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Factors associated with iron nutrition anemia in mothers pregnant at bunda patimah primary clinic

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ABSTRACT

Introduction: Pregnancy is the period from conception to the time of birth, counting from the first last menstruation. Based on WHO (World Health Organization) data in 2017, it is estimated that anemia affects 33% of women of reproductive age globally. Objective: The benefit of this research is that pregnant women know the signs of anemia and how to treat it. This study aims to determine the factors associated with the incidence of iron nutrition anemia in pregnant women at the Patimah Primary Clinic in 2020. Method: The research design was an analytic survey with a cross sectional approach. The population in this study were all pregnant women who experienced anemia with anemia, as many as 40 Trimeste III pregnant women at the Primary Clinic Bunda Patimah Medan from December to April 2020 and the sampling technique using the total sampling method. The data obtained by primary data were analyzed by using Chi Square statistical test with p value (0.05). The Result : Based on the results a relationship between knowledge and the incidence of anemia with a p-value of 0.002, there is a relationship between husband's support and the incidence of anemia with a p-value of 0.001, there is a relationship of compliance with taking tablets Fe with anemia incidence with p-value 0.000. Conclusion : It is hoped that health workers at the Mother Patimah Primary Clinic so that this research can be used as a reference for the implementation of treatment and reduce the risk of anemia in pregnant women and as additional knowledge for mothers about factors related to anemia.

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INTRODUCTION

Pregnancy is a condition that is the dream of every husband and wife. The expected pregnancy is the birth of a baby who is healthy and physically perfect. When pregnancy occurs, surely all women will try very hard to maintain their pregnancy from early pregnancy to the delivery process (Sulaiman et al., 2022).

Every pregnancy is a natural process, if it is not managed properly and will cause complications for the mother and fetus in a healthy and safe condition (Hidayanti & Rahfiludin, 2020). The philosophy of maternity care describes the beliefs held by midwives and is used as a guide that is believed in providing midwifery care to pregnant women during pregnancy (Harahap, 2018).

Anemia in pregnant women when hemoglobin is less than 11 g/dl (Wulandari et al., 2021). Anemia is a condition in which red blood cells decrease so that the oxygen-carrying capacity for the needs of vital organs in the mother and fetus is reduced. The most common anemia in pregnant women is anemia due to iron (Fe) deficiency (Kadir, 2019). Pregnant women generally experience iron deficiency so they only give a small amount of iron to their fetus (Astuti, 2020).

Iron is the most abundant macro mineral in the human body, which is as much as 3-5 grams. In the body, iron is part of hemoglobin which functions as a means of transporting oxygen from the lungs to body tissues (Sahara, 2019).

The body undergoes significant changes during pregnancy. The amount of blood in the body increases by about 20-30%, requiring an increased supply of iron and vitamins to make hemoglobin. During pregnancy, the body makes more blood to share with the baby (Listiana, 2018).

Several factors cause iron deficiency anemia, namely malnutrition in diet, maternal age, ANC visits, spacing of pregnancies, parity, malabsorption, large blood loss such as previous births, nutrient intake or low socioeconomic status, family support/ husband's support, lack of mother's knowledge, not taking blood booster tablets (Fe) (Herawati et al., 2020).

The impact that occurs due to anemia in the first trimester of pregnancy is abortion, missed abortion, and congenital abnormalities, in the second trimester it causes premature labor, antepartum bleeding, impaired fetal growth in the uterus, asphyxia, LBW, low IQ and even death in infants. In the third trimester, LBW can occur and anemia during delivery can cause both primary and secondary disturbances (Darmawati, 2019).

Efforts implemented to prevent and treat anemia are by giving iron (Fe) tablets to pregnant women and they must be consumed every day as many as 90 tablets. iron and nutritional intake (Agusvina, 2018).

The Maternal Mortality Rate (MMR) is an indicator of the success of health services in a country. Maternal death can occur for several reasons, including anemia. Estimates of the global prevalence of anemia in the Asian region found that almost 60% of women have iron deficiency anemia (Elisabeth, 2019).

Based on 2017 WHO (World Health Organization) data, it is estimated that anemia affects 33% of reproductive women of global age (around 613 million women between 15 and 49 years). In Asia and Africa the highest prevalence of more than 35% of severe anemia is associated with much worse mortality and cognitive and functional outcomes, affecting 0.8% - 1.5% of the same population. WHO in the Southeast Asia region includes 190 million non-pregnant women 11.5 million pregnant women and 96.7 million children under 5 years of age (Sjahriani & Faridah, 2019).

According to data from the Indonesian Ministry of Health (Kemenkes) in 2015, the Maternal Mortality Rate (MMR) in Indonesia has increased from previous years, reaching 359 per 100,000 live births. This figure is still quite high compared to other countries. The five biggest direct causes of maternal death are bleeding by 30.3%, hypertension in pregnancy by 27.1%, infection by 7.3%,

prolonged labor by 1.8%, abortion by 1.6%, prevalence of anemia in pregnant women by 39.1% (Purwaningtyas & Prameswari, 2019).

Based on the 2018 RISKESDAS, mothers who experience anemia according to age, namely 15-24 years, experience anemia as much as 84.6%, mothers aged 25 -34 years as many as 33.7%, mothers aged 35-44 years as many as 33.6% and mothers aged 45 - 54 years as much as 24% (Sjahriani & Faridah, 2019).

Based on data from the North Sumatra Health Service in 2016, the maternal mortality rate in North Sumatra is still relatively high. According to the Head of Health Services at the North Sumatra Health Office, Dr. Retno Sari Dewi, the 175 maternal mortality rates are the number of deaths in a certain area. For example, in North Sumatra, in a certain period per 100 thousand live births, meanwhile, the Head of the Nutrition Section for the Health Services Division of the Health Service, Rosidah added that of the 175 maternal deaths due to bleeding factors, such as 47 mothers with anemia, 10 infections, 3 obstructed labours, 3 abortions, and others 70, then there is an eclampsia factor of 38 (Martini, 2018).

The prevalence of Anemia is by administering 90 tablets (Fe). The coverage of pregnant women who received 90 iron tablets in North Sumatra showed an increase of 33.03% in 2008, increased to 53.09% in 2009, to 76.67 in 2010 but reached the target of 80%. Based on the results of Siti Amalia's previous study with the title "risk factors for anemia in pregnant women at Bari Palembang Hospital in 2015" The aim of this study was to determine the factors that influence the incidence of anemia in pregnant women at BARI Palembang Hospital in 2015 (Paendong et al., 2018).

In previous studies suggested anemia in pregnant women is caused due to repeated pregnancies in time short. Mother's iron reserves actually haven't recovered yet drained for the needs of the fetus which next conceived. Government efforts in treat maternal iron deficiency anemia pregnant that is focused on implementation anemia control program iron deficiency in pregnant women with distributing Fe tablets to pregnant women one tablet per day in succession during pregnancy the need for iron in pregnant women increased from 18 mg/day in women adults to 27 mg/day in the mother pregnant. Research on anemia in pregnant women has indeed been carried out a lot, but what makes it different is from the variables and the research site. This is done because there are still many pregnant women who consider it trivial with low HB.

Based on the results of an initial survey conducted by researchers at the Bunda Patimah Primary Clinic Medan in 2019 as many as 15 pregnant women, there were 8 people who experienced Anemia due to the lack of knowledge of the mother about nutritional intake, low maternal income and not taking iron (Fe) tablets. As many as 7 pregnant women did not experience Anemia because these pregnant women consumed iron (Fe) tablets and maternal nutrition during pregnancy was fulfilled.

RESEARCH METHOD

Research design

The research design is an analytic survey with a cross sectional research design. The study aims to determine the relationship between knowledge, economic status and compliance in consuming iron (Fe) tablets with the incidence of iron nutritional anemia in pregnant women at the Bunda Patimah Pratama Clinic

Research Location and Time

a. Research sites
b. The location for the research is the Bunda Patimah Primary Clinic in 2020 which is located Jln. 6 andan sari market Lk.18 waterfall Kec. Medan Marelan Kab. Kota Medan.
c. Research time

The time for research was carried out, starting from submission of titles, initial surveys, research proposals, up to the final trial from January - April 2020.

Population
The population in this study were all pregnant women who had iron deficiency anemia, totaling 40 third trimester pregnant women at the Bunda Patimah Primary Clinic, Medan, from December to April 2020.

Sample
The sample was taken in the study using the total population. All third trimester pregnant women who experience iron deficiency anemia in the Primary Clinic of Bunda Patimah as many as 40 people (13).

Data analysis techniques
Data analysis techniques used in this study are univariate and bivariate analysis. Univariate analysis was used to describe the data carried out on each variable from the research results. The data is presented in a frequency distribution table. The analysis was carried out to see the relationship between each independent variable, namely knowledge, economic status, and adherence in consuming iron (Fe) tablets with the related variable, namely the incidence of iron nutritional anemia in pregnant women. To prove that there is a significant relationship between the independent variables and the variables

RESULTS AND DISCUSSIONS

Table 1. Frequency distribution of knowledge about iron deficiency anemia in pregnant women at Bunda Patimah Primary Clinic

No	Variable	Amount	
		F	**%**
	Knowledge		
1	Well	7	17.5
2	Enough	8	20.0
3	Not enough	25	62,5
	Husband Support		
1	Support	13	32,5
2	Does not support	27	67,5
	Obedience		
1	obey	10	25,0
2	Not obey	30	75,0
	Anemia		
1	Anemia	31	77,5
2	Not Anemia	9	22,5
	Total	**40**	**100,0**

Based on the table above, it can be seen that out of 40 respondents in the knowledge category at the Bunda Patimah Primary Clinic in 2020, 15 respondents with less knowledge (62.5%), respondents with sufficient knowledge were 8 people (20.0%) and respondents with less knowledge as many as 7 people (17.5%). Based on this table, it can be concluded that the majority of the knowledge variable at Bunda Patimah Primary Clinic in 2020 are respondents with less knowledge. out of 40 respondents in the husband support category at the Bunda Patimah Primary Clinic in 2020, 27 respondents (67.5%) did not receive husband support and 13 respondents (32.5%) received husband support. Based on this table, it can be concluded that the majority of the husband

support variable at Bunda Patimah Primary Clinic in 2020 were respondents who did not receive husband support. Of the 40 respondents in the compliance category at Bunda Patimah Primary Clinic in 2020, 30 respondents (75.0%) did not comply and 10 respondents (25.0%) complied. Based on this table, it can be concluded that the majority of the obedience variable at Bunda Patimah Primary Clinic in 2020 were non-compliant respondents. out of 40 respondents in the category of anemia at the Bunda Patimah Primary Clinic in 2020, 31 respondents (77.5%) had anemia and 9 respondents (22.5%) did not. Based on this table, it can be concluded that the majority of the anemia incidence variables at Bunda Patimah Primary Clinic in 2020 were respondents who experienced anemia.

Table 2. Cross-tabulation of knowledge with iron deficiency anemia in pregnant women at Bunda Patimah Primary Clinic

No	Variable	Anemia				Amount		P-Sig
		Anemia		Not Anemia				
		f	%	f	%	F	%	
	Knowledge							
1	Well	2	5,0	5	12,5	7	17,5	0,002
2	Enough	6	15,0	2	5,0	8	20,0	
3	Not enough	23	57,5	2	5,0	25	62,5	
	Husband Support							
1	Support	6	15,0	7	17,5	13	32,5	0,001
2	Does not support	25	62,5	2	5,0	27	67,5	
	Obedience							
1	obey	3	7,5	7	17,5	10	25,0	0,000
2	Not obey	28	70,0	2	5,0	30	75,0	

Based on the table, it can be seen that of the 7 respondents with good knowledge, 2 people (5.0%) had anemia and 5 (12.5%) did not have anemia. Of the 8 respondents with sufficient knowledge, 6 people (15.0%) had anemia and 2 people (5.0%) did not have anemia. Of the 25 respondents with less knowledge, 23 people (57.5%) had anemia and 2 people (5.0%) did not have anemia. The results of research conducted on the relationship between knowledge and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020, using a 95% confidence level, α = 0.05, based on the chi-square results obtained sig value ρ (0.002) <value α = 0.05 , so that it is stated that there is a relationship between knowledge and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020. Of the 40 respondents regarding the relationship between husband's support and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020, out of 13 respondents who received husband's support, there were 6 people who had anemia (15.0%) and who did not have anemia as many as 7 people (17.5%)). Of the 27 respondents who did not receive support from their husbands, 25 people (62.5%) had anemia and 9 people (50.0%) did not have anemia. The results of research conducted on the relationship between knowledge and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020, using a 95% confidence level, α = 0.05, based on the chi-square results obtained sig value ρ (0.001) <value α = 0.05 , so that it was stated that there was a relationship between husband's support and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020. Of the 40 respondents regarding the relationship between compliance with the incidence of anemia at the Bunda Patimah Primary Clinic in 2020, out of 10 respondents who adhered there were 3 people who had anemia (7.5%) and who did not have anemia as many as 7 people (17.5%). Of the 30 non-compliant respondents, 28 people (70.0%) had anemia and 9 people (22.5%) did not have anemia. The results of research conducted on the relationship between knowledge and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020, using a 95% confidence level, α = 0.05, based on the chi-square results obtained sig value ρ

(0.000) <value α = 0.05 , so that it was stated that there was a relationship between compliance with the incidence of anemia at the Bunda Patimah Primary Clinic in 2020.

Disscusion

The Relationship between Knowledge and the Incidence of Anemia at the Bunda Patimah Primary Clinic in 2020

Based on the results of research conducted on the relationship between knowledge and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020, it shows that the chi-square statistical test obtained a p-value of 0.002 <0.05, which means that there is a relationship between knowledge and the incidence of anemia at the Bunda Patimah Primary Clinic. year 2020.

This research is in line with research conducted by Dian Isti Anggraini concerning the effect of pregnant women's knowledge and family income on the incidence of anemia in pregnant women in the working area of the Gedongtataan Health Center, Pesawaran district from May to November 2019. The results showed that pregnant women's knowledge and family income effect on the incidence of anemia when pregnant women (p=0.04; p=0.048). Knowledge is the result of "knowing" this occurs after people perceive a particular object. Sensing of objects occurs through the five human senses namely sight, hearing, smell, taste and touch by themselves. At the time of sensing until it produces knowledge it is greatly influenced by the intensity of perceptual attention to objects. Most knowledge is obtained through the eyes and ears.

Knowledge or cognitive is the result of knowing and occurs after people sense a particular object. Knowledge occurs through the five senses of sight, hearing, smell, taste and touch. Most of human knowledge is obtained through the eyes and ears. Theory of knowledge is related to sources knowledge.

Knowledge is a very important domain for the formation of one's actions. From experience and research results it turns out that behavior based on knowledge will be more lasting than behavior that is not based on knowledge. Knowledge or cognitive is a very important domain for the formation of one's actions (overbehavior) (Kartini, 2019).

According to the researchers' assumptions, there were 12 people (40.0%) who had good knowledge about anemia, 5 people (16.7%) had sufficient knowledge and 13 people (43.3%) had insufficient knowledge. The number of pregnant women who lack knowledge about the incidence of anemia can be influenced by education, low education will affect the absorption or acceptance of incoming information, what information is new to the respondent, including about Fe tablets, besides that the education level of pregnant women will affect the view of something that comes from the outside.

Relationship between Husband Support and Incidence of Anemia at Bunda Patimah Primary Clinic in 2020

Based on the results of research conducted on the relationship between husband's support and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020, it shows that the chi-square statistical test obtained a p-value of 0.001 <0.05, which means that there is a relationship between husband's support and the incidence of anemia at the Primary Clinic. Mother Patimah in 2020.

This research is in line with research conducted by Norfai with the title The Relationship between Education, Knowledge and Husband Support with Anemia Incidence in Pregnant Women in the Working Area of the Puskesmas Tabunganen, Barito Kuala Regency in 2016, the results showed that 65.4% of respondents suffered from anemia. Variables that were significantly related to the incidence of anemia (p-value 0.029 <0.05) were husband's education, knowledge, and support.

The husband's efforts to provide support to the mother by maintaining and maintaining the mother's health are in accordance with aspects of the husband's support felt by the mother. The

support given to the mother is giving advice, reminding the mother to get enough rest, helping to prepare, accompanying and playing a role in the process of maintaining the pregnancy, motivating the mother so that the mother feels happy (Alamsyah, 2020).

The form of support provided can be in the form of informative, emotional attention and instrumental assistance and assessment, sources of social support can be from family, husband, people who have an emotional bond. Basically everyone needs support in carrying out or creating an action or behavior, in this case support can be categorized as a stimulus or stimulation for someone in order to form an attitude and reaction or behavior (Wiraprasidi et al., 2018).

Good support, it is hoped that in the end will result in a good attitude and reaction or behavior, this is in accordance with what was described by Notoatmodjo, namely that attitude actually shows the connotation of appropriate reactions to certain stimuli which in everyday life are emotional reactions to social stimuli.

Relationship between Compliance with Consuming Fe Tablets and Anemia Incidence at the Bunda Patimah Primary Clinic

Based on the results of research conducted on the relationship between adherence to consuming Fe tablets and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020, it shows that the chi-square statistical test obtained a p-value of 0.000 <0.05, which means there is a relationship between adherence to consuming Fe tablets and the incidence of anemia in Mother Patimah Primary Clinic.

This research is in line with research conducted by Wahidah Adilestari on the Relationship between Compliance of Pregnant Women Consuming Fe Tablets with the Incidence of Anemia at the Mantrijeron Health Center Yogyakarta, it can be seen from the statistical test results that the significant value of p is 0.004, which means that ha is accepted and h0 is rejected and the contingency coefficient value is 0.339 which means This means that there is a relationship between the adherence of pregnant women to consuming Fe tablets with the incidence of anemia.

Pregnant women are one of the priority groups in the supplementation program. The recommended daily dose of supplementation is two tablets (one tablet contains 60 mg iron and 200 mg folic acid) taken during the second half of pregnancy because at this time the need for iron is very high. Provision of blood-boosting tablets is a government program, with a total administration of 90 tablets during pregnancy. This blood supplement tablet which is a government program contains a composition of 200 mg of Ferro Sulfate (equivalent to 60 mg of elemental iron), 0.25 mg of Folic Acid with a packaging of 30 tablets in each pack.

TTD supplementation should be started before pregnancy for LBW and preterm birth. The majority of women in Denmark and the USA are recommended to take iron tablets early in pregnancy, namely at 10 weeks of gestation or at the first ANC visit. With supplementation before pregnancy, it is expected that red blood cells will increase before 12 weeks of gestation because iron is very important for the early development of the fetal brain.

The incidence of anemia in pregnant women can be avoided by dutifully consuming Fe tablets in accordance with predetermined rules, besides that it can also be supported by fulfilling nutrition from the food consumed and also avoiding factors that can put pregnant women at risk for developing anemia (Wiraprasidi et al., 2018).

Given the importance of Fe during pregnancy in preventing iron deficiency anemia and the adverse effects it causes if anemia occurs during pregnancy, from these results it is necessary to increase education, motivation, and monitoring of pregnant women in taking Fe tablets during pregnancy. Compliance monitoring strategies can be selected from several existing methods according to the characteristics of the respondents, availability, and ease of implementation. Education and counseling really need to be given to pregnant women during their antenatal visits to puskesmas regarding the main benefits of Fe tablets, both for the mother and the fetus. Fe tablets are not a drug indicated to treat disease, but as a supplement needed by pregnant women to meet

the need for iron during pregnancy. Side effects that may occur and efforts to overcome them. Side effects are harmless and mild. Therefore Fe tablets must be taken properly and regularly, no need to worry or be afraid of the effects. How to drink, it's best to drink it with water, don't drink it with milk, coffee or tea, and it's best to drink it at night. Besides that, it is also necessary to convey information about the storage of Fe tablets, because Fe tablets can undergo oxidation if they are stored in an open place, exposed to moist air, if this happens the Fe tablets will no longer be effective (Sinaga & Hasanah, 2019).

According to the researchers' assumption that the adherence of pregnant women in consuming iron tablets greatly affects the relationship with the incidence of anemia. The results showed that there were 23 pregnant women (76.7%) who did not adhere to consuming Fe tablets who experienced severe anemia, even though they were obedient in consuming Fe tablets, there were still 1 pregnant woman who experienced mild anemia (3.3 %), moderate anemia in 3 people (10.0%) and severe anemia in 3 people (10.0%). Pregnant women who did not comply with this study were caused by several reasons including families who were still economically limited to get or buy Fe tablets , forgetting to take Fe tablets, avoiding side effects in the form of nausea and no control back to the puskesmas/health service center. In this study, the most common reasons for non-compliance were forgetting to take iron tablets due to many activities in the form of household chores, forgetting to bring medicines when visiting the family, forgetting to bring iron tablets when traveling with the family, running out of medicines, busy taking care of the family and fear that iron tablets can be harmful.

CONCLUSION

The results obtained in research conducted on factors related to the incidence of iron deficiency anemia in pregnant women at the Bunda Patimah Primary Clinic in 2020 can be drawn the following conclusions: Based on the results of the chi-square statistical test, a p-value of 0.002 <0.05 was obtained, which means that there is a relationship between knowledge and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020. Based on the results of the chi-square statistical test, a p-value of 0.001 <0.05 was obtained, which means that there is a relationship between husband's support and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020. Based on the results of the chi-square statistical test, a p-value of 0.000 <0.05 was obtained, which means that there is a relationship between compliance with taking Fe tablets and the incidence of anemia at the Bunda Patimah Primary Clinic in 2020. Contributions in this research are: The results of this study are expected to provide information as a basis consideration, support, and contribution of thought to decision makers in preventing anemia in pregnant women. The implications of the research results described above contain implications that from the results of the study showed that most of the husband's support affects anemia pregnant mother . this condition contains the implication that pregnant women need support not to forget to take iron tablets, attending nutrition counseling as well as obtained from media such as television, internet, social media and other media.

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