absorption of Fe in the body.14-17

**CONCLUSIONS**

There is a significant difference between the results of the examination of the effect of Fe tablets before and after on the Hb levels of adolescent girls at SMAN 3 Lahat. Suggestions for schools are advised to always coordinate with the health center or related agencies so that students can be given blood added tablets (Fe) in order to avoid anemia. You can also do a program to drink Fe Tablets every month together at school to ensure that the Fe tablets given are really drunk by students. For further researchers, it is hoped that there will be further research with the number and characteristics of the sample that is more representative, the research time is more

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