

Provision of supplementary foods and diet against weight gain in pregnant women with chronic energy deficiency

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ABSTRACT

Pregnant women are vulnerable to CED nutritional problems. One way to cope is by providing additional food. This study analyzed the provision of supplementary food and dietary patterns on weight gain for pregnant women with CED at the Balantak Selatan Health Center, Banggai Regency. Research Cross sectional correlational. Population of 35 pregnant women. Sample of 32 responden with purposive sampling. Data collection with questionnaires, weight scales, measuring upper arm circumference. The results of the study of 32 responden Most of the 23 (71.9%) responden consumed additional food, most of the 23 (71.9%) responden ate regularly and the majority of 23 (71.9%) responden had weight gain body. Analysis test using Chi Square significance $0.000 < \alpha = 0.05$. There is a relationship between supplementary feeding and dietary patterns on weight gain for pregnant women with CED. Provision of additional food and regular eating patterns in pregnant women can prevent CED.

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INTRODUCTION

Chronic Energy Deficiency (CED) is a state of being deprived of food for a long time causing the body mass index (BMI) to be below normal <17.00 for adults. Chronic Energy Deficiency is a condition in which a person suffers from an imbalance in nutritional intake (energy and protein) that lasts for a long time and for years. (Korniati et al., 2022). CED can occur in women of childbearing age) and pregnant women (Kepmenkes RI, 2019). The CED category is assessed by weighing less than 40 kg or looking thin at LILA less than 23.5 cm or at the red part of LILA. Chronic Energy Deficiency is a condition of malnutrition or nutritional deficiency in pregnant women that lasts a long time and causes health problems in pregnant women (Chandradewi, 2019).

Good nutritional status is one of the determining factors for the success of health development, which is basically an integral part of overall national development. Children under five, school-age children and pregnant women are a nutritionally vulnerable group that really need special attention because of the negative impacts caused by malnutrition. Chronic energy

deficiency (CED) is a condition of an imbalance in nutritional intake between energy and protein, so that nutrients in the body are not sufficient. (Handayani, 2019)

The prevalence of pregnant women at CED risk is 24.2%. Pregnant women with KEK status can have an impact on the growth and health of their babies. Providing additional food especially for vulnerable groups is one of the supplementation strategies in overcoming nutritional problems. (Riskseddas, 2021)

The proportion of women of childbearing age at risk of CED aged 15-19 who were pregnant was 38.5% and those who were not pregnant were 46.6%. At the age of 20-24 years, 30.1% are pregnant and 30.6% are not pregnant. In addition, at the age of 25-29 years there were 20.9% who were pregnant and 19.3% who were not. And at the age of 30-34 years there were 21.4% who were pregnant and 13.6% who were not. (Depkes RI, 2021). Data from the Banggai District Health Office for 2021 there are 881 pregnant women and 84.7% of pregnant women experience chronic energy deficiency (CED). Based on data from the Balantak Health Center, Banggai Regency, in 2021 there were 141 pregnant women, and 39 pregnant women who experienced CED (Dinas Kesehatan, 2021).

A preliminary study conducted on 10 February 2022 at the Balantak Health Center found results from 8 pregnant women who checked their pregnancies, 3 of whom experienced KEK. And 5 mothers did not experience CED. From interviews, pregnant women who experienced CED said they did not prioritize nutrition during pregnancy, due to irregular eating patterns, and also due to a lack of knowledge and education about nutritional status during pregnancy. (Lestari et al., 2020) Pregnant women who experience CED also say that during pregnancy they are not regular in consuming additional food given by the community health center, so it is difficult for them to gain weight during pregnancy.

The problem of nutrition in pregnancy faced by the Indonesian people is KEK in pregnant women, which is caused by the lack of knowledge of pregnant women about nutrients in food, economic status, habits and views of women towards food and high activity so that it requires more energy than what is required. just sitting activity. (Amurullah S, 2020). A pregnant woman needs extra calories to stay fit and healthy. This is done by improving and increasing the quality of food consumed, not by increasing the quantity of food. During pregnancy, the increased need for nutrients is 15%. The increase in these nutrients is for the growth of the uterus, breasts, blood volume, placenta, amniotic fluid, and fetal growth. During pregnancy, normal overall weight gain is around 6.5 - 18 kilos (Iskandar, 2020)

The impact of pregnant women who are at risk of chronic energy deficiency (CED) will cause several problems, both for the mother and the fetus. CED in pregnant women can cause risks and complications for the mother, including: Anemia, bleeding, the mother's weight does not increase normally, and infection. (Pomalingo dkk, 2019). Meanwhile, the influence of CED on the delivery process can result in difficult and long labor, premature delivery, bleeding after delivery, and labor with surgery tend to increase. CED of pregnant women can affect the growth process of the fetus and can cause miscarriage, abortion, stillbirth, neonatal death, congenital defects, anemia in infants, intrapartum asphyxia (death in the womb), low birth weight birth (LBW). (Anisa Aprilianti, 2022)

The health services for pregnant women provided must meet the following types of services: 1) Weighing and measuring height, 2) Measuring blood pressure, 3) Measuring upper arm circumference (LILA). 4) Measurement of the height of the top of the uterus (fundus uteri), 5) Determination of tetanus immunization status and administration of tetanus immunization according to immunization status, 6) Administration of iron supplement tablets of at least 90 tablets during pregnancy, 7) Determination of fetal presentation and fetal heart rate, 8) Implementation speech gathering (providing interpersonal communication and counseling, including postpartum family planning), 9) Simple laboratory test services, at least a blood hemoglobin (Hb) test, urine protein examination and blood group examination (if it has not been

done before), 10) Case management according to indication. (Petrika, Y., Hadi, H., & Nurdiati, 2020)

Treatment efforts for pregnant women with CED include providing additional food to pregnant women, providing adequate food in the household, counseling about the importance of meeting the nutritional needs of pregnancy and changing habits or eating patterns to suit the body's needs.

From the description above, the researcher is interested in taking the title Provision of supplementary food and diet on weight gain in pregnant women with CED at the UPTD South Balantik Health Center, Banggai Regency. With this research, it is hoped that pregnant women who experience CED by fulfilling nutrition during pregnancy can prevent the consequences of CED pregnant women such as anemia, premature, LBW and stunting.

RESEARCH METHOD

This study uses a correlational analytic design with a cross sectional approach. The study population was pregnant women in the first and third trimesters from April to May 2022 of 35 pregnant women at the Balantak Selatan Health Center, Banggai Regency. The number of samples is 32 pregnant women sampling using Purposive Sampling. The independent variable is the provision of supplementary food and diet, while the dependent variable is weight gain in pregnant women with CED. Collecting data using questionnaires, weight scales, measuring upper arm circumference. Data analysis used the Chi Square statistical test.

RESULTS AND DISCUSSIONS

Characteristics of Respondents

Table 1. Distribution of respondent characteristics

Characteristics	Frequency	Percentage (%)
Gestational Age		
Trimester I	10	31,3
Trimester II	13	40,6
Trimester III	9	28,1
Parity		
Child 1	13	40,6
Child > 2	19	59,4
Total	32	100,00

Based on Table 1 above, it is known that most of the respondents were in the second trimester (UK 4 - 6 months), namely 13 respondents (40.6%) and most of the respondents had children > 1, namely 19 respondents (54.9%).

Weight Gain In Pregnant Women With CED

Table 2. Distribution of weight gain in pregnant women with CED

BB Frequency	Increase	Percentage (%)
Yes	23	71,9
No	9	28,1
Total	32	100.0

Based on Table 2 above, it is known that of the 32 respondents (100%), most of them experienced weight gain every month, namely 23 (71.9%). Chronic Energy Deficiency (CED) is a state of malnutrition. SEZ mothers suffer from chronic food shortages which result in relative or absolute health problems for the mother of one or more nutrients (weight gain during pregnancy is largely due to the uterus and its contents, breasts, and increased blood volume and extracellular

fluid extravascular. small part of the weight gain is due to metabolic changes that result in an increase in cellular water and the accumulation of new fat and protein, which is called the maternal reserve. (Aritonang E, 2019)

The results of Juliasari's research show that the factors that can influence the incidence of CED in pregnant women are the provision of additional food. There is an increase in pregnant women with LILA who meet the requirements. Before supplementary feeding, all respondents were pregnant women with substandard lila and after supplementary feeding, there were 11 pregnant women who had lila \geq 23.5 cm. The body weight of pregnant women after supplementary feeding increased by 33% from that of pregnant women before supplementary feeding. (Juliasari & Ana, 2021)

According to the researchers, most of the respondents in this study had normal weight gain. One of the factors that influence pregnant women's weight gain is education, most high school and PT. with relatively high education, respondents are more aware of maintaining their weight during pregnancy. Of course, all of this cannot be separated from the diet that is consumed every day. And for the most part, the respondents are in their second pregnancy (multigravida), with this condition the respondents have experience in previous pregnancies, so if a problem occurs in both pregnancies, the respondents are ready to handle it through health personnel and previous experience

Provision of Supplementary Food in Pregnant Women

Table 3. Distribution of supplementary feeding in pregnant women

Supplementary Feeding	Frekuensi	Prosentase (%)
Regular	23	71,9
Irregular	9	28,1
Total	32	100.0

Based on Table 3 above, it is known that out of 32 respondents (100%), most of them regularly consume supplementary food for pregnant women, as many as 23 (71.9%). Based on Utami's research, it was stated that there was a significant relationship between giving additional food for 3 months and changes in arm circumference in pregnant women with chronic energy deficiency (CED) in the Plupuh II Health Center area. (Utami et al., 2018). Providing Recovery Supplementary Food is additional food given to improve the nutritional status of the target. Provision of Supplementary Food for Pregnant Women is nutritional supplementation in the form of layer biscuits made with a special formulation and fortified with vitamins and minerals given to pregnant women, and priority in the category of Chronic Energy Deficiency to meet nutritional needs. (Novitasari, Y. D., Wahyudi, F., & Nugraheni, 2019)

The recommendation to give MT to pregnant women is carried out to fulfill the nutritional adequacy of the mother during pregnancy while still consuming family food according to balanced nutrition. Providing MT to pregnant women is integrated with Antenatal Care (ANC) services. In the first trimester of pregnancy, 2 pieces of layer biscuits are given per day. In the second and third trimesters of pregnancy, 3 pieces of layer biscuits are given per day. Each package of MT for pregnant women contains 3 pieces of layer biscuits (60 grams). The provision of this additional food as counseling is given with a maximum delivery time of 1 (one) month accompanied by education.

According to the researchers, most of the respondents regularly consumed additional food obtained from health workers. Respondents who obey or regularly consume additional food are due to parity factors. Parity of respondents Most of the multigravida, so that pregnant women are afraid if there are problems in this pregnancy. In addition, the average age of the respondents was > 25-30 years. In theory, at this age, you are physically and psychologically ready to get pregnant.

Respondents assume, additional food is very important for the growth and development of the fetus. So that there is no nutritional deficiency during pregnancy.

Diet for Pregnant Women

Table 4. Distribution of diet for pregnant women

Diet	Frequency	Percentage (%)
Regular	23	71,9
Irregular	9	28,1
Total	32	100.0

Based on Table 4 above, it is known that out of 32 respondents (100%) the majority of them eat regularly, namely 23 respondents (71.9%). Diet is the composition of the type and amount of food consumed by a person or group of people at a certain time consisting of the frequency of eating, the type of food and the portion of the meal. A balanced menu needs to be started and well known so that the habit of eating balanced meals will be formed in the future. Eating habits is a term used to describe habits and behaviors related to dietary regulation. Irregular and unhealthy eating patterns can cause disturbances in the digestive system. (Chakraborty R, Bose K, 2018)

According to the researchers' assumptions, there is a relationship between eating patterns and the incidence of CED because the mother has an inappropriate or irregular eating pattern. Eat rice 2 times a day, eat vegetables sometimes, never eat fruit, and so on. Thus increasing the incidence of CED.

In Hernawati's research, it is necessary to pay attention to the amount and frequency of meals to ease the work of the digestive tract, where you should eat three times a day in small portions. (Hernawati, 2018) The type of stimulating food needs to be considered so as not to damage the lining of the gastric mucosa. The dietary factors that form a picture are the same as a person's eating habits every day. In general, the factors that influence the formation of one's eating patterns are economic factors, socio-cultural factors, religious factors, educational factors, and environmental factors. (Andriani, Rika, 2018)

Researchers assume that respondents with regular (good) eating patterns are because most of the respondents work. With working status, it can help the economy in the family. So that the needs of pregnant women can be fulfilled to the fullest. And also because of the age factor that is physically and psychologically mature, namely 25-30 years. With this age the respondent is mature in solving a problem, for example in meeting the needs of her pregnancy.

Table 5. Provision of supplementary food against weight gain in CED pregnant women

Provision of Supplementary Food	Weight gain for pregnant women				total	
	Increase		No Increase		Frekuensi	%
	Frekuensi	%	Frekuensi	%		
Regular	23	71,8	0	0,0	23	100
Irregular	0	0,0	9	28,1	9	100
Total	23	71,8	9	28,1	32	100

Based on Table 5 above, it is known that the majority of respondents consumed regular supplementary food and there was an increase in body weight, as many as 23 respondents (71.8%). Based on Table 5 above, it is known that the majority of respondents consumed Supplementary Foods regularly and there was an increase in body weight, as many as 23 respondents (71.8%).

Provision of Supplemental Food is additional food given to improve the nutritional status of the target. Supplementary food provision for pregnant women is nutritional supplementation in the form of layer biscuits made with a special formulation and fortified with vitamins and minerals given to pregnant women, and prioritized under the category of Chronic Energy Deficiency to meet nutritional needs. (Venkaiah, K., et al, 2020)

Research conducted by Kapur in 2019 had a relationship with giving supplementary food to pregnant women with CED. Providing additional food can help restore or improve conditions or help pregnant women to reduce or overcome problems with chronic energy deficiency. (Kapur D, Sharma S, 2019)

Researchers assume that, respondents who consume additional food regularly can prevent chronic energy deficiency during pregnancy. By consuming 2-3 pieces of additional food a day will be able to help meet nutritional needs during pregnancy.

Table 6. Dietary patterns on weight gain in KEK pregnant women

Dietary Patterns	Weight gain for pregnant women				Total	
	Increase		No Increase		Frekuensi	%
	Frekuensi	%	Frekuensi	%		
Regular	22	68,7	1	3,1	23	71,8
Irregular	1	3,1	8	25,0	9	28,1
Total	23	71,8	9	28,1	32	100

Based on Table 6 above, it is known that the majority of respondents with a regular eating pattern gain weight every month, as many as 22 (68.7%). Based on Table 4.7 above, it is known that the majority of respondents with a regular eating pattern gain weight every month, namely as many as 22 (68.7%).

The results of data analysis showed that the significance level was $0.000 < \alpha = 0.005$ so that H_0 was rejected and H_1 was accepted, thus there is a relationship between supplementary feeding and weight gain in pregnant women with CED at the UPTD Health Center Balantak Selatan, Banggai Regency.

In Nugrahini's research, it was found that 48 pregnant women at the Rimba Melintang Health Center in 2020 found 23 pregnant women who had inappropriate eating patterns, 14 pregnant women (60.9%) were at risk of CED. (Nugrahini, E, 2018). Meanwhile, 25 pregnant women who had an appropriate diet did not have a risk of CED. From the statistical test at a significance level of 0.05, the value of $p = 0.001 (\leq 0.05)$ was obtained. This shows that there is a relationship between food patterns and the incidence of CED. Diet is the composition of the type and amount of food consumed by a person or group of people at a certain time consisting of the frequency of eating, the type of food, and the portion of food. A balanced menu needs to be started and well known so that the habit of eating balanced meals will be formed in the future. (Retnaningtyas, 2020)

Meanwhile, based on the results of the 2017 Sulastris study, it was found that there was a relationship between diet and weight gain for pregnant women with CED. With a regular diet at least 3 times a day with a balanced nutritional menu can help increase body weight in pregnant women.

According to researchers, in addition to multi-pregnancy vitamins, a regular diet will help provide adequate nutrition for pregnant women during their pregnancy. Diet can be done 3 times a day with a balanced menu (rice, side dishes, vegetables, fruit and milk). Even though there are no fruits and vegetables, the nutritional needs of pregnant women can be met. (Shaheen R, 2019)

CONCLUSION

Most of them experienced weight gain every month, as many as 23 (71.9%), most of them regularly consumed additional food for pregnant women as many as 23 (71.9%). Most of them had regular eating patterns, namely 23 respondents (71.9 %). There is a relationship between giving supplementary food to weight gain in pregnant women with CED and there is a relationship between giving supplementary food to weight gain in pregnant women with CED at the UPTD Health Center Balantak Selatan, Banggai Regency. The limitations of this study are weight gain in CED pregnant women not only from the provision of supplementary food and dietary patterns. for

further research is the provision of nutrition before pregnancy in women of childbearing age with CED to prepare for pregnancy.

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