Efforts Of Providing Balanced Nutrition Counseling for Pregnant Women and Giving Sukahitu Cookies in Increasing Knowledge, Attitude and Blood Haemoglobin Levels of Pregnant Women in Percut Sei Tuan District, Deli Serdang Regency

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Abstracts: Anemia in pregnant women occurs due to iron deficiency (Fe). About 95% of anemia cases during pregnancy are due to iron deficiency. This study aims to determine the effect of Balanced Nutrition Counseling for Pregnant Women and Giving Sukahitu Cookies for Increasing Mother's Knowledge, Attitudes and Hemoglobin Levels in Percut Sei Tuan District, Deli Serdang Regency. This research was a quasi-experimental pre and post-test of two groups by respectively 30 pregnant women receiving the intervention and a control group.The pregnant women group was given a balanced nutrition counseling intervention for pregnant women with media booklets for three weeks and 100 g/pack/day of Sukahitu Cookies. Meanwhile, the control group received as much as 100 g/day cookies during the study. To analyze the effect of providing counseling with balanced nutrition booklet media for pregnant women and giving sukahitu cookies to increasing knowledge, attitudes and hemoglobin levels in anemia of pregnant women, an independent t-test $p<0.05$ was used. Statistical results show there is a difference in the increase in knowledge scores of pregnant women between the intervention group and the control group $p=0.000$. This show Balanced Nutrition Counseling for Pregnant Women and Providing Sukahitu Cookies can increase knowledge, attitudes, and hemoglobin levels of pregnant women in Percut Sei Tuan District, Deli Serdang Regency.

Keywords: Counseling, Sukahitu Cookies, Knowledge, Attitude, Hemoglobin Level.

1. INTRODUCTION

Anemia is a health problem that occurs in all countries, especially developing countries, one of which is Indonesia. According to WHO, anemia in pregnant women is the condition of the mother with a hemoglobin (Hb) level in her blood of less than 11gr/dl as a result of the inability of the red blood cell-forming (Erythtopoetic) tissue to produce it to maintain Hb concentrations at a normal level [1]. The incidence of anemia which affects the death of pregnant women in Indonesia reaches 50-70%. The results of the Riskesdas report, 2018, the proportion of anemia in pregnant women is 48.9%. The occurrence of anemia in pregnant women is due to physiological changes during pregnancy, besides that it can be due to the increased need for iron. Anemia can have an impact on fetal growth disorders both in body cells and brain cells, abortion, length of time for labor due to lack of uterine thrust, bleeding and infection [2].

Knowledge is one of the factors that influence health behavior. The low knowledge and attitudes of pregnant women who experience anemia have an impact on low Fe intake [3]. According to Purbadewi in (Trianingsih & Marlina, 2020) states that pregnant women who know and understand how to prevent anemia will have good health behavior so that they can avoid the risk of anemia [4]. Through the provision of counseling by providing balanced nutrition booklets for pregnant women and giving cookies it is hoped that it can help pregnant women understand the importance of food to increase consumption of nutrients such as protein and Fe in overcoming the problem of anemia. The final results are expected to increase knowledge, and attitudes and increase hemoglobin levels in pregnant women. Nutrients contained in food will have an impact on fetal growth, such as a source of protein as a source of building materials and vegetables and fruit as a source of regulatory substances [5].

Cookies are a snack that is much-loved by the public. To meet the nutritional needs of pregnant women, it can be used as an alternative to increasing the fulfillment of protein and iron. Sukahitu Cookies are foods that can be served between main meals made from Sukahitu flour (substitute green beans and katuk leaves).

Mung bean (vigna radiata) is a type of legume rich in iron needed to produce red blood cells so it can overcome the problem of anemia. The iron content in green beans is 6.7 mg in 100 g [6]. Katuk leaves (sauropus androgynus) are a group of green vegetables. Every 100 grams of katuk leaves contains 2.7 mg of Fe to increase milk production and prevent anemia. The unpleasant aroma of katuk leaves often causes people to be reluctant to consume it directly [7]. Therefore an alternative to katuk leaves can be processed into flour to make cookies.

Percut Sei Tuan Sub-District in Deli Serdang Regency is a location assisted by the Medan Ministry of Health Poltekkes where there is still a problem of anemia in pregnant women so it is use as a research location, where

2. METHOD

The study was conducted in four villages in Percut Sei Tuan District, namely Percut and Cinta Damai Villages, as the intervention group, while the control group was in Tanjung Selamat and Tanjung Rejo villages. the intervention group was given balanced nutrition counseling and given sukahitu cookies while the control group was given regular cookies. This type of research was a quasi-experimental pre and post-test two-group design with a total sample of 30 people for the intervention group and 30 people for the control group. The interventions provided were balanced nutritional counseling for breastfeeding mothers and cookies with Premix Sukahitu Flour which was given as much as 100 g/day for 30 days.

3. FINDINGS AND DISCUSSION

3.1. Findings

The results showed that the age of pregnant women in both the intervention and control groups was mostly 20-35 years old, with the number in the intervention group being 23 pregnant women (76.7%) and the control group being 22 pregnant women (73.3%), and still found a group of pregnant women aged <20 years, as many as four people each (13.3%). And the age group >35 years as many as in the intervention group 3 pregnant women (10.0%) the control group 4 pregnant women (11.7%).

The education of mothers in the intervention and control groups mostly junior high school education respectively with the number in the intervention group 12 pregnant women (40.0%) in the control group 13 pregnant women (43.3%), pregnant women with GRADUATE education as many as in the intervention group 2 pregnant women (6.7%) and in the control group 0 pregnant women (0%), The husband's education in the high school intervention group was 17 (56.6%), and in the control group, junior high school education was 16 (53.3%). And each of the lowest educational intervention and control groups was SD in intervention group 8 (26.7%) and control group 6 (20.0%).

The husband's occupation was mostly labor, with 20 (66.7%) in each group in the intervention group and 22 (73.3%) in the control group. And the work of the entrepreneur in the intervention group was 10 (33.3%) and in the control group was 8 (26.7%).

The highest family income in the intervention group was >= Rp. 1,500,000 for 17 (56.7%), in the control group the highest was <Rp. 1,500,000 as many as 18 (60.0%). And in the intervention group income <Rp. 1,500,000 as many as 13 (43.3%) in the control group income >= Rp. 1. 500,000 as many as 12 (40.0%).

Statistical results showed the age of pregnant women, mother's education and husband's education, husband's occupation and family income showed no significant difference between the intervention and control groups.

Table 3.1 Sample Characteristics

Maternal Age Group	Intervention		Control		P Value
	n	%	n	%	
<20 Years	4	13,3	4	13,3	
20-35 Years	23	76,7	22	73,3	
>=35 Years	3	10.0	4	11,7	0.06
Total	30	100	30	100	
Mother's Education					
SD	4	13,3	6	20.0	
Junior High School	12	40.0	13	43,3	
Senior High School	12	40.0	11	36,7	0.203
Bachelor	2	6,7	0	0	
Total	30	100	30	100	
Husband's Education					
SD	8	26,7	6	20.0	
Junior High School	5	16,7	16	53,3	0.393
Senior High School	17	56,6	8	26,7	
Total	30	100	30	100	
Husband's Occupation					
Entrepreneur	10	33,3	8	26,7	
Laborer	20	66,7	22	73,3	0.573
Total	30	100	30	100	
Family Income					
<IDR 1,500,000	13	43,3	18	60.0	
>= Rp. 1,500,000	17	56,7	12	40.0	0.196
Total	30	100	30	100	

3.2. The Effect of Balanced Nutrition Counseling for Pregnant Women and Giving Cookies Sukahitu to Increasing Knowledge of Pregnant Women

The provision of Balanced Nutrition Counseling to breastfeeding mothers was given to the intervention group in two villages, namely: Percut Village and Cinta Damai Village with face-to-face method 3 times giving interventions using booklet media and followed by an explanation about sukahitu cookies. Each counseling for pregnant women gets 100 grams of sukahitu cookies every day. The average score for increasing knowledge of pregnant women in the intervention and control groups can be seen in Table 3.2.

Table 3.2 Differences in Knowledge Scores between Pregnant Women in the Intervention Group and the Control Group

Sample Group	Pre Test	PostTest	Knowledge Enhancement	P Value
Intervention	50.17±11.75	77.40±13.74	23.23±10.81	0.000
Control	57.87±16.92	52.53±13.40	-5.33±10.48	

The results showed that pregnant women in the intervention group had an average initial knowledge score of 50.17 with a standard deviation of 11.75. The average final knowledge score was 77.40 with a standard deviation of 13.74, which increased the average knowledge score by 23.23 with a standard deviation of 10.81. Whereas in the control group the average initial knowledge score was 57.87 with a standard deviation of 16.92. The average final knowledge score became 54.53 with a standard deviation of 13.40, experiencing a decrease in the average knowledge score of -5.33 with a standard deviation of 10.48. Statistical results showed that there was a difference in the score for increasing knowledge of pregnant women between the intervention group and the control group p=0.000.

3.3. The Effect of Balanced Nutrition Counseling for Pregnant Women and Giving Cookies Sukahitu on Increasing the Attitudes of Pregnant Women

Tabel 3.3 Differences in Attitude Scores between Pregnant Women in the Intervention Group and the Control Group

Sample Group	Pre Test	PostTest	Attitude Improvement	P Value
Intervention	60.17±12.24	75.47±10.56	15.30±11.36	0.000
Control	64.83±10.37	60.10±9.34	-4.73±6.84	

The results showed that pregnant women in the intervention group had an average initial attitude score of 60.17 with a standard deviation of 12.24. The mean final attitude score became 75.47 with a standard deviation of 10.56, which increased the average attitude score by 15.30 with a standard deviation of 11.36. Whereas in the control group the average initial attitude score was 64.83 with a standard deviation of 10.37. The average final attitude score became 60.10 with a standard deviation of 9.34. The average attitude score decreased by -4.73 with a standard deviation of 11.36. The statistical results showed that there was a difference in the score for increasing pregnant women's attitudes between the intervention group and the control group p=0.000. This shows that Balanced Nutrition counseling and Giving Cookies Sukahitu can improve the attitude of pregnant women in Percut Sei Tuan District, Deli Serdang Regency.

3.4. The Effect of Balanced Nutrition Counseling for Pregnant Women and Giving Cookies Sukahitu on Increased Hemoglobin Levels for Pregnant Women

Tabel 3.4 Differences in Hemoglobin Level Scores between Pregnant Women in the Intervention Group and the Control Group

Sample Group	Pre Test	PostTest	Increased Hemoglobin Levels	P Value
Intervention	9.84±0.69	10.84±0.79	1.00±0.59	0.000
Control	10.9±0.33	10.38±0.29	-0.01±0.21	

The results showed that pregnant women in the intervention group had an average initial hemoglobin level of 9.84 with a standard deviation of 0.69. The average hemoglobin score was 10.84 with a standard deviation of 0.79, with an increase in the average hemoglobin concentration score of 1.00 with a standard deviation of 0.59. Whereas in the control group the average initial hemoglobin level was 10.9 with a standard deviation of 0.33. The average final hemoglobin level score was 10.38 with a standard deviation of 0.29, experiencing a decrease in the average hemoglobin level score of -0.01 with a standard deviation of 0.21. The statistical results showed that there was a difference in the score for increasing hemoglobin levels in pregnant women between the intervention group and the control group p=0.000.

4. DISCUSSION

Women who give birth to children under the age of 20 years or more than 35 years are prone to postpartum hemorrhage which can result in maternal death [8]. Mothers with less education will find it difficult to understand the health problems experienced during pregnancy. The low economic level of pregnant women reduces the ability of pregnant women to obtain information and carry out pregnancy checks. Work affects the level of knowledge, because someone who works outside the home tends to have good access to information compared to someone who is at home every day [9 ;10]. Low incomes and poverty lead to generally low food intake, a monotonous diet with low micronutrients.

Research result shows that there is an effect of balanced nutrition counseling for pregnant women and giving sukahitu cookies to increasing knowledge of pregnant women because Providing counselling 3 times in 30 days with the same material. This aims to be able to increase mother's knowledge about the importance of balanced nutrition during pregnancy so that mothers can understand the importance of obtaining food according to the needs of mothers during pregnancy and mothers understand the benefits of balanced nutrition during pregnancy and understand the size of food portions during pregnancy including the types of food recommended during pregnancy.

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Counseling activities by utilizing booklet media so that mothers can remember and read it again after the counseling activities take place. This is in accordance with the opinion of Sukmawati's research (2019) which states that counseling using media makes it easier for mothers to learn and can practically reduce the need to take notes, be able to view content when relaxed and very economical. Providing repeated counseling so that the information provided can be stored and always remembered by pregnant women. Because the more often mothers get information, the better their knowledge will be [12].

Increased information provided to pregnant women has an impact on increasing positive attitude in overcoming the problem of anemia. The intervention group can increase understanding of balanced nutrition during pregnancy and will evaluate their daily behavior so as to improve the attitude of pregnant women towards overcoming the problem of anemia during pregnancy. This is in accordance with [13], stating that balanced nutrition counseling is an effort that can improve and change attitudes to be positive so that in the end pregnant women can make various efforts to prevent anemia. Changes in a person's behavior are influenced by the knowledge and attitudes they have [14]. Efforts to prevent and treat anemia in pregnant women can be carried out optimally if pregnant women behave positively.Providing balanced nutrition counseling and giving sukahitu cookies improves mother's behavior so that she can spend sukahitu cookies to meet the nutritional needs of pregnant women in increasing hemoglobin levels.

Counseling is a form of approach taken to help pregnant women know the health problems they face, it is hoped that they can take steps to overcome the nutritional problems they face, such as changing diets, dealing with nutritional problems, and adopting a healthy lifestyle [15]. This can be seen that pregnant women can consume food with balanced nutrition with the addition of sukahitu cookies which are very safe to consume as snacks or side dishes because of their good nutritional value, which are made from green beans and cotton leaves which are foods rich in protein, iron and calcium. . This will have an impact on increasing the hemoglobin level of pregnant women. This is in accordance with Absullah's research (2019) protein intake in cookies in pregnant women is important to increase iron absorption and can increase hemoglobin levels in pregnant women. Protein levels are also related to nutritional status in pregnant women [16].

CONCLUSION

Efforts to provide Balanced Nutrition Counseling for Pregnant Women and Giving Cookies Sukahitu can increase knowledge, and attitudes increase blood hemoglobin levels of Pregnant Women in Percut Sei Tuan District.

The local government can make a policy so that pregnant women need it get balanced nutrition counseling and utilize local foods such as Sukahitu cookies as a snack to increase the needs of pregnant women and fetal growth.

DECLARATION OF CONFLICTS OF INTERESTS:

The authors declare no potential conflicts of interest.

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