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Relationship between Chronic Energy Deficiency and Compliance with Taking Fe Tablets with the Incidence of Anemia in Pregnant Women at Kuala Simpang City Health Center Aceh Tamiang

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ABSTRACT

Anemia is the biggest public health problem in the world, especially for the reproductive age group. The World Health Organization (WHO), which estimates that 40% of the causes of maternal death in developing countries are related to anemia due to iron deficiency infection. Based on the results of the Basic Health Research (Riskesdas) in 2018, the prevalence of anemia in pregnant women in Indonesia in 2018 was 37.1%, at the Kuala Simpang City Health Center, namely pregnant women in 2018 as many as 338 people. This study aims to determine the relationship between chronic energy deficiency and adherence to consuming Fe tablets with the incidence of anemia in pregnant women. The design of this study used an analytic type with a cross sectional design. This study uses primary data that is processed univariately. The data are presented in the form of frequency distribution tables, cross tables and narratives. The instrument used in this research is a questionnaire which was developed based on the research variables. The number of samples in this study were 56 respondents using the Proportional Stratified Random Sampling technique. The results of this study showed that the majority did not experience anemia as many as 31 (55.4%) respondents. This study concludes that there is a relationship between chronic energy deficiency p-value 0.000 ($p<0.05$) and adherence to taking tablets with a p-value of 0.000 ($p<0.05$) with the incidence of anemia in pregnant women. Pregnant women must apply a good diet during pregnancy so that nutrients and nutritional needs during pregnancy can be met and regularly consume Fe tablets.

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INTRODUCTION

The United Nations Children's Fund (UNICEF) has announced that more than 290,000 women have died from pregnancy complications (1). Maternal mortality (MMR) is primarily caused in developing countries by nutritional anemia during pregnancy and bleeding from chronic energy deprivation (2). Long-term lack of energy is a nutritional problem that occurs in pregnant women. Chronic low energy is when the mother suffers from chronic (chronic) malnutrition leading to health problems (3) Indonesia is one of the countries with high risk of chronic low energy in pregnant women. The 2018 Basic Health Study (Riskesdas) showed that the prevalence of chronic energy deficiency risk in pregnant women (15-49 years) remained high at 17.3%. The proportion of pregnant women with chronic energy deficiency is expected to decline by 1.5% per year (4).

Based on routine reporting data collected from 34 provinces in 2020, of the 4,656,382 pregnant women whose upper arm circumference (LILA) was measured, approximately 451,350 were known to have LiLA < 23,5 cm (risk and chronic energy deficit). .According to the data of the Ministry of Health of the Republic of Indonesia (2018), the number of pregnant women suffering from chronic energy deficiency is 82.83%. The province with the largest number of pregnant women with chronic energy deficiency is Aceh, accounting for 99.50%. There are many factors that contribute to chronic energy deficiency, one of which is eating foods that do not have enough energy and protein or health problems (5),(6) . During pregnancy need an additional 340-450 calories per day in the second and third trimesters (7)(8). There are several factors that can lead to chronic energy deficits, one of which is eating foods that don't have enough energy and protein or health problems.

Long-term lack of energy can affect the fetus, mother, and baby. Effects on the mother include anemia, bleeding, abnormal maternal weight gain, and exposure to infectious diseases, while effects on the fetus can lead to fetal death (miscarriage) in the first trimester, affect fetal growth and development in the second trimester, and affect the fetus causes preterm birth in the third trimester (9), (10), (11). In many cases, pregnant women are prone to anemia. Anemia is a condition in which the level of hemoglobin or red blood cells in the body is lower than normal, so if left unchecked, it can lead to health problems in those affected (12).

The most common type of anemia is iron deficiency anemia. Several factors that may influence the onset of anemia are lack of iron intake, food availability, and health care facilities (13). To overcome chronic energy deficiency (KEK) and anemia in pregnant women, the Indonesian Ministry of Health has implemented a program to administer iron tablets to pregnant women in health center and Posyandu by distributing blood tonic tablets, 1 containing 200 mg of ferrous sulfate and 0.25 mg of sulfite Iron tablets mg folic acid (equivalent to 60 mg iron and 0.25 mg folic acid). It is recommended that every pregnant woman take one capsule per day during pregnancy and for 40 days after delivery. The Aceh government and municipal governments promote nutritional satisfaction of pregnant women, but according to the Aceh Provincial Department of Health, the rate of anemia among pregnant women in 2016 was 69.21%, accounting for 75,564 of the 109,183 pregnant women in Aceh province. Aceh Tamiang Health Department had 1,045 pregnant women with anaemia in 2018, while Kuala Simpang City Health Centre had 338 pregnant women with anaemia in 2018, and 192 pregnant women in January 2019 to 2019, of which 65 Humans were in the first trimester, 59 were in the trimester. II and 68 were in the third trimester. Based on the above description, researchers were interested in conducting a study on the relationship between chronic energy deprivation and persistent Fe tablet intake and anemia in pregnant women at Kuala Simpang City Health Centre, Aceh Tamiang.

RESEARCH METHOD

The design of this study was analytical with a cross-sectional design. The study site was the Public Health Center in kuala Simpang, Aceh tamiang. The population in this study consisted entirely of

pregnant women registered at the Kuala Simpang Municipal Public Health Centre. The sample size of this study was 56 respondents, using a proportional stratified random sampling method. The primary data were collected through questionnaires and in-depth interviews. Ancillary data comes from the department's file analysis and supporting data. Data analysis used univariate and bivariate. Univariate analysis aims to identify characteristics and draw conclusions from a sample group. Whereas, bivariate analysis identified the relationship between the two variables. Data were tested with chi-square statistical test.

RESEARCH RESULTS

Univariate Analysis

Table 1 Distribution of the Frequency of Anemia in Pregnant Women at the Kuala Simpang City Health Center

No	Incidence of Anemia	Frequency(f)	Percentage (%)
1	Anemia	25	44.6
2	No Anemia	31	55.4
	Amount	**56**	**100**

Based on table 1 above, the results showed that of the 56 respondents the majority did not experience anemia as many as 31 (55.4%) respondents.

Chronic Energy Deficiency

Table 2. Distribution of Chronic Energy Deficiencyto Pregnant Women at Kuala Simpang City Health Center

No	Chronic Energy Deficiency	Frequency (f)	Percentage (%)
1	Chronic Energy Deficiency	15	26.8
2	No Chronic Energy Deficiency	41	73.2
	Amount	56	100

Based on table 2 above, the results of the study show that from 56 respondents the majority did not experience Chronic Energy Deficiency as many as 41 (73.2%) respondents.

Compliance with taking Fe tablets

Table 3. Frequency Distribution of Compliance with Fe Tablets for Pregnant Women at the Kuala Simpang City Health Center

No	Compliance with taking Fe tablets	Frequency (f)	Percentage (%)
1	Obey	28	50
2	Not obey	28	50
	Amount	56	100

Based on table 5.3 the results showed that from 56 respondents half of them did not comply with consuming Fe tablets as many as 28 (50%) respondents.

Bivariate Analysis

The Relationship between Chronic Energy Deficiency and Anemia in Pregnant Women

Table 4. Relationship between Chronic Energy Deficiency and the incidence of anemia in pregnant women at the Kuala Simpang City Health Center

No	Chronic Energy Deficiency	Incidence of Anemia						*p-Value*
		Anemia		No Anemia		Amount		
		f	%	f	%	f	%	
1	Chronic Energy Deficiency	14	93.3	1	6.7	15	100	
2	No Chronic Energy Deficiency	11	26.8	30	73.2	41	100	0.000
Amount		**25**		**31**		**56**		

Based on table 4, the results showed that the majority of respondents with Chronic Energy Deficiency experienced anemia as many as 14 (93.3%) and respondents who did not have Chronic Energy Deficiencymajority did not experience anemia as many as 30 (73.2%) respondents. The results of the Chi–Square statistic test, p Value = 0.000 (p <0.05) there is a relationship between Chronic Energy Deficiency and the incidence of anemia in pregnant women.

The Relationship of Compliance with Taking Fe Tablets with Anemia in Pregnant Women

Table 5. The Relationship between Compliance with Fe Tablets and the Incidence of Anemia in Pregnant Women at the Kuala Simpang City Health Center

No	Compliance with taking Fe tablets	Incidence of Anemia						*p-Value*
		Anemia		No Anemia		Amount		
		F	%	f	%	f	%	
1	Obey	2	7.1	26	92.9	28	100	
2	Not obey	23	82.1	5	17.9	28	100	0.000
Amount		**25**		**31**		**56**		

Based on table 5, the results of the study indicate that the majority of respondents who obediently consume Fe tablets do not experience anemia as much as 26 (92.9%) and respondents who do not adhere to consume Fe tablets majority experience anemia as much as 23 (82.1%). The results of the Chi–Square statistical test with p value = 0.000 (p<0.05) showed a relationship between adherence to consuming Fe tablets and the incidence of anemia in pregnant women.

Discussion

The results of the study showed an association between chronic energy deprivation and the occurrence of anemia in pregnant women, with a p value of 0.000 (p<0.05). There was an association between adherence to iron intake and the occurrence of anemia in pregnant women with a p value of 0.000 (p<0.05). In this case, the occurrence of chronic energy deficiency in pregnant women is influenced not only by the level of iron consumption, but also by factors such as pre-pregnancy nutritional status history, history of chronic medical conditions. because pregnant women usually increase their appetite thinking that it can prevent chronic depression. Adherence to taking iron tablets may be due to lack of support from the husband, lack of awareness of the importance of iron tablets, and side effects of taking iron tablets. To overcome this problem, intervention by health workers based on the consumption of iron tablets is required. This study is consistent with that of Mardiatun et al. (2015), there was a significant relationship between ANC and iron (iron) consumption levels and the occurrence of chronic energy deficiency in pregnant women in West Nusa Tenggara and Yogyakarta Region (14). The association between compliance with iron (iron) consumption and the incidence of chronic energy deficiency in pregnant women, and other studies consistent with studies on factors associated with chronic energy deficiency in pregnant women in Kamoning and Tambelangan streets, East Java, where iron consumption Tablet intake is one of the

factors influencing the development of chronic protein energy deficiency (15). In this study, the percentage of mothers who experienced protein energy deficiency were more likely to be non-compliant with taking iron pills, in addition, since phytate compounds and phytate in the fetus and the fetus can inhibit the absorption of iron pills in the body, it may occur Chronic energy deficiency. The body has eaten food or drank water. from pregnant women. During pregnancy, both the mother's and fetus' bodies in the womb need to metabolize nutrients that increase. As a result, during pregnancy, the intake of nutrients necessary for fetal growth and development also increases, the uterine organs enlarge, and the composition and metabolism of the mother and fetus changes. Pregnant women with poor food intake and nutritional status are more likely to have low birth weight (LBW) babies (16).

This study is the same as the previous study that there is a relationship between parity and the occurrence of anemia at the Bukittinggi Public Health Centre, p.000 (17). This anemia occurs because pregnant women are not very obedient when taking iron tablets, because all pregnant women physiologically suffer from anemia due to the dilution process. One of the reasons for this chronic lack of energy is a lack of nutrients and nutrients, one of which is iron (18). The reason for this is that the more times a woman has children, the more iron is lost in the blood, so the absorption of nutrients, especially iron, must be more adequate. Diet alone cannot provide so many nutrients and must use dietary supplements, namely iron tablets, which 28 (50%) respondents did not adhere to. Compliance with taking Fe tablets is when 90% of Fe tablets should be taken. Obedience of pregnant women to take Fe tablets is an important factor in ensuring an increase in hemoglobin levels of pregnant women (19). The government's efforts to reduce the incidence of anemia consist of early detection of anemia through laboratory examination of hemoglobin levels carried out during pregnancy tests and administration of Fe tablets. The provision of Fe tablets to pregnant women according to the Minister of Health Regulation No. 88 of 2014 concerning the standard of blood-added tablets for pregnant women is given as many as 90 tablets (20). The problem of Chronic Energy Deficiency pregnant women is caused by the consumption and intake of less nutrients, including the consumption of Fe tablets, which depend on the mother's adherence to consuming them and disease factors. Iron adherence is when pregnant women follow the advice of health workers about taking iron tablets. Adherence to iron intake was measured by maternal behavior while taking iron tablets, knowing when to take iron, and continuing to take medication despite iron tablet effects such as constipation, nausea, and the normal effects of other medications. The results of the study showed that the majority (66.25%) of pregnant women had good compliance. During pregnancy, you need an extra 300 calories, especially in the second and third trimesters. Pregnant women need calcium 1000-1200 mg per day, folic acid 600-800 micrograms, iron 27 mg, and other drugs work normally21.

CONCLUSION

This study concludes that there is a relationship between chronic energy deficiency (CED) p-value 0.000 ($p<0.05$) and adherence to taking tablets with a p-value of 0.000 ($p<0.05$) with the incidence of anemia in pregnant women. Pregnant women must apply a good diet during pregnancy so that nutrients and nutritional needs during pregnancy can be met and regularly consume Fe tablets.

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