ANEMIA PREVENTION IN PREGNANT WOMEN

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Abstract

The number of anemia cases in pregnant women is still high, various precautions have been taken. This study aims to determine anemia prevention actions in pregnant women. The study design used a quantitative descriptive approach. The samples in this study were 84 pregnant women selected using *accidental sampling techniques*. The research instrument used a questionnaire developed by researchers with a validity test value of 0.679-0.979 and a reliability test with a value of *Cronbach alpha* 0.965. Univariate data analysis. The results of the study showed that almost all pregnant women had received health education, the majority of pregnant women consumed Fe tablets properly and correctly, consumed a balanced diet, practicing a healthy lifestyle, and almost all routinely performed ANC. Conclusion, anemia prevention efforts in pregnant women are mostly done, listening to health education, conducting ANC and doing a healthy life. It is expected that the health professional would work together and the family would supervise pregnant women in consuming Fe tablets according to the rules and intensively provide counseling about a balanced diet.
Keywords: Anemia, pregnant women, prevention.

INTRODUCTION

Anemia is experienced by many pregnant women, especially in developing countries, the World Health Organization (WHO) estimated that 35% -75% of pregnant women experience anemia in developing countries and 18% in developed countries, anemia threaten half a billion women in childbearing age worldwide with a prevalence of 38% pregnant women namely 34.2 million at vulnerable ages 15-49 years (World Health Organization, 2014).

The results of the Basic Health Research (Riskesdas) 2018, showed that anemia of pregnant women in Indonesia was still high at 48.9%, while in 2013 the anemia rate of pregnant women was at 37.1%. (Indonesian Ministry of Health, 2018). In 2018 from January to October the anemia rate in Garut Regency was at 28.53% and the highest in the Selawi Health Center was 38.47% (Garut District Health Office, 2018).

Anemia in pregnant women has an impact on the fetus including LBW (low birth weight). LBW occurs due to less nutrient intake in the fetus that causes inhibit of production of hemoglobin. A decrease of hemoglobin in red blood cells affects inadequate nutrition through the placenta. The fetus can also experience premature birth due to decreased hemoglobin causing increased blood plasma volume resulting in uterine contractions. The impact of anemia also causes fetal death, which is triggered by inadequate hemoglobin to deliver oxygen to the fetus so that it impacts hypoxia in a fetus (Soraya, 2013).

To prevent anemia in pregnant women the Government establishes policies to prevent anemia in pregnant women. The Ministry of Health of the Republic of Indonesia (1996) stated in Roosleyn (2016) that the most important effort in overcoming anemia in pregnant women is nutrition, one of which is by providing additional supplements (Fe tablet). The Fe tablet is effective because it contents folic acid, so it prevents and treats iron deficiency anemia. The anemia prevention program is done by providing Fe tablets to pregnant women as much as 1 tablet every day for 90 days during pregnancy.

A program to reduce MMR and IMR is The Planning and Delivery Prevention Complications Program (P4K), which includes an Ante Natal Care (ANC) and Fe tablets for pregnant women (Kemenkes, 2010). Government regulations to prevent anemia in pregnant women and women of childbearing age are the Minister of Health Regulation No. 88 of 2014 concerning "Fe Tablet Standards for Women and Pregnant Women". Research on Prevention of anemia in pregnant women has been widely carried out, one of them was Maliya et al (2014) with the title "Model of Prevention of Anemia in Pregnant Women to Reduce Post Partum Bleeding". The study explained the prevention of anemia by Ante Natal Care (ANC), consuming vitamin supplements and consuming Fe tablets, a balanced nutrition diet, conducting clean and healthy behavior (PHBS), and receiving information about anemia prevention.

Efforts to reduce anemia in pregnant women are not only done by pregnant women but also must be done by health workers including health counseling, giving Fe tablets, early detection of anemia, prevention, and treatment of disease. (Saifudin, 2014).

Preventing anemia in pregnant women has been done, however, the anemia rate is still high. The limited information from previous research in preventing anemia in Garut Regency. The purpose of this study was to determine the anemia prevention actions in pregnant women.

METHODS

The study design used the *quantitative descriptive* approach. This design was chosen because this study will illustrate the behavior of pregnant women in preventing anemia. The study was conducted at the Selaawi Health Center in June-July 2019. The population in this study were pregnant women with gestational age ≥ 20 weeks who visited the Selaawi Health Center amounted to 93 people (average per month). The sampling technique was *accident sampling*, and the number of samples was 84 pregnant women. Data were collected using a questionnaire assessing the characteristics of respondents and actions in preventing anemia in pregnant women. The questionnaire was developed by researchers based on references from the Indonesian Ministry of Health (2014).

Researchers tested the validity and reliability of the questionnaire on 23 pregnant women at the Malangbong Community Health Center. The validity test results were 0.679 to 0.979, from 27 question items only 22 were valid and the reliability test result was 0.695. Data were collected by researchers assisted by 5 enumerators who had done the same perception beforehand. The questionnaire made with answers using the scale *Guttman* with positive answers or Yes with score 1, and 0 for no answer. Data collected were analyzed univariate in the form of a frequency distribution. The results of the analysis are presented in tabular form and categorized as yes and no. This study was approved by the Research

Ethics Committee of Padjadjaran University with number 581 / UN6.KEP / EC / 2019.

RESULTS

The following is a description of demographic data on pregnant women.

Table 1 Characteristics of pregnant women (N = 84)

Characteristics	Frequency	Percentage (%)
Age of mother		
<20	23	27.4
20-35	46	54.8
> 35	15	17.9
Age of pregnancy		
20-2829-36	26	31.0
mgmg	32	38.1
> 36 mg	26	31.1
Work		
Civil Servants	9	11.9
Private Employees	5	13.1
Entrepreneurs	14	16.7
Housewives	33	35.7
Workers	23	22.6
Parity		
2	44	52, 4
3	32	38.1
4	6	7.1
5	1	1.2
7	1	1.2
Education		
Elementary School	11	13.1
Junior High School	26	31.0
Senior high School	40	47.6
College	7	8.3
Hb levels		
<9 g / dl	3	3.6
9 -11 g / dl	27	32.1
> 11 g / dl	54	64.3

Based on table 1 it is known that the majority of respondents aged 20-35 years (54.8%), the second parity (52.4%), the respondent's Hb levels > 11 g / dl (64.3%), the majority of respondents' gestational age was 29-36 weeks (38.1%), the respondent's education level at the senior secondary level (47.6%).

Table 2 Preventing anemia in pregnant women (N = 84)

	Yes		No	
Actions to prevent anemia in pregnant women	**F**	**%**	**F**	**%**
Obtaining health educations	**72**	**85.7**	**12**	**14.3**
Consuming Fe tablets properly and correctly	**56**	**66.7**	**28**	**33.3**
Consuming Fe tablets for 20 weeks of pregnancy	66	78,6	18	21.4
Drink one Fe tablet every day at the same time	76	90.5	8	9.5
Fe tablets not accompanied by tea water	78	92.9	6	7.1
Fe tablets are not accompanied by coffee water	83	98.8	1	1.2
Fe tablets are not accompanied by milk	78	92.9	6	7.1
Fe tablets are accompanied by mineral water	82	97.6	2	2.4
Routine ANC	**70**	**83.3**	**14**	**16, 7**
Eating a balanced diet	44	52.4	40	47.6
Consuming more rice than before pregnancy	75	89.3	9	10.7
Eating 4 medium pieces of fruit and 3 servings of vegetables	69	82.1	15	17.9
	77	91.7	7	8.3
Eating 3 pieces or more tempeh or tofu	76	90.5	8	9.5
Eating 3 medium pieces of meat or fish	69	82.1	15	17.9
Eating 2-3 glasses of milk	84	100	-	-
Consuming cooking oil of at least 5 teaspoons / more	84	100	-	-
Consuming a minimum of 2 tablespoons of sugar				
Doing PHBS	55	70.2	29	29.8
Using clean water	84	100	-	-
Washing hands with water and soap	84	100	-	-
Using a healthy latrine	64	76.2	20	23.8
Eating fruits and vegetables every day	69	82.1	15	17.9
physical activity at home	83	98.8	1	1,2
family members do not smoke at home	34	40.5	50	59.5

Table 2 shows that almost all pregnant women get health education (85.7%), routinely perform ANC (83.3%), most pregnant women consume Fe tablets properly and correctly (66.7%), consume a balanced diet (52.4%), and do PHBS (70.2%).

DISCUSSION

Preventing anemia in pregnant women includes health education to pregnant women regarding anemia. Health education programs to each village have been conducted once a month and the themes related to the prevention of anemia in pregnant women. The topic of anemia in pregnant women includes anemia in general, anemia in pregnant women, the impact of anemia on pregnant women and how to prevent it. This research shows that almost all pregnant women have received health education about anemia in pregnant women by health workers, health care is useful to change individual behavior and increase knowledge for respondents. This is in line with the education of most respondents of high school /senior high school graduates where the level of education would influence knowledge and explore information for women.

This study is supported by Purbadewi's (2013) research that the lack of knowledge would affect the incidence of anemia due to lack of understanding of anemia, factors that can cause anemia, signs, and symptoms of anemia, and health behaviors to prevent anemia, so less knowledge about anemia can affect the incidence of anemia. According to Solehati (2018), the effect of health education on knowledge of early detection and prevention of anemia to reduce maternal mortality (AKI) in Posyandu cadres shows that there is an influence of health education on pregnant women's knowledge about anemia.

The second attempt is to consume Fe tablets, the majority of respondents consume Fe tablets properly and correctly (66.7%). This result shows that one-third of respondents did not consume Fe tablets properly and correctly. This is related to the incidence of anemia at the site of the study, the incidence of anemia would be inversely proportional to consuming Fe tablets properly and correctly, the higher the pregnant women consume Fe tablets properly and correctly the less the incidence of anemia. One reason of respondents did not want to consume Fe tablets properly and correctly including the tablet is smelly.

The benefits of Fe tablets are increasing and maintaining the Hb levels in the blood. This is supported by Hidayah research (2012) which explains that the incidence of anemia is very dangerous for both the fetus and mother so that *preventive* actions would be taken by consuming green vegetables, meat, liver, and dairy products and consuming Fe and vitamin C supplements can help absorption iron in the digestive tract, avoiding caffeine such as coffee, tea in large quantities can disrupt iron absorption. Easy and inexpensive prevention of anemia by consuming iron tablets in folic acid.

The results of Astuti's research (2016) on factors related to the incidence of anemia in pregnant women at the Undaan Lor Health Center in Kudus Regency stated that there was an effect of adherence to consuming Fe tablets with anemia. The main factor of anemia is consuming less Fe tablets, therefore pregnant women are advised to consume Fe tablets 1x before going to bed. Lack of mother's knowledge of the side effects of Fe tablets and anemia would cause mothers to be reluctant to consume Fe tablets, family support is needed especially the husband so that women are obedient to consume Fe tablets.

Anemia prevention model in pregnant women to reduce post-partum hemorrhage shows that at least 90 tablets of Fe tablets should be consumed by pregnant women during pregnancy. The drinking water that used in accompany Fe tablets should be considered because it would interfere the absorption of iron in the body, including tea water that containing polyphenols which bind heme iron and form insoluble iron tablet so that iron cannot be absorbed properly in the body, the same effect with coffee and milk, it is recommended to drink with mineral water (Maliya, 2014).

The third attempt is routine ANC for pregnant women. This is useful to avoid and detect the possibility of danger or risk to pregnant women. ANC shows positive results for preventing anemia and early detection of anemia so that anemia can be overcome before it gets worse. According to Sugma (2015) doing regular

antenatal care has a smaller risk of developing anemia than pregnant women who do not regularly do ANC. ANC is an effort to detect the risk of endangering a pregnancy and childbirth which aims to reduce the number of maternal deaths and observe fetal growth. Every mother checks her pregnancy to find out the risks that may arise in pregnancy and is immediately identified and addressed as quickly as possible (Sugma, 2013). Other research on anemia prevention models in pregnant women to reduce postpartum hemorrhage explained that if a pregnant woman does not perform ANC, and was not get Fe tablets, it is a high risk of the mother experiencing complications in her pregnancy (Maliya, 2014).

The results showed that most respondents consumed balanced nutrition. Balanced nutrition is a composition of foods that need to be consumed to maintain the optimal condition of pregnant women. It is useful to prevent disorders caused by nutrition, one of which is anemia. This statement is supported by the results of Hammadah's research (2016) about the relationship of nutritional intake with the incidence of anemia in pregnant women in the working area of the Lubuk Buaya Health Center in Padang City in 2016 that there is a relationship between nutritional intake and the incidence of anemia.

Other research states that pregnant women with KEK tend to have more anemia than pregnant women who do not KEK. This is because of the supply of nutrients eaten during pregnancy by consuming foods containing micronutrients and the consumption of vitamin C reduces the anemia. In the first trimester, pregnant women would experience nausea and vomiting due to increased stomach acid caused by vitamin C, to help the absorption of Fe must be accompanied by consuming water. If pregnant women do not have CED, anemia may be caused by how to consume Fe together with caffeine will inhibit the absorption of Fe into the body (Amini, 2016).

Maliya Research (2014) about a model of anemia prevention models found that there was a significant relationship between the adequacy of eating vegetables,

protein, and fruit, and the incidence of anemia. The food variations also have a relationship with the incidence of anemia. Foods from animals would absorb 20-30% more easily than foods from plants. Other research on factors related to nutritional anemia in pregnant women at the Jalaksana Kuningan Health Center in 2010 found that that malnutrition (KEK) was associated with the incidence of anemia because it was closely related to protein intake into the body. KEK in pregnant women for a long time affects the process of absorption of iron which is needed by pregnant women (Herawati, 2010).

The results showed that most respondents conducted PHBS at home (70.2%). This data shows a positive behavior of pregnant women in preventing anemia, the disease can arise due to lack of PHBS, that may cause chronic helminthiasis, diarrhea, tuberculosis, and anemia (Maliya, 2014).

Astuti (2011) states that PHBS is an effort to empower households to know, want and be able to carry out healthy living behavior and play an active role in health behavior in the community. PHBS of pregnant women have ten indicators, namely: 1) Childbirth is assisted by health workers. 2) Give exclusive breastfeeding. 3) Weigh babies and toddlers. 4) Using clean water. 5) Wash your hands with soap and water. 6) Using healthy latrines. 7) Eradicate larvae at home. 8) Eat fruits and vegetables every day. 9) Do physical activity every day. 10) Do not smoke inside the house. Pregnant women are susceptible to disease because their immune system requires adequate nutrition to be absorbed by the body of the mother and fetus (Ariyani, 2016). The habit of not washing hands before eating is the cause of the high number of worm infections, diarrheal disease, tuberculosis, and one of the causes of anemia is chronic worms caused by poor personal hygiene (Maliya, 2014).

CONCLUSIONS

This study identified the highest efforts to prevent anemia in pregnant women include getting health education, attending ANC and doing PHBS in the

household, while low efforts are carried out including consuming a balanced diet and consuming Fe tablets properly and correctly. It is expected that the health professional would work together and the family would supervise pregnant women in consuming Fe tablets according to the rules and intensively provide counseling about a balanced diet

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