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Knowledge of the Nutrition of Pregnant Women on the Incidence of Chronic Energy Deficiency

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ABSTRACT

Pregnant women with Chronic Energy Deficiency (CED) are pregnant women who are at risk of experiencing Chronic Energy Deficiency, which is characterized by an upper arm circumference (LILA) below 23.5 cm. Most pregnant women in rural and urban areas experience a lack of energy and protein consumption so they lack macronutrients and micronutrients which can result in low birth weight babies and short toddlers. The purpose of this study was to determine the relationship between the nutritional knowledge of pregnant women and the incidence of chronic energy deficiency in pregnant women. This research method is Analytical Cross-Sectional and the sample is taken by total sampling technique, the sample size is 65 respondents. Analysis of research data using Pearson's Chi-Square Test with (α = 0.05). The results showed that p-value = 0.7259 so there was no relationship between knowledge of pregnant women's nutrition and the incidence of chronic energy deficiency in pregnant women.

Keywords: knowledge, nutrition, pregnant women

ABSTRAK

Ibu hamil Kurang Energi Kronik (KEK) merupakan ibu hamil yang beresiko mengalami Kekurangan Energi Kronis yang ditandai dengan Lingkar Lengan Atas (LILA) dibawah 23,5 cm. Sebagian besar ibu hamil di daerah pedesaan dan perkotaan mengalami kekurangan konsumsi energi dan protein sehingga mereka kekurangan zat gizi makro dan zat gizi mikro yang bisa berakibat pada Bayi Berat Lahir Rendah dan Balita Pendek. Tujuan penelitian ini adalah untuk mengetahui hubungan antara pengetahuan tentang gizi ibu hamil terhadap kejadian kekurangan energi kronis pada ibu hamil. Metode penelitian ini adalah Analytical Cross Sectional dan pengambilan sampel dengan teknik total sampling, besar sampel adalah 65 responden. Analisis data penelitian menggunakan uji Pearson's Chi Square Test dengan (α = 0,05). Hasil penelitian menunjukkan p value = 0,7259 sehingga tidak ada hubungan pengetahuan tentang gizi ibu hamil terhadap kejadian kekurangan energi kronis pada ibu hamil.

Keywords: Pengetahuan, Nutrisi, Ibu Hamil

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INTRODUCTION

Chronic Energy Deficiency (CED) is a condition where the mother suffers a condition of chronic calorie and protein deficiency (malnutrition) which causes health problems in older fertile women and pregnant women (Simbolon et al., 2018) . Pregnant women with chronic energy deficiency (CED) with LILA <23.5 cm is a condition where pregnant women experience nutritional deficiencies (calories and protein) which lasts a long time or is chronic due to imbalanc enutritional intake, so that the nutrients the body needs are not sufficient. That matter resulting in imperfect physical and mental growth of the body as it should be (Yosephin et al., 2019).

Criteria of CED :

a. Mother's weight before pregnancy <42 kg
b. Maternal weight in the third trimester of pregnancy <45 kg
c. Mother suffers from anemia (Hb <11 gr%).
d. Mother's height <145 cm.
e. Body mass index (BMI) before pregnancy <17.00 (Bunga Astria Paramashanti, S.Gz., 2019)

Pregnant women with CED are at risk of giving birth to babies with low birth weight or LBW (weight less than 2500 gr). Babies born with LBW will experience developmental obstacles, decline in intellectual function, and have a risk of death. LBW problems are related to anemia in pregnant women (Hb<11 gr%) and CED which describes long-term malnutrition in quantity and quality. There is an interrelated relationship between SEZ with anemia, and low birth weight babies. Pregnant women with CED are at 2 times the risk of giving birth to LBW compared to mothers who do not have CED (Yosephin et al., 2019)

The focus of improving community nutrition is improving nutrition in groups First 1000 Days of Life (HPK), which includes Pregnant Women, Breastfeeding Mothers, babies and children up to 2 years old. The nutrition program that focuses on 1000 HPK is proved to be cost effective and evidence shows significant results towards improving community nutrition in general. The group of pregnant women is a strategic group to be given nutritional improvement interventions because mothers. Good nutritional status tends to give birth to babies with good nutritional status. However, the results of the study show that pregnant women generally experience deficiency problems, nutritional deficiencies such as Chronic Energy Deficiency (CED) and anemia. Basic Health Research(Riskesdas) in 2018

shows the prevalence of CED risk in pregnant women (15-49 years) is still quite high at 17.3%, the figures showimprovements in the percentage of CED pregnant women are expected to decrease by1.5% every year to reach the target of 10% in 2024 (Kemenkes RI, 2018) Based on data sources for routine reports for 2022 collected from 34province, it is known that there are 283,833 pregnant women with LILA < 23.5 cm (CED risk) of the 3,249,503 pregnant women measured by Lila, it is known that the mother's achievement pregnant with a risk of CED of 8.7% (cut off date 4 February 2022) while the target for 2021 is 14.5%. These achievements are illustrative that the target for CE pregnant women this year has exceeded the target of the Ministry of Health's Strategic Plan in 2021. If these achievements are compared with the health threshold community, according to WHO for pregnant women at risk of problems, so Indonesia is still one of the countries that has problemsmedium category of public health (5-9.9%).The long effect are low birth weight babies and short toddlers (Direktorat Jenderal Kesehatan Masyarakat Kementerian Kesehatan, 2021) To determine whether a pregnant woman experiencing CED can be measured with a LILA ribbon. Pregnant women are at risk of experiencing KEK if the measurement results LILA is less than or equal to 23.5 cm or in the red part of the LILA ribbon, if you measure more than 23.5 cm, you are not at risk of developing CED (Simbolon et al., 2018). By showing some of the symptoms that experience CED :

a. Left upper arm circumference less than 23.5 cm.

b. Less dexterous at work

.c. Often looks weak, tired, lethargic, and limp.

d. If you are pregnant, you tend to give birth to premature babies will have a low birth weight or less than 2.500 grams (Bunga Astria Paramashanti, S.Gz., 2019).

Other studies that can be done to identify pregnant women experience CED besides being carried out by measuring the circumference of the upper arm,measurements (BMI), and laboratory examinations. Pregnant mother experience CED if LILA <23.5 cm, malnutrition if BMI <18.5 kg/m2and the hemoglobin level of pregnant women is said to be anemia of less than 11 gr/Dl (Bidan dan Dosen Kebidanan Indonesia, 2018)

Based on the Ministry of Health Performance Report (2020) collected from 34 regions, it shows that out of 4,656,382 pregnant women there are around 451,350 pregnant women who have LILA <23.5 cm.

The way to overcome CED is by consuming nutritious food balanced with a healthy diet (Bunga Astria Paramashanti, S.Gz., 2019). To overcome the risk of CED in pregnant women before pregnancy is necessary for women of childbearing age have good nutrition with LILA not less than 23.5 cm. If the mother becomes pregnant before this figure is less than this, the pregnancy should be postponed so there is no risk of giving birth to low birth weight (LBW). The condition of CED in pregnant women must be followed up immediately before age pregnancy reaches 16 weeks. High supplementary feeding energy and high protein through giving pregnant women supplementary feeding for 90 days and combined with the application of small portions but often succeeded in reducing the numbers of low birth weight incidence in Indonesia. Addition of 200-450 calories and 12-20 grams of protein of the mother's needs is a sufficient figure to meet nutritional needs. Eat foods that are varied and contain enough energy and protein, including staple foods such as rice, sweet potatoes, and potatoes every day and meals which contain protein such as meat, fish, eggs, nuts or milk at least once a day. Oil from coconut or butter can add to food to increase energy supply. PMT and giving iron to pregnant women suffering from CED can increase HBB concentration (Yosephin et al., 2019)

Factors influencing CED :

a. Health condition.

Health conditions are the most important thing for pregnant women. If a mother, if a pregnant woman, is sick, the pregnant woman's energy intake is not, it can be forgotten. A sick body condition is a warning that the body is sick. It requires more attention and nutrition experience if someone is experiencing pregnancy, then the intake of nutrients needed is definitely higher. At the moment, pregnant women are advised to consume various tablets containing iron or various foods containing iron. A pregnancy is always in good condition. Until birth, a pregnant woman should always get extra protein, minerals, vitamins, and energy.

b. Birth interval spacing must also always be considered by a woman who has pregnancy experienced, especially the first pregnancy. The nutritional status of a new pregnant woman will really recover years after previous delivery. Therefore, a woman who has not been two years since the birth of her first child is certainly not ready to experience the next pregnancy. During the two years from the first birth,a woman must really restore the condition of the body as well improve her nutritional status in the body.

c. Pregnant Mother's Age

1) Pregnant women who are less than 20 years old. Pregnant women who are less than 20 years old have a high level of risk of very high pregnancy. The risk usually occurs to him as well as to the baby she is carrying. This high risk can happen to linear growth or height, which generally only ends at 16-18 years old. Growth is then followed by maturation growth of the pelvic cavity several years after linear growth has been completed and that linear growth is complete by about 20 years of age. As a result, pregnant women who are not yet 20 years old will experience various delivery complications and impaired completion of optimal growth. This matter, because the process of growth itself is not finished. Many nutritional intakes not or not sufficient to fulfill their needs still.

2) Pregnant women who are over 35 old woman who experienced her first pregnancy at the age of 35 more years is also very risky. At the age of more than 35 years, if you are pregnant, you will be more susceptible to disease. Gynecological organism women will get older and the birth canal is also getting stiffer. Over 35 years of age, there is a risk of becoming a disabled child, labor occuring, and bleeding in pregnant women will open bigger (Bunga Astria Paramashanti, S.Gz., 2019)

d. Parity

Important factor that can affect the nutritional status of pregnant women is parity. Parity is a factor that influences conception results. A woman must always be alert, especially a woman who has been pregnant or has given birth to four or more children. Health conditions that may change quickly. Pregnant women will be very easily disturbed by health, for example experiencing anemia, or experiencing nutritional deficiency. A pregnant woman can experience looseness in the abdominal wall and wallswomb. This condition is certainly very disturbing for some women, so this is something you need to be wary of.

3) This condition of parity means the appearance of a mother whose stomach is visible. This condition is very likely to occur in some women who are or have experienced pregnancy, and for many women this is certainly disturbing. (Bunga Astria Paramashanti, S.Gz., 2019)

e. Income

Income is a description of the level of living one in society that plays a major role in determining one's health. This can be a benchmark because it can influence various aspects of daily life or providing nutritional intakehis daily body (Bunga Astria Paramashanti, S.Gz., 2019).

f. Activities of pregnant women

If a pregnant woman's activity is high, her energy needs will also be higher.The more activity and physical activity the more nutritional intake is released as well, the more it will be needed. The amount of nutritional intake will be very decisive how much energy can be released by a person's body (Bunga Astria Paramashanti, S.Gz., 2019).

g. Knowledge regarding nutritional Knowledge during pregnancy is really necessary for people women. This knowledge is very useful for pregnant women planning a healthy and beneficial meal menu. This knowledge is also very necessary for pregnant women to be able to regulate food, especially for handling various pregnancy complaints in each trimester. In trimesters at the beginning of pregnancy, a pregnant woman will usually experience various complaints,such as nausea or vomiting. This condition will make the appetite of pregnant women reduced a lot. Reduced appetite will have an impact on the food intake of pregnant women. With adequate knowledge, pregnant women. You can also get around this by eating a little at a time but more frequently. Pregnant women are also encouraged to consume a balanced menu (Bunga Astria Paramashanti, S.Gz., 2019)

Broadly speaking, there are 6 levels of knowledge (Notoatmodjo, 2018) , namely:

a. Know (know)

The knowledge possessed is limited to remembering what has been studied previously, so the level of knowledge at this stage is lowest level. The knowledge abilities at this level are such as describing, mentioning, defining and stating.

b. Understanding (comprehension)

The knowledge possessed at this stage is defined as the ability to explain an object or something correctly. Somebody who already understand the lesson or material that has been given can explain, conclude, and interpret an object or something he has studied.

c. Application.

The knowledge possessed at this stage can be applied or apply the material they have learned to real situations or conditions, Actually.

d. Analysis The ability to describe a material or an object into components that are related to each other. Possess analytical skills such as being able to describe (make charts), separate and classifying, differentiating or compare.

e. Synthesis

Synthesis is a person's ability to link various elements of existing knowledge become a new, more comprehensive pattern. Synthesis abilities such as organizing, planning, categorizing,design, and create.

f. Evaluation:

The ability to justify or assess something material or object. Evaluation can be described as a process of planning, obtaining, and providing the information necessary to create alternative decisions. Education is related to impactful job suitability on an income or family income. Apart from that, education is related to a person's knowledge, attitudes and behavior to maintain the nutritional status of the family. Knowledge indirectly will influence the choice of food and eating patterns of a person. If a person's knowledge is good, the better their diet will be. A balanced diet will prevent unwanted risks in pregnancy (Dieny et al., 2019). Assessment of nutritional status in pregnant women is very necessary can understand what nutritional intake pregnant women eat and the extent of intakenutrition is beneficial to the body. If the pregnant women have a level of good nutrition, the risks of pregnancy can be minimized (Bunga Astria Paramashanti, S.Gz., 2019).

METHOD

Design/Research Design

This research method is Analytical Cross Sectional and taking samples with total sampling technique.

Research Targets (Population/Sample/ Research Subjects)

The population of this study were pregnant women in Oro-oro Ombo and Supiturang villages, Pronojiwo District, Lumajang Regency, with a total of 65 pregnant women.

The sample of this study were 65 pregnant women with details of 18 pregnant women with CED, 47 pregnant women with conditions not CED.

Data analysis technique

This study uses data analysis using the Pearson's Chi Square test with $\alpha = 0.05$

RESULTS AND *DISCUSSIONS*

Results

Health status of pregnant women

Based on Table 1, the health status of pregnant women, there were 18 pregnant women with CED conditions (28%) and 47 pregnant women with non-ced conditions (72%).

Table 1. Health Status of Pregnant Women

Health Condition of Pregnant Woman	Total	Percentage (%)
CED	18	28
Non CED	47	72

Source : Primary data

Based on table 2, the level of knowledge of pregnant women about the nutrition of pregnant women is 2 pregnant women with less knowledge (3%), 31 pregnant

women with sufficient knowledge (48%) and 32 pregnant women with good knowledge (49%)

Table 2. Level of Knowledge of Pregnant Women

Level of Knowledge of Pregnant Women	Total	Percentage (%)
Less	2	3
Enough	31	48
Good	32	49

Source : Primary Data

Based on table 3, pregnant women with CED, 1 pregnant woman (1.5%) has less knowledge, 9 pregnant women (13.8%) have sufficient knowledge, 8 pregnant women (12.3%) have good knowledge. Meanwhile, Pregnant women with non CED, 1 pregnant woman (1.5%) had less knowledge of KEK, 22 pregnant women (33.8%) had sufficient knowledge, and 24 pregnant women (36.9%) had good knowledge.

Table 3. Relationship between the level of knowledge about the nutrition of pregnant women and the incidence of chronic energy deficiency in pregnant women

Knowledge Level of Pregnant Women	Health Conditions of Pregnant Women				p*
	CED	Percentage (%)	Non-CED	Percentage (%)	
Less	1	1,5	1	1,5	0,7259
Enough	9	13,8	22	33,8	
Good	8	12,3	24	36,9	

Source : Primary data

Discussion

Knowledge is the result of sensing through the five human senses, namely the senses of sight, hearing, smell, taste, touch (Sukraniti & Sugeng Iwan, 2018). Knowledge or cognitive domain is a very important domain in shaping one's actions (overt behavior) (Notoatmodjo, 2018). Knowledge of pregnant women related to the incidence of CED can be obtained from formal and non-formal education. Formal education can be obtained from schools and other formal institutions, while non-formal education can be obtained from counseling, socialization by health workers and health cadres (Retni & Puluhulawa, 2021). Assessment of knowledge about the nutrition of pregnant women on the incidence of CED is very important because it will affect the tendency to choose foods that are nutritionally balanced.

Chronic Energy Deficiency in pregnant women is caused by a lack of intake of energy-containing food sources containing macronutrients and micronutrients in the long term, characterized by an upper arm circumference (LILA) of less than 23.5

cm. In the results of the Pearson's Chi Square Test, p = 0.7259 > 0.05, there is no relationship between the level of knowledge about the nutrition of pregnant women and the incidence of chronic energy deficiency in pregnant women. According to the Guide to Managing Chronic Energy Deficiency (CED) in pregnant women, here are several causal factors that influence the incidence of KEK in pregnant women. There are direct and indirect causes. The direct cause is the consumption of sufficient nutrition to, meet nutrition for the mother and the fetus she has; a disease that affects a decrease in nutritional intake due to a lack of appetite, so that it can cause an increase in fluid/nutrient loss due to diarrhea.Indirect factors, namely inadequate and diverse food supplies from local agriculture, which are still limited; parenting style related to priority fulfillment of nutrition for husbands and children so that they sacrifice themselves as pregnant women and there are taboos from the community so that consumption of nutritious food is still low; neglected environmental health such as not keeping bathrooms clean resulting in mosquito larvae, the behavior of throwing garbage in rivers, unavailability of latrines resulting in various kinds of diseases.

The education factor also determines whether or not it is easy to understand the knowledge acquired; knowledge about nutrition will affect the choice of food, which is a healthy behavior. Health is divided into 6 levels, namely knowing, understanding, applying, analyzing, synthesizing, evaluating. In this study, it is possible for pregnant women to have sufficient or good knowledge but still at the level of knowing only not implemented in health behavior. The main problem is the lack of empowerment of women in family status, so that pregnant housewives are a nutritionally vulnerable group. Unemployment due to the eruption of Mount Semeru, which damaged agricultural land as a place of livelihood, will have an impact on decreasing or loss of income, so that people's purchasing ability for food also decreases.

Incidents in pregnant women are caused by family economic factors. Pregnant women's education is high with low purchasing power resulting in the mother's nutritional needs during pregnancy not being met so that the mother experiences CED (Novitasari et al., 2019).

Mothers who are too young < 20 years or too old > 35 years have a risk of developing CED during pregnancy of 4,089 times compared to pregnant women aged 20-35 years. This shows that there is an influence of age pregnant women on the incidence of CED (Aprianti et al., 2021)

A mother who has a hard job requires more nutritional intake to be consumed, so that the nutritional intake of pregnant women will increase affect maternal nutritional status during pregnancy (Rafiani et al., 2020)

Distance between Pregnancy and the Incidence of CED in Pregnant Women. Distance that is too close (< 2 years) will cause poor quality of the fetus or childhood and will also be detrimental to the mother's health. Birth spacing that is too close will result in causing the mother not to get the opportunity to repair her own body where the mother needs sufficient energy to recover after giving birth to his son (Nugraha et al., 2019)

Pregnant women who do not have CED most of them follow the food intake consumed during their pregnancy with how to consume types of food that contain adapted nutrition, both macronutrientsand micronutrients, coupled with the use of vitamin C, so that the potential is smaller occurrence of anemia in the mother (Farahdiba, 2021).

CONCLUSION

There is no relationship between knowledge about the nutrition of pregnant women and the incidence of Chronic Energy Deficiency related to the many factors that influence the occurrence of Chronic Energy Deficiency that deserve the attention of the public and health workers and need to be studied further in order to improve nutritional behavior that can prevent the occurrence of CED in pregnant women.

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