Effect of Green Spinach Leaves Giving against Hemoglobin Levels Increased in Pregnant Women with Mild Anemia

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Abstract Anemia in pregnancy is a condition of the mother with hemoglobin level below 11gr%. In 2013, there were 37.0% of cases of anemia in pregnant women in Indonesia. The incident in Agats, Asmat, Papua is an iceberg phenomenon that has not received much attention. The Health Center (Puskesmas) in order to carry out the program of First 1000 Days of Life (FDL) since 2016 to improve the quality of pregnancy and birth. Green spinach leaves are very important and beneficial to increase the level of Hb in pregnant women who are subjected to mild anemia because green spinach contains iron that can smooth the blood. By consuming the green spinach leaves routinely can increase haemoglobin so good for pregnant women who have anemia. The purpose of this study was to determine the effect of green spinach giving to hemoglobin increased in pregnant women with mild anemia. This research used quasi experiment with One Group pretest and posttest design. The population in this study were all pregnant women with mild anemia with total sampling technique of 28 peoples. This research was conducted by giving pretest (initial observation) before it is being given an intervention, after that it is given the intervention, then posttest (final observation). The results showed that there was an effect of green spinach giving to hemoglobin levels increased in pregnant women with mild anemia, based on the significant value obtained P value = 0,000. It is hoped that pregnant women can consume foods which contain nutrients for pregnant women to increase hemoglobin levels, for example green vegetables like green spinach.

SCIENCE AND TECHNOLOGY PUBLICATIONS

1 INTRODUCTION

Anemia in pregnancy is a mother condition with hemoglobin values below 11gr% in first and third trimesters, or hemoglobin levels less than 10.5gr% in the second trimester, prevalence of anemia in pregnant women reaches 41.8% in the world, and Asia ranks in the world after Africa with the prevalence percentage of anemia sufferers in pregnancy 48.2%. The prevalence of anemia in pregnancy in Indonesia is 37.1%. Among them in the first trimester as much as 3.8%, second trimester 13.6%, and third trimester 24.8%. Government policy in dealing with the problem of anemia in pregnancy is the provision of iron supplements and folic acid. WHO recommends to giving 60 mg of iron for 6 months to meet physiological needs during pregnancy, but there is a lot of literature that recommends a dose of 100 mg of iron every day for 16 weeks or more in pregnancy. Classification of anemia according to WHO and Depkes RI: Normal (The level of Hb in the blood ≥ 11 gr%), mild anemia (blood levels in 8-10 gr%), severe anemia (the rate of Hb in the blood of < 8 gr%).

The study result (1), maternal mortality in developing countries is related to anemia in pregnancy and most of them are caused by iron deficiency and acute bleeding, and it is not infrequently both of them interacts each other. Pregnant women are very susceptible to get iron deficiency anemia in pregnancy, namely hemodilution which causes blood thinning, blood gain is not proportional to plasma increase, lack of iron in food and increased need for iron and impaired of digestion and absorbs.

Research result (2) in the study of chlorophyll and iron (Fe). Based on chlorophyll and iron levels showed the type of green spinach (*Amaranthus spp*) was more able to provide a real effect on the number of white mouse erythrocytes anemic compared with three other types of spinach. Susiloningtyas research, by giving Fe preparat of 60 mg for 30 days can increase Hb levels by 1 gr%. The content of iron in spinach serves to form red blood cells in the body

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thereby reducing the risk of blood loss. Iron also plays a role in the production of hemoglobin and supports the immune system.

Anemia is the most common nutritional problem in the world and affects more than 600 million peoples. With a high enough frequency, it ranges between 10% and 35%. In 2016 WHO reported that the prevalence of pregnant women with iron deficiency in Philippines was 55%, Thailand 45%, Malaysia 30%, and Singapore 7%. According to WHO, the incidence of anemia ranges between 20-89% by setting Hb 11gr% as the basis. In Indonesia, Anemia in pregnancy shows quite high value around 50-70 million peoples suffering from iron deficiency anemia.

Based on (3) the prevalence of anemia in pregnant women in Indonesia by 37.1%, based on the Health Profile in 2009, the incidence of anemia in pregnant women in Central Java province was 57.7%. It is still higher than the national figure of 50.9%. Based on the survey result in 2012, the incidence of anemia in Surakarta was 9.39%. it is recorded that from 11,441 pregnant women there were 1,074 who experienced pregnancy anemia.

In 2011, in the world, there were 38.2% of maternal mothers who experienced anemia, with the highest prevalence in Africa (44.6%), followed by Asia with a prevalence of 39.3%. Whereas, in 2013, it is found that the anemia prevalence which is suffered for pregnant women reached 37.0% in Indonesia. Some studies suggest that anemia in pregnancy contributes indirectly 23.0% of maternal mortality cases in developing countries. Bleeding at birth that is not dangerous for mothers generally with normal hemoglobin levels, it can cause severe complications in mothers with anemia. In addition, anemia in pregnant women is also often associated with neonatal complications such as an increased risk of premature births, low birth weight, fetal death, and slow-growing fetuses.

Spinach is one of the alternative plants in meeting iron needs. According to the research result conducted by (4) states that spinach is a green vegetable that can overcome anemia, because green vegetables have the most sources of vitamins, minerals, and iron.

The importance of providing iron needed in pregnancy is used for fetal and placental growth and for increasing the period of maternal red blood cells during pregnancy, it is based on an initial survey at Rosmery Barus clinic, there were 25 pregnant women and those with mild anemia of 13 pregnant women (52%) so researchers are interested in raising the issue with a study entitled "The Effect of Spinach Giving on Hemoglobin Levels Increased in Pregnant Women with Mild Anemia at Rosmery Barus Clinic".

Green spinach has good benefits for the body because it is a source of calcium, vitamin A, vitamin E, and vitamin C, fiber and also beta-carotene. Besides that, spinach also has a very high iron content to prevent anemia. The mineral content in spinach is quite high, especially Fe which can be used to prevent fatigue due to anemia. Because of Fe content in spinach is quite high, plus vitamin B content especially folic acid (9).

In meeting the iron needs, a person usually consumes supplements, but one alternative to meet the iron needs can be done by consuming vegetables that contain iron in the diet. Iron is found in green vegetables such as spinach (*Amaranthus spp*). Leafy vegetables such as spinach are a source of nonheme iron. Cooked spinach contains 8.3 mg / 100gr of iron. The content of iron in spinach plays a role in the formation of hemoglobin (13).

Government policy in dealing with the problem of anemia in pregnancy is the provision of iron supplements and folic acid. WHO recommends giving 60 mg of iron for 6 months to meet physiological needs during pregnancy, but there is a lot of literature that recommends a dose of 100 mg of iron every day for 16 weeks or more in pregnancy. In areas with a high prevalence of anemia it is recommended to provide iron supplements for up to three months post partum (12).

Pregnant conditions will require more nutrients than non pregnant women, such as the needs for macro nutrients needed for the process of formation of the fetus into humans, namely protein, and micronutrients that act as the formation of fetal organs and cells such as folic acid, calcium, vitamin D and iron, apart from fulfilling adequate food intake sometimes the problem that arises from pregnant woman is a high level of anemia. Insufficient energy and protein intake in pregnant women can cause Chronic Energy Deficiency (CED). Pregnant women with CED at risk of giving birth to low birth weight babies (LBWB), it can also be an indirect cause of maternal death. For this reason, pregnant women with the risk of CED, i.e. those with Upper Arm Circumference (UAC) <23, 5cm, is given additional food. PSG results in 2016 found 79.3% of pregnant women with the risk of CED getting additional food is greater than the national target in 2016 of 50% (5).

Anemia in pregnancy is most commonly found are the result of iron deficiency and acute bleeding

is not uncommon even both are interrelated (Leveno, 2016). handling that usually done to treat anemia in pregnant women is to give 60 mg tablet Fe and 50 nanograms of folic acid during pregnancy (Riau Health Office, 2016). Iron therapy can be combined with complementary therapies derived from herbs, two of which are spinach and tomatoes.

Based on the results of the World's Healthiest Food Rating, spinach is a rich green plants in various nutrients, especially iron (Fe), which is high enough that as much as 6.43 mg per 180 grams, and none of the substances which can harm the body is contained in spinach (The George Mateljan Foundation, 2016). Research conducted by Wijayanti (2016) states spinach juice with concentration 50% effective in increasing hemoglobin who first tested on white mice with affinity to nature and genes with humans.

Iron is a substance that is poorly absorbed by the body and so we need vitamin C so that iron can be absorbed optimally. This is consistent with results Zulaekah study (2017) which states that the supplementation of iron and vitamin C more effectively increase hemoglobin levels and red blood cell counts compared to the addition of iron alone or vitamin C alone.

Preliminary studies conducted by researchers in five pregnant women who often experience dizziness, weakness, and pale, the a sign of the symptoms of anemia, said that none of the mother who never drank combination therapy spinach and tomato juice. Therefore, researchers interested in conducting research entitled Combination Therapy Effectiveness Spinach and Tomato Juice on Improvement of Hemoglobin Levels in Pregnant Women with Anemia. The purpose of this study was to determine the effectiveness of the combination therapy of spinach and tomato juice to increase hemoglobin levels in pregnant women with anemia.

This research is expected to benefit the development of nursing science as the basis Nursing and enter the learning process for the students in the Nursing Science Program add a reference to a complementary therapy for pregnant women suffering from anemia and can be used as a basis for further research. The results also can be used by health workers in the institution where the study as a reference for drafting the promotional and preventive efforts to the community to prevent and reduce the prevalence of the incidence of anemia with complementary therapies.

This study is also expected to be useful for people, especially respondents to add insight and can be practiced in everyday life for therapeutic ingredients needed are easy to find and affordable.

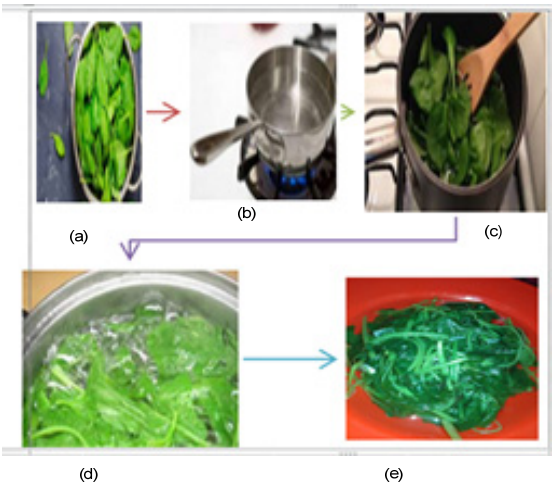

Figure 1: How to give green spinach stew (a) spinach leaves put into place (b) boil water (c) put spinach leaves in boiling water (d) cook until cooked (e) serve spinach.

2 METHOD

In this study it is proposed to provide counseling and health education to pregnant women about the importance of consuming nutritious foods such as green spinach stew during pregnancy preparation, during pregnancy so as not to become anemic and in collaboration with health workers. The activity was carried out by using a lecture method in general with very large number of pregnant women to enable the effectiveness of this activity. This research has obtained approval from the ethics committee. Determination of classification of anemia carried out by categoric means of collecting all expectant mothers that exist in the research and then researchers do check haemoglobin checks in every pregnant mother. For pregnant mothers who have Hb 8-10 gr% are made samples in this research and get the form of health information the importance of consuming green spinach leaves to increase the levels of haemoglobin in the blood so that pregnant women do not suffer from anemia Light. Anemi in pregnancy can cause low birth baby weight and baby birth less months.

Symptoms of anemia arising in pregnant women: appear pale in the skin, lips, and nails, tired, dizziness, shortness of breath, palpitations, difficulty concentrating. In the early phases, pregnant women may not exhibit any meaningful symptoms. Even many of the symptoms above it, can arise even though pregnant women are not experiencing amnesia. Therefore, it should be necessary to conduct routine and blood prenatal examinations when found indications. How to determine anemia in pregnant women by conducting haemoglobin examination. If the level of Hb in the blood mother 8-10 gr% then the mother is categorized as mild anemia.

This study used quasi-experimental design. With the design of One Group pretest and posttest. This research was conducted by giving a pretest (initial observation) first before being given an intervention, after that given the intervention, then posttest (final observation). This research was conducted at the Rosmeri Barus Clinic in March-July 2019. The populations in this study were all pregnant women with mild anemia. Sampling in this study used total sampling method that is a technique by taking the entire population. The total samples of this study were 28 pregnant women who have mild anemia. Variables are characteristics possessed by a group member that is different from the other groups (6).

- Independent variable is a variable that influences or determines the value of other variables. The independent variable of this research was the provision of spinach.
- Dependent variable is a variable whose value is influenced by other variables. The dependent variable of this research was hemoglobin levels increased.

Operational definition is a definition based on the observed characteristics (measured) of something that is defined (7). In this study the variables to be examined were as follows:

- Giving Spinach

Plants consumed by pregnant women with mild anemia can increase hemoglobin levels as much as 100 grams per day for 7 days, it is boiled for ± 2 minutes with 300cc of boiled water.

- Hemoglobin Levels Increased

A state of pigment increased in red blood cells in pregnant women who have mild anemia by measuring the hemoglobin value after 7 days of treatment.

Table 1: Measurement aspects

Variable	Measuring Instrument	How to measure	Measuring Results	Measuring Scale
Independent Variable : Giving spinach	Scale	Direct observation by giving spinach that has been processed.	1.Pretest 2.Posttest	Interval
Dependent Variable : Hemoglobin Level Increased	Hemoglobin meter digital portable	Direct observation by measuring hemoglobin levels on 7th day	1.Increased 2.Stable	Ordinal

Method of Data Collection

Primary Data

Method of Primary data collection was by direct survey of pregnant women and conducted interviews at Rosmery Barus clinic, Patumbak District, Deli Serdang Regency in 2019.

Secondary Data

Data is obtained from reports and other official documents. In this study secondary data were obtained from Rosmery Barus clinic, Patumbak District, Deli Serdang Regency in 2019.

Data Analysis Method

Univariat Analysis

Univariate analysis by analyzing each variable of research results with the aim of finding out the frequency distribution of each data variable research variable which is presented in tabular form.

Bivariat Analysis

Data analysis was performed by computerization using SPSS software used T Test with α: 0.05. Statistical test is an inferential statistical test that is used to compare the results of group observations

before and after an intervention which is carried out in one experimental group only.

3 RESULTS AND DISCUSSION

This chapter describes the study result which is conducted in March-July 2019 for 7 days regarding: "The Effect of Green Spinach on I Hemoglobin Levels Increased in Pregnant Women with Mild Anemia at Rosmery Barus Clinic, Patumbak District, Deli Serdang Regency in 2019". This section also described the complete research result which is presented in the table based on the research objectives that have been prepared.

This research was conducted at Rosmery Barus clinic, Patumbak District, Deli Serdang Regency with sample of 28 peoples. The study results described the demographic data of pregnant women including (age, education, and occupation). It is done by providing green spinach and hemoglobin levels increased in pregnant women for 7 days.

From the results of this study can be seen that pregnant women who have mild anemia experienced changes in the level of Hb in the blood after consuming green spinach leaves. This is in line with the results of the research (7) which mentions that there is the influence of green spinach leaves to increase levels of Hb expectant mothers who have anemia in mother and child hospitals.

3.1 Demography Characteristic of Pregnant Women

Respondents Characteristics based on data of age demographic, the majorities who have aged 19-30 years were 17 peoples (60.71%) and the minorities who have aged> 30 years were 11 peoples (39.28%). Based on data of educational demographic, the majority of respondents had junior high school education were 10 peoples (35.71%) and minority of respondents had high school education were 8 peoples (28.57%). Based on data of occupational demographic, it is found that the majority of respondents who work as housewives as many as 18 peoples (64.28%) and the minority of respondents who work as civil servants as many as 2 peoples (7.14%).

Table 2: Frequency Distribution Based on the Respondents Characteristics of Pregnant about the Effect of Green Spinach Giving against Hemoglobin Levels Increased in Pregnant Women with Mild Anemia at Rosmery Barus Clinic Kec. Patumbak Regency. Serdang District in 2019

No.	Respondent Characteristics	f	%
1	Aged		
	19-30 Years Old	17	60,71
	>30 Years Old	11	39,28
	Total	28	100
2	Education		
	Junior High School	10	35,71
	Senior High School	8	28,57
	University	10	35,71
	Total	28	100
3	Occupation		
	Housewife	18	64,28
	Entrepreneurship	8	28,57
	Civil Servant	2	7,14
	Total	28	100

3.2 Green Spinach Giving

In giving green spinach, it can be seen that respondents who consume long bean leaves as many as 28 peoples (100%). In the table below, it can be seen that from 28 pregnant women who have mild anemia, they have hemoglobin levels increased by an average of 0.2-0.4 gr% after they consumed green spinach.

Table 3: Distribution of Hemoglobin Levels Increased in Pregnant Women

Respondent	Hemoglobin level before green spinach given	Hemoglobin level after green spinach given
1	9 gr %	10 gr %
2	10 gr %	11,2 gr %
3	10 gr %	10,4 gr %
4	10 gr %	10,4 gr %
5	9 gr %	9,8 gr %
6	10 gr %	10,8 gr %
7	9 gr %	10,2 gr %
8	10 gr %	10,8 gr %
9	9 gr %	10 gr %
10	9 gr %	9,8 gr %
11	9 gr %	10,4 gr %
12	9,4 gr %	10,2 gr %

13	9,6 gr %	11 gr %
14	9,2 gr %	10 gr %
15	9,6 gr %	10 gr %
16	9 gr %	9,4 gr %
17	9 gr %	9,8 gr %
18	9 gr %	9,8 gr %
19	9,2 gr %	10 gr %
20	9,2 gr %	10 gr %
21	9,4 gr %	10 gr %
22	9,4 gr %	9,6 gr %
23	9,4 gr %	9,8 gr %
24	9 gr %	9,6 gr %
25	9,8 gr %	10 gr %
26	9,2 gr %	10 gr %
27	9 gr %	9,6 gr %
28	9,4 gr %	10 r %

3.3 Hemoglobin Level Increased

It is known that the hemoglobin levels increased in pregnant women with mild anemia were (100%) with a mean of 10.2308 of 28 peoples as sample.

3.4 Effect of Green Spinach Giving against Hemoglobin Levels Increased

In this study, it was explained that the hemoglobin levels increased in pregnant women with mild anemia before consumed green spinach the average hemoglobin levels increased in pregnant women was 9.88538 with standard division of 0.52060, after they consumed green spinach the average hemoglobin levels increased in pregnant women was 10.2308 with standard division of 0.57646. P value = 0,000 <from α value (0.05), then the hypothesis 0 is rejected, meaning that there is an influence between an increase in hemoglobin levels before the treatment with after the treatment (Table 4).

Table 4: Standart Deviation Pre test and post test

Consumption	Hemoglobin level		Std.Deviation	P Value	t
Consumed	Pre test	9,8538	0,52060	0,000	-5,253
	Pos test	10,2308	0,57646		

4 DISCUSSION

Data of Pregnant Women Demography

The mothers characteristics which as variables in this study were age, education and job. Respondents characteristics based on age in the intervention group can be known that, the majority of respondents aged 19-30 years were 17 peoples (60.71%) and the minority of respondents aged> 30 years were 11 peoples (39.28%).

Characteristics of respondents based on education in the intervention group can be seen that, the majority of respondents had a junior high school (SMP) as many as 10 peoples (35.71%), and a minority of tertiary education as many as 10 peoples (35.71%). And those with high school education (SMA) were 8 peoples (28.57%).

Characteristics of respondents based on job in the intervention group can be seen that, the majority of respondents who had job as housewives as many as 18 peoples (64.28%), the minority of respondents who had job as civil servants as many as 2 peoples (7.14%), and respondents who had job as entrepreneurs as many as 8 peoples (28.57%).

It can be seen that maternal age can affect hemoglobin levels in pregnant women, because according to theory (8), the age group <20 years is at risk of anemia because in this age group biological development is not optimal. In addition, pregnancy in the age group> 35 years is also prone to anemia because the immune system begins to decline and is susceptible to various infections during pregnancy.

According to the Health Ministry of Indonesia Republic quoted by (9), explained that age greatly determines maternal health and it is related to conditions of pregnancy, childbirth, childbirth, and how to care. A good age for reproduction is 20-30 years.

The theory about education is made clear by (10) that, the low education level of pregnant women influences the reception of information so that knowledge about anemia and its associated factors is limited, especially knowledge about the importance of iron.

According to (11) said that the higher level of one's education, the easier it is to provide information, so the more knowledge she has. And according to (12) said people who have high education will be easier to understand the information received compared to people who have low education.

For occupational theory based on (13), said that pregnant women with socioeconomic status and adequate employment will easily obtain the

information needed, while pregnant women with low socioeconomic tend to have fears of the magnitude of the cost of antenatal care. In line with this study, the variables above can affect hemoglobin levels increased in pregnant women, it can be explained in the study (14) on the Effect of Green Spinach Juice Giving Against Hemoglobin Levels increased in Pregnant Women Anemia at the Work Area of Pasar Minggu Health Center in South Jakarta, said there is a relationship between age, education and occupation with an hemoglobin levels increased and confirmed by the results of P value 0,000 which means <0.05 then it shows Ho is rejected and there is influence among them.

For the results about the effect of green spinach giving on hemoglobin levels increased in pregnant women with mild anemia, it was found that the intervention group respondents viewed from the hemoglobin level, the majority rose by 28 peoples (100%).

It can be attributed that green spinach able to increase hemoglobin levels. It is confirmed by Fatimah's theory which says that in meeting iron needs, a person usually consumes supplements, but one alternative to meeting iron needs can be done by consuming vegetables that contain iron in the diet. Iron is found in green vegetables such as spinach (*Amaranthus spp*). Leafy vegetables such as spinach are a source of nonheme iron. Cooked spinach contains 8.3 mg / 100gr of iron. The content of iron in spinach plays a role in the formation of hemoglobin.

This research has been conducted by several experts. The first was carried out by Rohmatika et al at Gambirsari Surakarta Public Health Center, they gave spinach as much as 100 gr / day for 7 days which showed the results that there was a significant increase in Hb levels after consumption of green spinach with a statistical test of significance value smaller than alpa p 0,000 (p <0.05). Secondly, it was done according to Fatimah's research, in the study of chlorophyll and iron (Fe) given to white rats. Based on chlorophyll and iron levels showed the type of green spinach (*Amaranthus spp*) was more able to provide a real effect on the number of erythrocytes in anemic white rats compared with three other types of spinach.

In line with previous studies, in this study there was also an influence between green spinach giving with hemoglobin levels increased which was seen based on significant results with the T test of P value 0,000 <0.05 and it is obtained a correlation value of 0.894, meaning that there was a very strong influence.

5 CONCLUSION

There is an effect of giving green spinach to hemoglobin levels increased in pregnant women with mild anemia, based on the significant value obtained P value = 0,000. If the P value (0,000) <(0.05), then Ho is rejected, which means that there is a significant influence between the provision of green spinach on increasing hemoglobin levels. The category of the effect of giving green spinach on increasing hemoglobin levels can be seen that the majority of hemoglobin levels increase as many as 28 peoples (100%).

The results are consistent with research Sinurat (2010) that 80 pregnant women earned 26 mothers are anemic by age group first trimester of pregnancy as much as 1 (5%), the second trimester of 4 people (20.0%), and trimester III 21 persons (52.5%). The iron requirement is different for each quarter in the first trimester of pregnancy in which the iron requirement is not high, while the second and third trimester increases the need for iron because iron is required for the development and fetal growth (Sinclair, 2010). Hb levels during the second and third trimesters of pregnancy ranging from 11.6 g / dL as a result of blood dilution (hemodilution) mother due to increased plasma volume (Stright, 2017). So it is in line with the results of research which will anemia is more common in the third trimester of gestation group.

The results of the study in Puskesmas Sail shows that out of 30 respondents obtained maternal anemia 19 respondents (63.3%) is multigravida (gestation> 1 time) and 11 respondents (36.7%) were primigravida (1x pregnancy). Anemia tends to occur in women with ≥3 pregnancy because pregnancy can spend reserves of nutrients the mother's body (Arisman, 2004). The results are consistent with research Nasyidah (2016) in which the pregnant women with anemia is most often found in multigravida group that is equal to 52.6% followed by 44.9% primigravida group, and the group grandemultigravida only 2.6%. Research Madhavi & Singh (2016) entitled "Nutritional status of rural pregnant women" also found pregnant women with anemia most in multigravida as many as 79.48% and 20.52% as much primigravidas.

A mother who is often anemic pregnant have an increased risk in subsequent pregnancies if not pay attention to nutritional needs. A mother with her first pregnancy may also be at risk of anemia because they have not had the experience so the impact on behaviors related to nutrition (Madhavi & Singh, 2016).

Results of research conducted in Puskesmas Sail shows that the majority of education is high school education that is as much as 13 respondents (43.3%). Education is learning knowledge, skills, and habits of a group of people transferred from one generation to the next through teaching, training, or research. Education is often the case under the guidance of others, but also a self-taught menmungkinkan (MoH RI, 2013). Educational background is a factor which affects a person's mindset. Educational background will shape the way people think, including forming the ability to understand the factors associated with the disease and to use this knowledge to maintain health (Perry & Potter, 2016).

The results are consistent with research Empress (2016) entitled "Relationship hemoglobin of antepartum haemorrhage with Apgar score" which examined further on the characteristics of the mother's education level, and the results of the analysis are not significantly different between groups anemia and anemia ($p = 0.7$), but the mother of the level of education low (not school, elementary, junior) 1.16 times more likely to have anemia than the higher education level.

Science and knowledge can be acquired through learning. Learning can be done anywhere, by anyone, anytime. The world of education can take place at three places, namely education in families, schools, and communities (Erfandi, 2015). Therefore, any person may obtain information from a variety of places and media although it has a lower school education background.

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