

The Relationship between Knowledge and Dietary Habit with Incidence Chronic Energy Deficiency in the Pregnant Women in the Working Area Talise City of Palu

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ABSTRACT

One of the nutritional problems in pregnant women, namely chronic energy deficiency. The lack of regular energy is the condition of pregnant women who suffer from the lack of long-lasting food (chronic) with various health disorders. Pregnant women should be pregnant to fulfill nutritional intake not to occur chronic energy deficiency (this study's purpose is the relationship between knowledge and dietary habit with chronic energy deficiency incidence in pregnant women in the Talise Public Health Center. The type of analytical research surveys using a cross-sectional approach. This research has been implemented in the Puskesmas Talise city in Palu from June until Juli 2020. The results showed that of the two independent variables, they were not related to chronic energy deficiency. The results of statistical tests for knowledge P-value = 0.775, dietary pattern P-value = 0.463. In this study, conclusions are expected to provide healthcare workers with more attention to the healthy food consumption fan that healthy during pregnancy and conduct self-examination to prevent pregnant women at risk of a shortage of chronic energy deficiency. It is recommended that mothers keep looking for information about mothers' nutritional value during pregnancy and consume food and beverages that are of adequate nutritional needs during the inevitable hamilager of less chronic energy during pregnancy.

Keywords – Knowledge, Age, Diet, Chronic Energy Deficiency

INTRODUCTION

The 2013 World Health Organization (WHO) states that maternal mortality is a health indicator that shows a wide gap between the poor and the rich (1). In Indonesia, 23% or 23.3 million people are included in the poor. In Indonesia, malnutrition is an indirect cause of maternal and child mortality that is preventable. Pregnant women are one of the groups prone to malnutrition due to an increase in nutritional needs to meet the mother and fetus's needs. Low dietary status and wrong diet in pregnant women can lead to nutritional

disorders, including anemia, underweight gain in pregnant women, and fetal growth disorders (2).

The nutritional status and health of mothers and children are determinants of human resources quality. The mother's nutritional status before and during pregnancy can affect the nutritional status of the mother and baby. Fetal growth and development are strongly influenced by maternal dietary intake. One indicator of fulfilling pregnant women's dietary needs can be seen from the mother's weight gain every month. A pregnant woman will give birth to a healthy baby if the level of health and nutrition is in good condition. However, until now, there are still many pregnant women who experience nutritional problems, especially malnutrition, such as Chronic Energy Deficiency, namely the Upper Arm Circumference (LILA) below 23.5 cm (3).

During pregnancy, the mother's physiological condition changes, such as increased red blood cells, increased plasma levels, enlarged uterus and breasts, and the fetus and placenta's development. The formation and development of the fetus's vital organs, including the head and brain cells' shape, occurs in the I trimester. During the II and III trimesters, all fetal organ functions undergo maturation and completion. During this time, the fetus proliferates, marked by the most significant increase in the mother's body weight. Nutritional deficiencies that occur during the second and third trimesters of pregnant women can result in stunted fetal growth. Therefore food and drinks consumed by pregnant women must meet nutritional needs to ensure the health of the mother and the fetus.

When pregnant women experience malnutrition in the last trimester, they tend to give birth to babies with low birth weight, and this is because, at this time, the fetus will increase and accumulate fat (4).

Based on the Basic Health Research (Risksdas) in 2018, the prevalence of chronic energy deficiency in Palu City, Central Sulawesi Province among pregnant women (15-49 years) is still relatively high at 24.2%. The highest prevalence was found in adolescents (15-19 years) at 38.5%. Compared with the older group (20-24 years) of 30.1%. The presentation indicator for pregnant women is expected to decrease by 1.5% each year. At the beginning of early 2015, the percentage of pregnant women in chronic energy deficiency is targeted not to exceed 24.2%. It is expected that at the end of the period 2019, the maximum risk of pregnant women with chronic energy deficiency is 18.25%. The basis for determining the percentage of pregnant women chronic energy deficiency refers to the results of Riskesdas 2013. With this target set, it is expected that the rate of pregnant women in chronic energy deficiency will decrease every year. The year 2017 shows the percentage of pregnant women with a risk of chronic energy deficiency 14.8%. In 2018 the ratio of pregnant women in KEK was 14.5%, while the number of pregnant women in chronic energy deficiency in 2014 was 6.4%. The main factor in the occurrence of chronic energy deficiency in pregnant women is that mothers often experience a lack of energy before pregnancy because the needs of pregnant women are higher than those who are not pregnant.

In Indonesia, pre-pregnancy weight is generally unknown, so that LILA is used as an indicator of chronic energy deficiency risk in pregnant women. To this extent, the threshold used to determine a pregnant woman at risk of chronic energy deficiency is 23.5 cm. chronic energy deficiency can be experienced by women of fertile age (WUS) aged 15-45 years since adolescence and then continue into pregnancy and breastfeeding due to low energy and nutrient reserves. One of the long-term effects of LILA's validity is detecting the risk of chronic energy deficiency in Indonesian women. Validity Mid-Upper Arm Circumference to Detect Chronic Energy Malnutrition Risk of Indonesian Women. Various studies have shown that nutrition plays a significant determinant of human resources quality, especially from the first 1,000 days of life, during pregnancy until the baby is two years old. During pregnancy, the critical role of nutrition makes pregnant women's nutritional status receive significant attention. The quality of chronic energy deficiency before pregnancy affects fetal growth and considers weight gain during pregnancy. Macro nutritional problems in WUS and pregnant women with chronic energy deficiency give birth to babies with low birth weight (LBW). Mothers who experience chronic energy deficiency are at risk of giving birth to LBW babies 4.8 times greater than mothers who do not experience chronic energy deficiency. It is estimated that around 350,000 babies are born with $LBW \leq 2,500$ grams every year, one of the leading causes of malnutrition and under-five mortality. To cope with and reduce the birth of LBW babies, it is necessary to take earlier steps, among others, to detect WUS at risk of chronic energy deficiency from an early age.

Based on data from Puskesmas Talise in 2018, from the total target number of pregnant women 777 people from 4 Kelurahan Talise Puskesmas Work Area, namely Talise Village, the number of KEK pregnant women is 31 people from the target number of pregnant women 367 people, Tondo Village the number of KEK sufferers is 14 people from the target number of mothers 271 pregnant people, Layana Village, the number of KEK sufferers was four people from the target number of pregnant women 81 people.

And Talise Valangguni Village, the number of KEK is one person from the target number of pregnant women of 58 people. One that affects the fetus's growth is the nutrition of pregnant women. During pregnancy, the mother must meet the needs of rapid fetal development and the output of pregnancy to be successful and perfect. However, until now, many pregnant women experience nutritional problems, especially malnutrition, such as Chronic Energy Deficiency.

Initial observations were made on ten pregnant women at Talise Health Center, Palu City, on November 18, 2019; based on LILA measurements, it was found that four people (40%) had chronic energy deficiency. Based on the interview results, pregnant women stated that they did not know about the importance of LILA size on their pregnancy. Also, pregnant women consume a variety of foods.

Based on research by Rahmانيar et al. (2017), there is a relationship between the level of knowledge and the incidence of chronic energy deficiency in pregnant women, namely from 32 pregnant women who have the insufficient ability, there are six people

(18.8%) who suffer from chronic energy deficiency and of 28 mothers who have sufficient experience 15 people (53.6%) of whom suffer from chronic energy deficiency (5). According to research by Palimbo et al. (2016), regarding the relationship between knowledge and attitudes of pregnant women to the incidence of chronic energy deficiency, it can be seen that the incidence of chronic energy deficiency is still relatively high, as much as 74.2% (6). Also, according to research by AUSA (2016), with the title of research on the relationship between diet and economic status with the incidence of chronic energy deficiency in pregnant women, it is known that there is a relationship between diet (7).

The purpose of this study was to determine the relationship between knowledge and diet and the incidence of Chronic Energy Deficiency in pregnant women in the work area of Puskesmas Talise, Palu City.

METHODOLOGY

This research is an analytical survey research method with a cross-sectional approach (8). This research was conducted at Talise Public Health Center, Palu City, in April. This research is an analytical survey research method with a cross-sectional approach in May 2020. The population in this study were all pregnant women who visited Talise Public Health Center at the survey time. The sample in this study was 95 people. Data analysis used univariate and bivariate analysis. The test used is Chi-Square (9).

RESULT

Characteristics of Respondents

Table 1
Frequency Distribution of Respondents by Age at Talise Health Center

No	Age (years)	Frekuensi (f)	Percentage (%)
1	≤ 24 years of age	35	36,8
2	Age 25-34 years	42	44,2
3	Age ≥ 35 years	18	19,0
	Total	95	100

Source: Primary Data, 2020

Table 1 shows that of the total 95 respondents, 35 respondents (36.8%) aged 25 to 34 years old of respondents (44.2%), while the age of respondents over 35 years 18 respondents (19%).

Table 2
Respondents Frequency Distribution Based on Education Level at Talise Health Center

No	Level of education	Frekuensi (f)	Percentage (%)
1	Bachelor	33	34,7
2	High school	48	50,5
3	Junior High	12	12,6
4	SD	2	2,1
	Total	95	100

Source: Primary Data, 2020

Table 2 shows that 33 respondents (34.7%) had a Bachelor's degree, 48 respondents (50.5%) Senior High School, 12 respondents (12.6%) and SD 2 respondents (2.1 %).

Univariate Analysis

Table 3
Distribution of the Frequency of Knowledge of Respondents at Talise Health Center

No	Knowledge	Frekuensi (f)	Percentage (%)
1	High	87	91,6
2	Low	8	8,4
	Total	95	100

Sumber: Data Primer, 2020

Table 3 shows that more respondents' knowledge was 87 respondents (91.6%) high and the lowest was eight respondents (8.4%).

Table 4
Frequency Distribution of Respondents' Diet at Puskesmas Talise

No	Dietary habit	Frekuensi (f)	Percentage (%)
1	Not good	10	10,5
2	Good	85	89,5
	Total	95	100

Source: Primary Data, 2020

Table 4 shows that respondents' diet is in the excellent category as many as 85 respondents (89.5%), and those who are not good are as many as ten respondents (10.5%).

Table 5
Frequency Distribution of Respondent chronic energy deficiency at Talise Health Center

No	chronic energy deficiency	Frekuensi (f)	Percentage (%)
1	chronic energy deficiency	20	21,1
2	Not SEZ	75	78,9
	Total	95	100

Source: Primary Data, 2020

Table 5 shows that more respondents who did not experience chronic energy deficiency were as many as 75 respondents (78.9%), and those who experienced chronic energy deficiency were as many as 20 respondents (21.1%).

Bivariate Analysis

Table 6
Relationship between Knowledge and Incidence of chronic energy deficiency in Pregnant Women in the Work Area of the Talise Public Health Center

Knowledge	The incidence of pregnant women chronic energy deficiency				Total	P Value
	Not Suffering		Suffering			
	f	%	f	%	f	

Low	6	8	2	10	8	8,4	0,775
High	69	92	18	90	87	91,6	
Total	75	100	20	100	95	100	

Source: Primary Data, 2020

Table 6 shows that of the 95 respondents with a low level of knowledge suffering from KEK, as many as two respondents (10%) and those who do not suffer from as many as six respondents (8%). Simultaneously, respondents who have high knowledge suffer from KEK as many as 18 respondents (90%), and those who do not suffer as much as 62 respondents (92%). The chi-square test results showed that P-Value = 0.775 ($P > 0.05$), then H_0 was accepted, which means that there was no relationship between respondent knowledge and the incidence of chronic energy deficiency in pregnant women.

Table 7
The Relationship between Diet and the Incidence of chronic energy deficiency in Pregnant Women in the Work Area of the Talise Public Health Center

Dietary habit	The incidence of pregnant women chronic energy deficiency				Total		P Value
	Not Suffering		Suffering		f	%	
	F	%	f	%			
Not good	7	9,3	3	15	10	10,5	0,463
Good	68	90,7	17	85	85	89,5	
Total	75	100	20	100	95	100	

Source: Primary Data, 2020

Table 7 shows that of the 95 respondents who have flawed dietary criteria and suffer from chronic energy deficiency, three respondents (15%) and those who do not suffer are seven respondents (9.3%). Meanwhile, 17 respondents (85%) who have good eating habits suffer from chronic energy deficiency, and 68 respondents (90.7%) do not suffer. The chi-square test results showed that P-Value = 0.463 ($P > 0.05$), then H_0 was accepted, which means there was no relationship between the respondent's diet and the incidence of chronic energy deficiency in pregnant women.

DISCUSSION

The Relationship between Knowledge and Chronic Energy Deficiency in Pregnant Women in the Talise Public Health Center, Palu City

Based on the results of the study, it was found that the mean (mean) LILA of the mothers who were respondents in this study was 27.07 cm; this means that on average, the respondents in this study were still in good nutritional status and did not experience chronic energy deficiency. Table 6, the analysis test between pregnant women in chronic energy deficiency and knowledge using chi square analysis, found that the significance value for knowledge of chronic energy deficiency was 0.775 ($P > 0.05$). This shows no significant relationship to the knowledge variable in predicting the incidence of chronic energy deficiency in pregnant women at Talise Public Health Center.

Health behavior is influenced, one of which is knowledge. The level of insufficient knowledge about nutrition during pregnancy results in pregnant women's food consumption being less than the energy needed (10). However, this study shows no relationship between knowledge and chronic energy deficiency incidence of pregnant women. Family economic factors influence this. Even though pregnant women's education is high, the low purchasing power results in mothers' nutritional needs during pregnancy both in terms of quality and quantity have not been fulfilled, so that women experience chronic energy deficiency. Also, family support factors influence chronic energy deficiency incidence because the lack of family support motivates mothers to prevent chronic energy deficiency so that pregnant women experience chronic energy deficiency.

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This study is in line with research conducted by Arista (2017), which found that there was no relationship between nutritional knowledge and the incidence of chronic energy deficiency, with a P-value = 0.631 (11). It is also in line with the results of research by Novitasari et al. (2019), which showed that there was no relationship between knowledge and the incidence of chronic energy deficiency of pregnant women (P = 0.136) (12).

This is not by the results of research by Rahmaniar et al. (2017) showing a relationship between the level of knowledge and the incidence of KEK in pregnant women, namely that out of 32 pregnant women who had less experience, there were six people (18.8%) who suffered from chronic energy deficiency and of 28 mothers who have sufficient knowledge 15 people (53.6%) of whom suffer from chronic energy deficiency (13).

The Relationship between Diet and Chronic Energy Deficiency in Pregnant Women in the Talise Public Health Center, Palu City

From the analysis test results between pregnant women with a dietary pattern using chi-square analysis, it was found that the significance value for the frequency of eating habits on chronic energy deficiency was 0.436 (P <0.05). This shows no significant relationship between dietary variables and the incidence of chronic energy deficiency in pregnant women at Talise Public Health Center. Based on the study results, most pregnant women adjust their diet so that with a regular diet, pregnant women will be affected by chronic energy deficiency.

This is not by the opinion of Lungga (2018), he said that pregnant women need to consume a wider variety of foods to meet the needs for energy, protein, and micronutrients (vitamins and minerals) because they are used for maintenance, growth in fetal development in the womb and reserve during breastfeeding. Essential micronutrients needed during pregnancy are iron, folic acid, calcium, iodine, and zinc. The need for protein during pregnancy increases for fetal growth and maintains maternal health; it is strongly recommended to consume food sources of animal protein such as fish, milk, and eggs. The need for iron during pregnancy increases as it is used to form new cells and tissues (14).

Also, iron is an essential element in forming hemoglobin in red blood cells. Lack of hemoglobin is called anemia or blood deficiency disease can endanger mothers' and babies' health, such as LBW, bleeding, and an increased risk of death. Fish, liver, and tempeh are suitable types of food for pregnant women because they have high iron content. Pregnant women are also advised to take one extra blood tablet per day during pregnancy and continue during the puerperium.

This study is in line with research conducted by Oktriyani et al. (2018) that the results of the chi-square test showed no relationship between diet and the incidence of chronic energy deficiency in pregnant women ($P > 0.05$). As many as 17.91% of pregnant women are at risk of chronic energy deficiency, 20.99% have a less essential diet (rice), and 20.22% still have dietary restrictions. Foods that are challenged are food sources of protein, sources of vitamins and minerals (fruits and vegetables), and food sources of energy (15). This is also in line with research conducted by Noviyanti and Marfuah (2017), which states that there is no relationship between diet and chronic energy deficiency in pregnant women in Purwosari Laweyan Sub-district Surakarta ($P = 0.078$) (16).

CONCLUSIONS AND SUGGESTIONS

This study concluded that there is no relationship between knowledge and the incidence of chronic energy deficiency in pregnant women with a value of $P = 0.775$ ($P > 0.05$). And there is no relationship between diet and the incidence of chronic energy deficiency in pregnant women with a value of $P = 0.463$ ($P > 0.05$).

Recommendations for educational institutions to improve and expand sources of information and literature discourse related to efforts to improve nutrition in pregnant women to avoid Chronic Energy Deficiency and review of knowledge to reduce the risk of KEK.

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