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THE RELATIONSHIP BETWEEN PREGNANT WOMEN'S KNOWLEDGE ABOUT PREGNANCY NUTRITION AND THE INCIDENCE OF CHRONIC ENERGY DEFICIENCY (CED) IN PREGNANT WOMEN AT THE TIMBAAN VILLAGE HEALTH POST, BANDAR DISTRICT, SIMALUNGUN REGENCY, NORTH SUMATRA PROVINCE IN 2024

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ABSTRAK

Background: *The most common nutritional disorder experienced by pregnant women is Chronic Energy Deficiency (CED). CED in pregnant women is a condition of insufficient energy and protein intake during pregnancy that can cause health problems for the mother and fetus. Pregnancy is not a disease, but a normal and natural phenomenon. Pregnant women with Chronic Energy Deficiency (CED) are pregnant women at risk of CED, which is characterized by a mid-upper arm circumference (MUAC) of less than 23.5 cm. Nutritional problems in pregnant women, especially Chronic Energy Deficiency (CED), are a public health problem that affects the health of mothers and fetuses. One factor influencing the incidence of CED is pregnant women's knowledge of nutrition during pregnancy. This study aims to determine the relationship between pregnant women's knowledge of pregnancy nutrition and the incidence of CED at the Timbaan Village Health Post, Bandar District, Simalungun Regency, North Sumatra Province in 2024.* ***Methods:*** *This study was quantitative with a cross-sectional approach. The population was all pregnant women visiting the Timbaan Village Health Post, and a sample of 40 respondents was drawn using a total sampling technique. Data were collected through a questionnaire to determine the level of knowledge of pregnant women and to measure nutritional status using the Mid-Upper Arm Circumference (MUAC). Data were analyzed using univariate and bivariate methods using the chi-square test with a 95% confidence level.* ***Results:*** *The results of the study showed that most pregnant women had insufficient knowledge (57.5%), and most experienced CED (55%). The chi-square test results showed a significant relationship between pregnant women's knowledge of pregnancy nutrition and the incidence of CED (p-value = 0.012 < 0.05).* ***Conclusion:*** *The conclusion of this study is that there is a significant relationship between pregnant women's knowledge of pregnancy nutrition and the incidence of Chronic Energy Deficiency (CED). It is hoped that health workers can improve nutrition education and counseling for pregnant women to prevent CED.*

BACKGROUND

Low birth weight and short toddlers (Stunting) are also known as infant stunting, which greatly requires nutritional intake from the mother's body. Nutrition is very important for expectant mothers to maintain good nutritional status before entering pregnancy, such as ensuring they are not too thin or anemic, to ensure adequate maternal nutritional reserves to meet their needs during pregnancy. One indicator of whether the fetus is receiving adequate nutritional intake is by monitoring whether the maternal weight gain during pregnancy (PBBH) is adequate. If the PBBH is insufficient, the fetus is at risk of not getting the nutrition it needs, which can affect its growth and development in the womb. Mothers who start their pregnancy with a thin body condition combined with inadequate PBBH are at risk of giving birth to a baby with a low birth weight (LBW) (Ministry of Health, 2020).

The indicators and targets of public health programs in the National Medium-Term Development Plan (RPJMN) and the 2020-2024 Strategic Plan (Renstra) set the percentage of pregnant women experiencing Chronic Energy Deficiency (CED) at 14.5% (Ministry of Health, 2020). Based on the results of the 2018 Riskesdes, a high prevalence of malnutrition among pregnant women in Indonesia was still found,

including 17.3% of pregnant women experiencing Chronic Energy Deficiency (Riskesdes, 2018). Measuring the Upper Arm Circumference (LILA) and Body Mass Index (BMI) of pregnant women during antenatal visits is very important to determine the nutritional status of mothers.

Chronic Energy Deficiency (CED) can negatively impact the pregnancy process, which can inhibit fetal growth (Intrauterine Growth Restriction / IUGR). During labor, this condition can affect contractions and slow the progress of labor, thereby risking the baby being born with Low Birth Weight (LBW) and experiencing asphyxia (Darwin Nasution and Detty Siti Nurdianti, 2019). The impact of LBW on child growth is further stunting. Babies born with LBW often experience intrauterine growth retardation from the womb, and this condition continues after birth, where the baby shows slower growth and development compared to babies born with normal weight. In fact, they often struggle to catch up with the growth rate that should be achieved for their age.

Efforts to improve the nutritional status of the community will provide a significant contribution to achieving national development goals, especially in reducing the prevalence of Chronic Energy Deficiency (CED) in pregnant women, which in turn can improve the quality of human resources. One of the programs carried out is the provision of nutritional supplements, which aims to meet the lack of nutritional needs that cannot cause health and nutritional problems in groups vulnerable to malnutrition. One of the supplement programs run by the government is the Provision of Supplementary Food (MT) to pregnant women, which is given to pregnant women with CED.

METHODS

This study was a quantitative study with an observational analytical case-control design. This design is an analytical study that examines how risk factors are studied using a retrospective approach. This study analyzed the relationship between pregnant women's knowledge of pregnancy nutrition and the incidence of chronic energy deficiency (CED) in pregnant women at the Timbaan Village Health Post, Bandar District, Simalungun Regency in 2024.

The sample is part of a population that represents a population used as a data source. The sample in this study was some pregnant women at the Timbaan Village Health Post, Bandar District, Simalungun Regency, North Sumatra Province in 2024. The instrument in this study used a questionnaire. Data collection used primary data for data on children and secondary data to determine the LILA obtained in the KIA book. Data analysis using Univariate Analysis was used to describe the data carried out on each variable from the research results and Bivariate Analysis Test using the Chi Square test with a 95% confidence level, All analyses were performed using statistical software and a significance level of 0.05. Data processing was done through editing, coding, entry, and tabulation. This study adhered to the ethical principles of research, including informed consent from respondents and confidentiality of their personal data.

RESULTS

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Tabel 4.1. Frequency Distribution of Pregnant Women According to Nutritional Status (KEK)

nutritional status	pregnant mother (n)	(%)
Tidak KEK	36	90

KEK	4	10
Total	**40**	**100**

Based on the number of pregnant women in this study, only 10% of pregnant women experienced KEK. The distribution of pregnant women based on nutritional status is presented in the following table.

Tabel 4.2 Tabel.4.2. Distribution of Pregnant Women According to Knowledge

Knowledge Level	Pregnant mother (n)	(%)
Tidak KEK	15	37,5
KEK	25	62,5
Total	**40**	**100**

Based on Table 4.2, the level of nutritional knowledge of pregnant women is mostly dominated by Good, with 25 respondents representing 62.5% and Poor, with 15 respondents representing 37.5%.

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a. The Relationship between Pregnant Women's Knowledge of Pregnancy Nutrition and the Incidence of KEK in the Following Table:

Tabel 4.3 The Relationship Between Pregnant Women's Knowledge of Pregnancy Nutrition and the Incidence of KEK

Knowledge Level	Chronic Energy Deficiency (CED)				Total		P-value
	KEK		not KEK				
	N	%	N	%	N	%	
Baik	6	24	9	60	15	37,5	**0,023**
Kurang	19	76	6	40	25	62,5	
Total	**25**	**100**	**15**	**100**	**40**	**100**	

Based on Table 4.3. Can Show Pregnant Women's Knowledge of Pregnancy Nutritional Status with KEK Incidence dominated by the Poor Knowledge Category of 76% while the Good Knowledge Category with mothers affected by KEK is 60%. Based on the Chi Square test, the p-value = 0.023 is smaller than (P-Value 0.05). This states that there is a significant relationship between the Level of Knowledge of Pregnant Women and the Incidence of KEK in Pregnant Women at the Timbaan Village Health Post, Bandar District, Simalungun Regency, North Sumatra Province in 2024.

DISCUSSION

The incidence of chronic energy deficiency (CED) in pregnant women

The Chi-Square test yielded a p-value of 0.023, smaller than the P-Value of 0.05. This indicates a significant relationship between maternal knowledge and the incidence of chronic energy deficiency (CED).

Chronic energy deficiency is a nutritional problem during pregnancy that is largely dominated by an imbalance in nutritional intake, resulting in prolonged energy deficiency. One impact of chronic energy deficiency (CED) is impaired embryonic and fetal development, threatening maternal health. The nutritional intake of pregnant

women significantly impacts fetal growth and development, which increases the risk of low birth weight (LBW).

The energy produced by pregnant women varies, depending on the nutrients consumed, whether they are nutritious or not. If a mother's nutritional status before and during pregnancy is normal, she is more likely to give birth to a healthy, full-term baby with a normal weight.

It can be concluded that the quality of a baby born depends greatly on the mother's nutritional status before and during pregnancy. A woman can experience malnutrition due to various factors, ranging from childhood malnutrition to early pregnancy. Pregnant women who suffer from CED have a risk of maternal death during the perinatal period or the risk of giving birth to babies with low birth weight (LBW).

This is in line with the 2022 Election Research which states that this study aims to determine the Relationship between Pregnant Women's Knowledge about Pregnancy Nutrition and the Incidence of KEK. This type of research uses analytical observation with a Cross Sectional Survey research design. The population in this study were all pregnant women in the third trimester who experienced KEK at the Puriala Health Center. A total of 52 people, in this study the sample taken was 50 people using a purposive sampling technique. The results of the Chi-Square analysis test obtained a p value = 0.031 (<p = 0.005). The conclusion in this study is that there is a Relationship between Pregnant Women's Knowledge about Pregnancy Nutrition and the Incidence of Chronic Energy Deficiency (KEK) in the Third Trimester of Pregnancy at the Puriala Health Center.

It can be concluded that both mother and fetus in the womb must pay attention to nutritional intake and nutrition. Consuming foods containing balanced nutrition during pregnancy is very important. If the amount of food is reduced, the baby born tends to be smaller and less healthy. There is a theory that adequate nutrition during pregnancy can reduce risks and complications for the mother, while ensuring optimal fetal growth, so that the baby is born with a normal weight.

CONCLUSION

After the research was conducted, it can be concluded that in this research entitled the relationship between pregnant women's knowledge about pregnancy nutrition and the incidence of Chronic Energy Deficiency (CED) at the Timbaan Village Health Post, Bandar District, Simalungun Regency, North Sumatra Province, in 2024, the author can conclude that

1. From the research results, the analysis of the level of knowledge of pregnant women about pregnancy nutrition with the occurrence of KEK shows that 62.5% of pregnant women are in the poor category, while 37.5% are in the good category at the Timbaan Village Health Post, Bandar District, Simalungun Regency, North Sumatra Province, in 2024.
2. Statistical test shows that there is a significant relationship between pregnant women's knowledge about pregnancy nutrition and the incidence of chronic energy deficiency at the Timbaan Village Health Post, Bandar District, Simalungun Regency, North Sumatra Province in 2024.

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