

# Relationship Between ANC Visits, History Of Illness, And Distance Of Pregnancy With Chronic Energy Deficiency (CED) Events In Trimester Iii Pregnant Women At Cahya Maju Puskesmas, Lempuing District, Oki Regency In 2021

Dhany Nuzulla Synta<sup>1</sup>, Ahmad Arif<sup>2</sup>, Putu Lusita Nati Indriani<sup>3</sup>, Helni Anggraini<sup>4</sup>, Dewi Ciselia<sup>5</sup>

Universitas Kader Bangsa Palembang, Indonesia

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## ABSTRACT

Chronic Energy Deficiency (CED) refers to a state where mothers suffer from the chronic calorie and protein deficiency (malnutrition) leading to health problems in women of childbearing age (WCA) and in pregnant women. Factors that affect CED include direct, indirect and biological factors. This study aims to determine the correlation of ANC visits, disease history and pregnancy distance simultaneously with the occurrence of CED in third trimester pregnant women at the Cahya Maju Health Center, Lemembu Sub-district, OKI Regency in 2021. The research design used in this study was an analytical survey with a cross sectional approach. The population in this study were all pregnant women in the third trimester with a total number of 93 people at the Cahya Maju Health Center, Lemembu Sub-district, OKI Regency from January to December 2021. The sampling technique used was Total Sampling with a total of 93 people. Based on the results of the study using the Chi-square statistical test, it could be figured out that there was a significant correlation of ANC visits and the occurrence of CED in third trimester pregnant women with p value = 0.031. Also, it was found that there was a significant correlation of disease history and the occurrence of CED in third trimester pregnant women with p value of = 0.000, and there was a significant correlation of the pregnancy distance to the occurrence of CED in third trimester pregnant women with the p value = 0.028. Thus, it can be concluded that there is a relationship between ANC visits, disease history and pregnancy distance partially or simultaneously with the occurrence of CED third trimester pregnant women at the Cahya Maju Health Center,

### E-mail:

[ahmad4rif89@gmail.com](mailto:ahmad4rif89@gmail.com)  
[putu.indriani91@gmail.com](mailto:putu.indriani91@gmail.com)  
[helnianggraini589@gmail.com](mailto:helnianggraini589@gmail.com)  
[dewiciselia@gmail.com](mailto:dewiciselia@gmail.com)

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## 1. Introduction

Chronic Energy Deficiency Pregnant Women (CED) is a lack of energy intake that lasts a long time/chronic with the emergence of health problems in pregnant women [1].

Chronic energy deficiency (CED) is a condition of lack of food for a long time, causing the body mass index (BMI) to be below the normal 18.5 for adults. The prevalence of CED in pregnant women in African and Asian countries, especially in the sub-Saharan region and Southeast Asia is the center of global poverty and chronic malnutrition because the majority of the population lives in remote/rural areas. The rate of chronic undernutrition from 777 million in 2015 increased to 815 million in 2018 and it is estimated that at least 120 million of women (60%) living in South and Southeast Asia experience CED [3].

The prevalence of pregnant women at risk of SEZ in 2020 is 9.7%, while the target for 2020 is 16%. This condition illustrates that the achievement of this year's SEZ target for pregnant women has exceeded the Ministry of Health's 2020 Strategic Plan target. 3 provinces where the percentage

of SEZ pregnant women is still above 16%, while 31 other provinces have achieved the expected target. DKI Jakarta is the province with the lowest prevalence of SEZ pregnant women at 4%, while the province with the highest SEZ pregnant women is East Nusa Tenggara [4]. Based on data from the Province of South Sumatra, pregnant women who suffered from SEZ in 2018 were 8,607 people (18%). In 2019, the prevalence of KEK pregnant women increased by 18,849 people (39%). The prevalence of SEZ pregnant women in 2020 has increased significantly by 20,617 people (48%) [5].

Several factors that can affect nutrition and protein intake in CED pregnant women include age, number of parity, distance from previous pregnancies, education level, economic status, and frequency of antenatal care (ANC) [6]. SEZ in pregnant women is caused by an imbalance in the intake of macronutrients, namely carbohydrates, protein and fat, as well as the intake of micronutrients, especially vitamin A, vitamin D, folic acid, Fe, zinc, calcium and iodine as well as other nutrients. The indicator of pregnant women experiencing CED is by measuring the Upper Arm Circumference (LiLA) < 23.5 cm [7].

Based on the above phenomenon, researchers are interested in researching and analyzing the relationship between ANC visits, disease history and pregnancy distance with the incidence of Chronic Energy Deficiency (CED) in third trimester pregnant women at the Cahya Maju Health Center, Lemembu Subdistrict, OKI Regency in 2021.

**2. Research methods**

This study uses quantitative research using an analytical survey method with a cross sectional approach, the study was conducted in January 2022. The sample in this study were all third trimester KEK pregnant women who resided at the Cahya Maju Health Center, the number of samples in this study was 93 people..

**3. Research Results and Discussion**

**3.1 Research result**

**a. Univariate Analysis**

TABEL 1  
FREQUENCY DISTRIBUTION OF THIRD TRIMESTER PREGNANT WOMEN AT CAHYA MAJU HEALTH CENTER, LEMEMBU SUBDISTRICT, OKI REGENCY IN 2021

No	KEK	Frequency (n)	Percentage %
1	Not	76	81.3
2	Yes	17	18.3
	Total	93	100

Based on table 1 above, it was found that from 93 respondents, 17 respondents experienced SEZ (18.3%) while those who did not experience SEZ were 76 respondents (81.7%).

TABEL 2  
FREQUENCY DISTRIBUTION BASED ON ANC VISITS AT THE CAHYA MAJU HEALTH CENTER, LEMEMBU SUBDISTRICT, OKI REGENCY IN 2021.

No	ANC Kunjungan visit	Frequency n	Percentage %
1	Complete	35	37.6
2	Not	58	62.4
	Total	93	100

Based on table 2 above, it can be seen that of the 93 respondents who did not complete ANC visits as many as 58 respondents (62.4%) while the complete ones did ANC visits as many as 35 respondents (37.6%).

TABEL 3  
DISTRIBUTION OF FREQUENCY BASED ON HISTORY OF DISEASE AT CAHYA MAJU HEALTH CENTER, LEMEMBU SUBDISTRICT, OKI REGENCY IN 2021

No	Illness History	Frequency n	Percentage %
1	There is	28	30.1
2	Not	65	69.9
	Total	93	100

Based on table 3 above, it was found that out of 93 respondents who had a history of illness, 28 respondents (30.1%) had 65 respondents (69.9%).

TABEL 4

## DISTRIBUTION OF FREQUENCY BASED ON PREGNANCY DISTANCE AT CAHYA MAJU HEALTH CENTER, LEMEMBU SUBDISTRICT, OKI REGENCY IN 2021

No	Pregnancy interval	Frequency n	Percentage %
1	High risk	64	68.8
2	Low risk	29	31.2
	Total	93	100

Based on table 4 above, it was found that of the 93 respondents who had a high risk of pregnancy spacing as many as 64 respondents (68.8%) while those with low risk of pregnancy spacing were 29 respondents (31.2%).

**b. Bivariate Analysis**

TABEL 5  
THE RELATIONSHIP BETWEEN ANC VISITS AND SEZ INCIDENCE IN THIRD TRIMESTER PREGNANT WOMEN AT CAHYA MAJU HEALTH CENTER, LEMEMBU SUBDISTRICT, OKI REGENCY IN 2021

No	ANC Kun-jungan visit	KEK				Total		P Value	OR
		Not		Yes		N	%		
		n	%	n	%				
1	Incomplete	15	88.2	43	65.8	58	100	0.031	5,756
2	Complete	2	11.8	33	34.2	35	100		
	Total	17	18.3	76	81.7	93			

Based on table 5 above, it is known that of the 58 respondents whose ANC visits were incomplete, 15 respondents (88.2%) experienced SEZ, while 43 respondents who did not have SEZ (65.8%). And 35 respondents who had complete ANC visits experienced SEZ as many as 2 respondents (11.8%) while those who did not have SEZ were 33 respondents (34.2%). From the results of the Chi-Square Test, the p value of  $0.031 < 0.05$  was obtained. Statistically, it can be said that the hypothesis in this study is accepted, meaning that there is a significant relationship between ANC visits and the incidence of KEK in third trimester pregnant women at Cahya Maju Health Center, Lemembu Subdistrict, OKI Regency. Based on the results of the analysis, the Odds Ratio (OR) value is 5.756 and a confidence interval with a 95% confidence interval (CI) for pregnant women in the third trimester who experience CED with a value range of 1.230-26,

TABEL 6  
RELATIONSHIP BETWEEN DISEASE HISTORY AND THE INCIDENCE OF KEK IN THIRD TRIMESTER PREGNANT WOMEN AT THE CAHYA MAJU HEALTH CENTER, LEMRUB DISTRICT, OKI REGENCY IN 2021

No	Disease history	KEK				Total		P Value	OR
		Not		Yes		N	%		
		n	%	N	%				
1	There is	14	82.4	14	18.4	28	100	0.000	20.667
2	Not	3	17.6	62	81.6	65			
	Total	17		76		93			

Based on table 6 above, it is known that of the 28 respondents who had a history of disease experiencing SEZ as many as 14 respondents (82.4%) while those who did not have SEZ were 14 respondents (18.4%). Of the 65 respondents who had no history of disease, 3 respondents (17.6%) had SEZ, while 62 respondents (34.2%). From the results of the Chi-Square Test, the p value of  $0.000 < 0.05$  was obtained. Statistically, it can be said that the hypothesis in this study is accepted, meaning that there is a significant relationship between the history of the disease and KEK in third trimester pregnant women at the Cahya Maju Health Center, Lemembu Subdistrict, OKI Regency. In addition, based on the results of the analysis, the Odds Ratio (OR) value is 20,667 and a confidence interval with a 95% confidence interval (CI) for pregnant women with CED with a value range of 5,224-81,

TABEL 7  
RELATIONSHIP BETWEEN PREGNANCY DISTANCE AND CED INCIDENCE IN THIRD TRIMESTER PREGNANT WOMEN AT CAHYA MAJU PUBLIC HEALTH CENTER, LEMRUB DISTRICT, OKI REGENCY IN 2021

No	Pregnancy interval	KEK				Total		P Value	OR
		Not		Yes		N	%		
		N	%	N	%				
1	High risk	16	94.1	48	63.2	64	100		

2	Low risk	1	5.9	28	36.8	29	100	0.028	9,333
	Total	17		76		93			

Based on table 7 above, it is known that from 64 respondents who are at high risk of experiencing SEZ as many as 16 respondents (94.1%) while those who do not have SEZ are 48 respondents (63.2%). Of the 29 respondents who were at low risk of experiencing SEZ, 1 respondent (5.9%) while those who did not have SEZ were 28 respondents (34.2%). From the results of the Chi-square test, a p value of  $0.028 < 0.05$  was obtained. Statistically, it can be said that the hypothesis in this study is accepted, meaning that there is a significant relationship between the distance of pregnancy and the incidence of KEK in third trimester pregnant women at the Cahya Maju Health Center, Lemembu Subdistrict, OKI Regency. In addition, based on the results of the analysis, the Odds Ratio (OR) value was 9.333 and a confidence interval with a 95% confidence interval (CI) for mothers with chronic energy deficiency with a value range of 1.174-74.213, which means mothers with high risk 9,

### 3.2 Discussion

#### 1. CED incident

Based on univariate analysis, it can be seen that from 93 respondents who experienced SEZ as many as 17 respondents (18.3%) while those who did not experience SEZ were 76 respondents (81.7%). Chronic Energy Deficiency (KEK) is a condition where the mother suffers from a chronic (chronic) calorie and protein deficiency (malnutrition) which results in health problems in women of childbearing age (WUS) and in pregnant women (Simbolon, 2018).

Factors causing SEZ include direct, indirect and biological factors. Direct factors consist of food intake, infectious diseases and food consumption patterns. Indirect factors consist of socioeconomic, family income, occupation, education, knowledge, insufficient food supply, environmental health, health services and frequency of ANC. Biological factors consist of age, parity and gestational spacing.

According to the researcher's assumption, respondents who experienced SEZ were caused by the fact that before pregnancy they had experienced SEZ. The risk of SEZ increases when the mother is lazy to eat and experiences nausea and vomiting in the early trimester of pregnancy. Then, the occurrence of SEZ can be influenced by the mother's diet before pregnancy which does not meet the nutritional needs or nutritional intake so that it is not balanced with the mother's energy needs.

#### 2. ANC Kunjungan visit

Based on the univariate analysis, it can be seen that of the 93 respondents who did not complete ANC visits as many as 17 respondents (18.3%) while the complete ones did ANC visits as many as 76 respondents (81.7%). An ANC visit is a visit by a pregnant woman to a midwife or doctor as early as possible since she is pregnant or receiving antenatal care or services.

ANC visits are carried out at least 4 (four) times during pregnancy, namely 1 examination in the first trimester, 1 examination in the second trimester, and 2 examinations in the third trimester. ANC visits play a role in preventing SEZ, through ANC pregnant women can get education about nutrition during pregnancy and can find out fetal development and weight gain that has been achieved. By checking the pregnancy, the mother can find out whether the complaints experienced are normal and if there are irregularities, they can be resolved as soon as possible (Fikawati, 2016).

According to the researchers' assumptions, ANC visits are very important for pregnant women. Pregnant women who rarely make ANC visits can put them at risk. The reason is that pregnant women who do not complete ANC visits do not know if they suffer from complications during pregnancy, do not get advice or advice on health for mothers during pregnancy, and health workers cannot detect early occurrence of a disease. In addition, pregnant women who have complications in pregnancy such as SEZ do not receive routine treatment and drug therapy by health workers due to lack of visits. Pregnant women who complete ANC visits can prevent the occurrence of a disease, find out weight gain during pregnancy, and get treatment to reduce the symptoms of the disease.

#### 3. Illness History

Infectious diseases are diseases caused by biological agents (such as viruses, bacteria and disease), not caused by physical factors (such as burns) or chemicals (such as poisoning). Infectious diseases are factors that affect the health and safety of mothers. Poor nutritional status will increase the mother's sensitivity to the risk of infection, and conversely infection can increase the risk of malnutrition (Supariasa, 2012).

Diseases commonly associated with nutritional problems include tuberculosis, diarrhea,

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HIV/AIDS, hepatitis B and rubella. Almost all severe infectious diseases suffered during pregnancy can result in miscarriage, stillbirth, or low birth weight (Kartini, 2017). The cause of pregnant women suffering from infectious diseases is malnutrition as a result of decreased appetite, impaired absorption in the digestive tract or increased nutritional needs due to disease. In addition, infectious diseases can worsen nutritional conditions and poor nutritional conditions can facilitate infection. People who suffer from malnutrition will be very susceptible to various diseases. This is due to the lack of nutritious food intake that can increase the body's immune system (Supariasa, 2012).

According to the researcher's assumptions, pregnant women who are exposed to infectious diseases such as TB, diarrhea, HIV/AIDS, hepatitis B and rubella are caused by decreased nutritional intake due to lack of appetite, reduced eating habits when sick, loss of fluids in large quantities due to diarrhea, nausea and vomiting. vomiting increased need due to illness or infection of the disease contained in the body.

#### 4. Pregnancy Distance

Pregnancy interval is the time since the mother is pregnant until the next birth occurs (Wahyudin, 2018). The distance of pregnancy with a distance that is too close to a previous pregnancy (<2 years) can have an impact on the nutrition of pregnant women, especially the pattern of food recovery. Where during pregnancy requires additional nutrients in increasing the number of red blood cells, fetus and placenta. The more often a mother is with a distance that is too close, the more the mother loses the reserves of nutrients in her body (Maayasari, 2014).

Research shows that if the family can manage the distance between their pregnancies of more than 2 years, the child will have a higher probability of living and the condition of his child is healthier than children with a pregnancy gap of less than 2 years. In addition, the physical and uterine health of mothers who are still breastfeeding can affect SEZ in pregnant women.

According to the researcher's assumption, the pregnancy distance is too close because when the mother gave birth previously during the 40 days postpartum period, even for 6 months the mother had not had family planning and was still breastfeeding her child so that she did not know that the mother was pregnant again because there was no prior planning.

#### 4. Conclusion

There is a relationship between ANC visits, disease history, gestational distance simultaneously with the incidence of Chronic Energy Deficiency (KEK) in third trimester pregnant women at the Cahya Maju Health Center, Lemembu Subdistrict, OKI Regency in 2021.

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