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The factors related to the occurrence of chronic energy deficiency to pregnant women in the working area of the Mutiara Barat Health Center, 2023

Idawati[1], Ola Rahmani[2], Meiza Ramadhana[3], Selly Triana Murti[4], Rahmi Jannati[5]

[1 5]Midwifery STIKES Medika Nurul Islam, Indonesia

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ABSTRACT

Chronic Energy Deficiency (CED) of pregnant women can affect the process of fetal growth. Data from the Aceh Health Office (2016), the incidence of SEZ in pregnant women was 10.9%, whereas in Pidie Regency it was 10.3%. This study aims to determine the factors associated with the incidence of chronic energy deficiency (CED) in pregnant women at the UPTD Puskesmas Sumanda in 2020. The design used is quantitative with a cross-sectional approach. A total of 164 samples of pregnant pregnant women in the working area of the Mutiara Barat Health Center. Sampling technique with accidental sampling. Data collection using a questionnaire on the sample. The analysis used in this study is univariate with frequency distribution, bivariate with chi square. The results showed that 37.2% of pregnant women experienced CED. IDR 3,410,000) (62. 8%) Statistical test results have a relationship between age and the incidence of chronic energy deficiency (p value = 0.000). There is a relationship between parity and the incidence of chronic energy deficiency in pregnant women (p value = 0.000). There is a relationship between the level of income and the incidence of chronic energy shortages in pregnant women (p value = 0.000). Based on this, an approach is needed from health. workers to provide counseling about age, parity, and socioeconomic related to CED in pregnant women.

Corresponding Author:

Idawati,
Health Sciences, Faculty of Midwifery,
STIKES Medika Nurul Islam, Indonesia,
9X93+6D7, Cot Teungoh, Kec. Pidie, Pidie District, Aceh 24112, Indonesia.
Email: idawati-2021@fkm.unair.ac.id

1. INTRODUCTION

This high maternal mortality rate can occur due to several factors, both directly and indirectly. One of the indirect factors that plays a major role in complications in pregnant women and childbirth is chronic energy deficiency (KEK). (RI Ministry of Health, 2017). Pregnancy is a special condition for a woman. The process of pregnancy will trigger changes both anatomically, physiologically, and biochemically. Changes in pregnant women aim to maximize the growth and development of the fetus which will also greatly affect the nutritional needs of the mother during pregnancy. Pregnant women must have adequate nutrition because the nutrition they get will be used for themselves and their fetuses, this condition often causes pregnant women to experience malnutrition during pregnancy (Sulistyoningsih, 2011).

Malnutrition status or often called chronic energy deficiency (CED) is a condition caused by an imbalance in nutritional intake between energy and protein, so that the nutrients the body needs are not fulfilled. This increase in energy and nutrients is needed for the growth and development of the fetus, increasing its size uterine organs, as well as changes in the composition and metabolism of the mother's body. So that a lack of certain nutrients needed during pregnancy can cause the fetus to grow imperfectly (Rahmaniar, et al, 2011).

The effect of chronic energy deficiency on the birth process can result in difficult and long labor, preterm labor, bleeding after childbirth, and surgical deliveries tend to increase. To prevent the risk of chronic energy deficiency in pregnant women before pregnancy, women of childbearing age must have good nutrition, for example with LILA not less than 23.5 cm (Arisman, 2010). Chronic energy deficiency in pregnant women can affect the process of fetal growth and can cause miscarriage, abortion, stillbirth, neonatal death, congenital defects, anemia in infants, intrapartum asphyxia (death in the womb), low birth weight birth (LBW).

Chronic energy deficiency that occurs in pregnant women can be influenced by several factors including socio-economic conditions which result in low education, birth spacing that is too close causes poor nutritional status in pregnant women, the number of babies born (parity), the first gestational age is too young or are still teenagers and work which usually has a lower nutritional status if it is not balanced with adequate food intake (Ary & Rusilanti, 2013).

Research conducted by Rahmi (2016) examined factors related to chronic energy deficiency (KEK) in pregnant women at the Belimbing Padang Health Center. The results of this study showed that of the 42 respondents, there were 22 respondents (52.4%) who had low family income, 27 respondents (64.3%) who were at risk of age, and 19 respondents (45.2%) who had parity who were at risk. at the Belimbing Padang Health Center.Based on data from the Aceh Provincial Health Office in 2022, the incidence of chronic energy deficiency in pregnant women in Aceh Province was 10.9%, while the incidence of chronic energy deficiency in pregnant women in Pidie District was 10.3% in 2012. (Aceh Provincial Health Office , 2022).

2. RESEARCH METHOD

This study used an analytic survey method with a cross-sectional approach, by means of an observation or data collection approach at one time (point time approach). This research was conducted in the work area of the Sumanda Public Health Center, Pugung District, Pidie Regency in March 2020. The subjects in this study were all pregnant women in the working area of the Mutiara Barat Health Center which had been recorded from January to December 2022, the sample in this study was obtained using the Slovin formula that is obtained 164 pregnant women.

Sampling used Accidental Sampling, which is a sampling technique based on coincidence, namely pregnant women who coincidentally meet the researcher can be used as a sample, if it is deemed that the person met by chance is suitable as a data source. The independent variables in this study were income level, age and parity and the dependent variable in this study was the incidence of chronic energy deficiency in pregnant women.

3. RESULTS AND DISCUSSIONS

In this study the results of univariate analysis were carried out to determine the distribution and percentage of respondents which can be seen in the attached data and presented in the form of tables and text as follows:

Table 1. Frequency Distribution of Respondents with Chronic Energy Deficiency at Mutiara Barat Health Center in 2023

KEK	Frequency	%
KEK	61	37,2
Normal	103	62,8
Total	164	100

Based on table 1, it was found that most of the arm circumferences of normal pregnant women (62.8%), while pregnant women who experienced CED were 37.2%.

Table 2. Frequency Distribution of Respondents by Age at the Mutiara Barat Health Center in 2023.

Age	Frequency	%
At risk (<20 years or > 35 years)	76	46,3
Not at risk (20-35 years)	88	53,7
Total	164	100

Based on table 2, most of the pregnant women were at an age that was not at risk, 53.7%, while as many as 46.3% of pregnant women were at risk.

Table 3. Frequency Distribution of Respondents Based on Parity at the Mutiara Barat Health Center in 2023.

Parity	Frequency	%
Multipara	81	49,4
Primipara	83	50,6
Total	164	100

Based on table 3, 50.6% of pregnant women are primiparous (have never given birth) and 49.4% are multiparity pregnant women (have given birth to 2-4 deliveries).

Table 4. Frequency Distribution of Respondents Based on Income Levels at the Mutiara Barat Health Center in 2023.

Age	Frequency	%
< UMR (Rp 1,649,700)	61	37,2
≥ UMR (Rp 1,649,700)	103	62,8
Total	164	100

Based on table 4, it was found that the majority of pregnant women had an opinion > UMR (Rp. 2,432,001) (62.8%), while the rest were less than the UMR (Rp. 3,410,000) 37.2%.

The results of this bivariate analysis were used to see the relationship between age, income level and parity with the incidence of Chronic Energy Deficiency (KEK) in mothers giving birth at the Mutiara Barat Health Center in 2023, so a chi square test analysis was carried out with Cl 95% and α = 0.05 which can be seen in the following table:

Table 5. Relationship between Age and the Incidence of Chronic Energy Deficiency in Pregnant Women at the Mutiara Barat Health Center in 2023

Age	Pregnant Lila				Total		ρ value	OR
	KEK		Normal					95% CI
risky	50	65,8	26	34,2	76	100	0.000	13,462
No Risk	11	12.5	77	87.5	88	100		(6.1-29.65)
Total	61	37,2	103	62,8	164	100		

Based on table 5, it is known that aged mothers are not at risk of suffering from CED as much as 12.5%, while pregnant women who are at risk are as much as 65.8% of suffering from CED. The statistical test results obtained p value = 0.000 so that p <⍰ = 0.05, then Ho is rejected and Ha is accepted. This means that the results of the study show that there is a relationship between age and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023. Statistically, the OR = 13.462 means that respondents who are at risk of age (<20 years or > 35 years) have the risk is 13 times for the occurrence of CED compared to respondents who are not at risk (20-35 years).

Table 6. Relationship between parity and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023

Parity	Pregnant Lila				Total		ρ value	OR
	KEK		Normal					
Multipara	57	70,4	24	29,6	81	100	0.000	46,906
Primipara	4	4,8	79	95,2	83	100		(15.4-142.6)
Total	61	37,2	103	62,8	164	100		

Based on table 6, it is known that multiparous mothers are not at risk of suffering from CED as much as 70.4%, while in primiparous pregnant women as much as 4.8% suffer from CED. The statistical test results obtained p value = 0.000 so that p <⍰ = 0.05, then Ho is rejected and Ha is accepted. This

means that the results of the study show that there is a relationship between parity and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023. Statistically, the OR = 46.906 means that respondents who have multiparas have a 46 times risk of CED occurring compared to primiparous respondents.

Table 7. Social Relations of Income Level with the Incidence of Chronic Energy Deficiency in Pregnant Women at the Mutiara Barat Health Center in 2023.

Income Level	Pregnant Lila				Total		ρ value	OR
	KEK		Normal					
Low	50	82.0	11	18.0	61	100	0.000	38,017
Tall	11	10,7	92	89.3	103	100		(15.4-93.9)
Total	61	37,2	103	62,8	164	100		

Based on table 7, it is known that 10.7% of mothers with high income > UMR suffer from CED, while 82.0% of pregnant women with low income (<UMR) suffer from CED. The statistical test results obtained p value = 0.000 so that p <□ = 0.05, then Ho was rejected and Ha was accepted. This means that the results of the study show that there is a relationship between income levels and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023. Statistically, the value of OR = 38.017 is obtained, which means that respondents who have low income have 38 times the risk of CED occurring compared to those with low income. respondents who have high income.

Frequency of Chronic Energy Deficiency in Pregnant Women at Mutiara Barat Health Center in 2023.

In this study, it was found that there were 37.2% cases of pregnant women who experienced CED and 62.8% did not. KEK is a condition in which a person's nutritional status is poor due to a lack of consumption of food sources of energy containing macronutrients that lasts for a long time or for years. The minimum standard for the size of the upper arm circumference in an adult woman is 23.5 cm. If the size of LILA is less than 23.5 cm, the interpretation is Chronic Energy Deficiency (KEK) (Rahmaniar et al, 2011). The results of these data indicate that the coverage of pregnant women who experience CED in this study is higher when compared to the coverage at the Mutiara Timur Health Center, Pidie District, Aceh Province and Indonesia.

Frequency of respondents based on age at Mutiara Barat Health Center in 2023.

The results of this study, 53.7% of pregnant women were at an age that was not at risk, while as many as 46.3% of pregnant women were at risk. Based on the research results, theoretical studies and previous research elaborations, the researchers drew the conclusion that the age of pregnant women who are not at risk is 20-35 years old, and at risk is <20 years or more than 35 years. Mothers are advised to get pregnant at the age of 20-35 years. Based on the results of the study, the researchers assumed that the age of the respondents described the condition of growth during pregnancy. Pregnant women who are not at risk can avoid KEK because they are of ripe age for reproduction.

Frequency of respondents based on parity at the Mutiara Barat Health Center in 2023.

In this study, 50.6% were primiparous pregnant women and 49.4% were multiparous pregnant women. According to theory, parity is the number of pregnancies that end with the birth of a baby or a baby who has reached the point of being able to survive (Varney, 2012). Based on this, it was found that the parity characteristics of pregnant women in each place differed depending on the geographical conditions of the region. Parity describes the condition of the mother's uterus when she is about to give birth. Mothers who give birth need good healing time so they are ready to give birth again. Multiparous deliveries pose a risk to subsequent pregnancies.

Frequency of respondents based on income level at Mutiara Barat Health Center in 2023.

In this study, it was found that the majority of pregnant women had an opinion > UMR (62.8%), while the rest were less than UMR 37.2%. According to the Big Indonesian Dictionary (KBBI), income is the result of work (business) in relation to income. The lower the family income, the less the family's ability

to meet the mother's needs for nutrition and health services during her pregnancy. Families will find it difficult to meet the needs of additional nutritional intake for the mother and the fetus she contains. This will affect the nutritional status of the mother and increase the likelihood of CED in pregnant women. Based on the research results, researchers assume that income describes a person's purchasing power. Mothers who have income less than the UMR will have limitations in buying healthy food.

The relationship between age and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023.

Age has a big role in the occurrence of chronic energy deficiency, especially in pregnant women. The younger (< 20 years) or the older (> 35 years) a mother who is pregnant will affect the nutritional needs needed. Young people need a lot of additional nutrition because apart from being used for their own growth and development they also have to share it with the fetus they are carrying. Meanwhile, old age requires a lot of energy because organ functions are getting weaker, so additional energy is needed to support an ongoing pregnancy (Proverawati & Asfuah, 2009).

Based on this, the researchers drew the conclusion that age is related to the incidence of CED in pregnant women in the Working Area of the Sumanda Health Center. Mother's age describes the maturity of the reproductive organs. Mrs. Hamill, whose reproductive age is less than 20 years old, is not mature, so her body still needs it for growth. In addition, adolescents generally do not understand proper nutrition so they often suffer from malnutrition. If pregnant at the age of <20 years will be at risk of malnutrition including KEK. This is also at the age of> 35 years where the reproductive organs are old and physically not as strong as they used to be and cause the body to lack nutrition. If pregnant will cause the risk of KEK.

The relationship between parity and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023.

The results of the table above show that the proportion of KEK in respondents with parity > 5 children or grande (77.8%) is greater than respondents with primi parity (6.7%) and multi (12.8%). The results of calculating the Chi-square test show that the p value is 0.000. This means that there is a relationship between parity and the incidence of CED in pregnant women.

The social relationship between income level and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023.

Researchers draw the conclusion that there is a relationship between income and the incidence of CED in pregnant women. Income in this case is the mother's ability to buy nutritious food while preparing for pregnancy. Families with low incomes will find it difficult to choose a varied and healthy diet. This difficulty is especially in food sourced from animal protein which is relatively more expensive. This goes on continuously until it causes KEK in pregnant women.

4. CONCLUSION

Based on the results of research on pregnant women at the Mutiara Barat Health Center in 2023, it was concluded: It is known that the majority of pregnant women's arm circumference is normal (62.8%), while pregnant women who experience CED are 37.2%. It is known that most pregnant women are at an age that is not at risk 53.7%, while as many as 46.3% of pregnant women of at-risk age It is known that 50.6% of primiparous pregnant women and 49.4% of multiparous pregnant women It is known that most pregnant women have an opinion > UMR (62.8%),37.2%. There is a relationship between age and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023. There is a relationship between parity and the incidence of chronic energy deficiency in pregnant women at the Mutiara Barat Health Center in 2023.

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