

CASE STUDY OF PRIMIGRAVIDIANS IN THE SECOND TRIMESTER WITH CHRONIC ENERGY DEFICIENCY (CED) IN THE WORK AREA OF TANAH MERAH COMMUNITY HEALTH CENTER

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ABSTRAK

Masalah asupan nutrisi pada ibu hamil yang paling sering terjadi adalah Kurang Energi Kronik (KEK) dimana ukuran lingkaran lengan atas (LILA) < 23,5 cm. Prevelensi ibu hamil KEK di Puskesmas Tanah Merah pada bulan Januari 2024 sebanyak 4 dari 226 orang ibu hamil. Studi kasus ini bertujuan untuk mengetahui gambaran faktor penyebab, dampak, dan penatalaksanaan pada Primigravida trimester 2 dengan KEK di puskesmas Tanah Merah.

Metode dalam studi kasus ini menggunakan rancangan *multiple case design* menggunakan dua responden yaitu primigravida trimester 2 dengan LILA < 23,5 cm. Pengumpulan data dilakukan dengan wawancara menggunakan kuesioner dan dokumentasi buku KIA, kohort, dan rekam medis.

Hasil studi kasus ini bahwa faktor penyebab KEK pada R1 adalah asupan makanan, sedangkan pada R2 meliputi asupan makanan, dan pendapatan. Dampak pada kedua responden yang dialami meliputi anemia, berat badan tidak bertambah secara normal, dan TFU tidak sesuai dengan usia kehamilan. Penatalaksanaan yang didapatkan R2 yaitu melaksanakan ANC rutin, mengkonsumsi folamil genio dan folavit, serta mendapatkan PMT dalam bentuk susu sedangkan untuk R1 tidak melakukan anc rutin, tidak mengkonsumsi tablet fe dan tidak mendapatkan PMT dalam bentuk apapun.

Sehingga diperlukan pendidikan kesehatan tentang faktor penyebab KEK. Selain itu, asuhan secara komprehensif dilakukan untuk mengurangi dampak yang akan terjadi dan dilakukannya penatalaksanaan antara lain ANC rutin, mengkonsumsi tablet fe dan perbaikan pola nutrisi pada ibu hamil dengan KEK. Serta perlu adanya pemerataan PMT setiap desa.

Kata Kunci: Primigravida, KEK

Keywords:

Primigravida, CED

ABSTRACT

The most common nutrient intake problem in pregnant mothers is Chronic Energy Deficiency (CED) where upper arm circumference size (LILA) < 23.5 cm. Prevalence of pregnant mothers KEK in Red Earth Health Center in January 2024 is 4 out of 226 pregnant women. This case study aims to find out a picture of causative factors, impact, and enforcement on 2nd trimester Primigravid with CED in the Red Earth community health center.

The method in this case study uses multiple case design using two respondents namely 2nd trimester primigravids with LILA < 23.5 cm. Data collection was done using interviews using questionnaires and documentation of MCH book, and medical records.

The result of this case study was that the factor causing CED in Respondent 1 was food intake, whereas in Respondent 2 included food intakes, and income. The impact on both respondents experienced included anemia, no normal weight gain, and fundal height that did not match the age of pregnancy. The implementation obtained by Respondents 2 is to perform an ANC routine,

consume folamil genio and folavit, and not get supplementary feeding in any form while for Respondent 1 do not do an ANC routine, do not consume fe tablets and do not get a supplementary feeding of any form.

Therefore, it is necessary to educate the health about the causes of CED. In addition, the orphanage is comprehensively done to reduce the impact that will occur and it is done implementation among other things ANC routine, consumption of fe tablets and improvement of nutritional patterns in pregnant mothers with CED, as well as the need for the removal of supplementary feeding every village.

Keywords: Primigravida, CED

INTRODUCTION

Primigravida is a woman who is experiencing pregnancy for the first time, usually does not have enough knowledge and good experience about pregnancy. Pregnancy begins from conception, until the birth of the fetus, with a normal pregnancy period of 280 days (40 weeks or 9 months 7 days), the time to start counting is the first day of the last menstruation.(yuliana, 2020).

A woman in her life cycle will experience a process of growth and development that is gradually related to her reproductive function, one of which is pregnancy. Pregnancy is a natural and physiological process. During pregnancy, energy metabolism in the body increases, therefore, nutrients and energy are needed in large quantities so that the mother gets good nutritional status. However, if the mother's nutritional status is lacking, the pregnant woman will experience nutritional problems that will affect fetal growth and the mother's health. Where lack of nutrition in pregnant women will experience Chronic Energy

Deficiency (CED) which is marked by measuring the upper arm circumference (LILA) <23.5cm (Farahdiba, 2021).

Based on data sources obtained from the 2021 performance report of the Directorate General of Public Health, it is known that there are 283,833 pregnant women who experience KEK with LILA <23.5 cm from 3,249,503 pregnant women who have had LILA measured, so it is known that pregnant women in Indonesia with a risk of KEK are 8.7%. Meanwhile, in East Java, the percentage of pregnant women with KEK was 9.2% (Ministry of Health of the Republic of Indonesia, 2021). Initial study in January 2024 at the Tanah Merah Health Center. Based on data from the results of a preliminary study in the Tanah Merah Health Center area, it was found that pregnant women who experienced KEK were 2.2% of 226 pregnant women.

Factors that inhibit the occurrence of KEK include: Low levels of compliance, high prevalence of KEK in adolescent girls (aged 15-19 years), and community behavior



that still does not support increasing nutritional intake for pregnant women due to low public knowledge regarding the importance of nutritional intake for pregnant women and the existence of a culture of certain food taboos for pregnant women, such as pregnant women are not allowed to consume eggs because they are worried that the baby will be born with worms and so on (Ministry of Health of the Republic of Indonesia, 2021).

KEK in pregnant women is caused by several factors, namely direct factors and indirect factors. Direct causes consist of insufficient nutritional intake (macronutrients and micronutrients) and disease (infectious diseases). These direct causal factors in the short term have an impact on the weight of pregnant women (Kartini, 2017). Indirect causes consist of obstacles to nutrients, obstacles to absorption due to infectious diseases, relatively low economic conditions, knowledge, general education and nutritional education are lacking, food income that is still insufficient to meet needs, low income, poor hygiene conditions, maternal age, and age of marriage (Kartini, 2017).

If the mother is experiencing KEK

during pregnancy, it will cause a problem, both for the mother and the fetus. KEK in pregnant women can cause complications in the mother, including: anemia, bleeding, the mother's weight does not increase normally, and contracting infectious diseases. The effect of KEK on the labor process can result in difficult and prolonged labor, bleeding after labor, premature labor, and cesarean delivery. KEK in pregnant women can affect the growth process of the fetus Intraurine Growth Restriction (IUGR), can cause miscarriage, abortion, fetal death Intrauterine Fetal Death (IUFD), congenital defects, anemia in infants, and Low Birth Weight (LBW) (Marjani K, 2018).

Prevention to prevent KEK in pregnant women by fulfilling nutrition since the First 1000 Days of Life (HPK). Malnutrition in pregnant women is difficult to fix permanently. So that the intervention activities that will be carried out by the Ministry of Health in overcoming nutrition by providing iron tablets for adolescent girls, prospective brides, and pregnant women (Ministry of Health, 2019).

The way to overcome Chronic Energy Deficiency (CED) in pregnant women is by providing additional food (PMT) so that nutritional intake is optimal and nutritional

status becomes normal. In addition to providing additional food (PMT), pregnant women are also given IEC about good foods to be consumed during pregnancy that come from local ingredients at cheaper prices such as (eggs, nuts, spinach, kale, fish, tempeh, tofu, etc.). Providing food for pregnant women with CED must be highly nutritious and varied which aims to increase appetite so that food intake can be met. (Iskandar, 2022).

Based on the background, the author is very interested in raising a case study of Midwifery Care for Migraines with Chronic Energy Deficiency (KEK) at the Tanah Merah Health Center.

METHOD

Method: This case study was conducted in the working area of the Burneh Health Center, Bangkalan Regency. It was carried out in March-April 2024. Using a multiple case design with 2 respondents as subjects, primigravida in the second trimester with Chronic Energy Deficiency (CED). This type of case study is descriptive with a case study approach. Data collection used a questionnaire with interview, observation, and documentation study techniques.

RESULTS

A. Factors Causing KEK in Primigravida

Table 4.1 Factors Causing KEK in Primigravida

Causative factor	Respondent 1	Respondent 2
Food Intake	Eat 2x a day, with moderate portions, mother only eats rice with tofu and soy sauce, mother doesn't want sea fish and vegetables.	Eat 3 times a day, in moderate portions, with the following composition: rice, vegetables and side dishes, mother does not have any restrictions.
Infectious Diseases	Do not have any infectious diseases	Do not have any infectious diseases
Age	20 years	24 years old
Education	JUNIOR HIGH SCHOOL	SENIOR HIGH SCHOOL
Economy	>2,240,701.00	<2,240,701.00

Source: 2024 case study

B. The Impact of Primigravida With KEK

Table 4.2 Impact of Primigravida with KEK

Impact	Respondent 1	Respondent 2
Anemia	Mild anemia (Hb: 10.5 gr/dl)	Mild anemia (Hb: 10 gr/dl)
BB Increase	BB before pregnancy: 38.0 kg BB Visit 1 : 42.0 kg BB Visit 2: 42.60 kg Total addition: 4.60 kg	BB before pregnancy: 45.0 kg BB Visit 1 : 47.75 kg BB Visit 2: 48.30 kg Total addition: 3.30 kg

IUGR	3 below center (18 cm)	Fingers the	3 Fingers below the center (18 cm)
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Source: 2024 case study

C. Primigravida Management
With KEK

Table 4.3 Management of Primigravida with KEK

Management	Respondent 1	Respondent 2
Routine ANC	1x (times) only in the second trimester, at BPM	3x (times) Trimester I 1x at BPM, Trimester II 1x at BPM and 2x at the health center
Fe Tablets	haven't taken the tablets Fe is the same very	Not taking Fe tablets, but mother replaced them with consuming folamil genio and folavit
Provision of PMT	Are not done	Are not done

Source: 2024 case study

DISCUSSION

A. Factors Causing KEK in Primigravida

1. Food Intake

Based on the results obtained, Respondent 1 eats 2 times a day, only eats rice with tofu and soy sauce side dishes, this is included in the category of factors causing food intake, while Respondent 2 eats 3 times

a day, eats things like rice, vegetables and side dishes, and does not have any restrictions.

This data shows that Respondent 1The food intake normally consumed by the mother during pregnancy does not meet the actual needs.

This is in line with (Atikah Yusriyani, 2023). Insufficiently varied food intake, or insufficient portion sizes, and food taboos are some of the factors that can influence the occurrence of KEK. If this condition persists for a long time, there will be an imbalance between food intake and energy expenditure. As a result, pregnant women will experience KEK.

The standard of nutrient requirement based on the recommended adequacy rate for Indonesian people in the group of women aged 19-49 years is around 2150 - 2250 kcal and 60 grams of protein per day. In normal pregnant women, additional energy of 180 - 300 kcal and protein of 30 grams per day are needed. To obtain a weight gain of 0.5 kg / week, including pregnant women with KEK, an additional energy intake of 500 kcal / day is needed from their daily energy intake, where less than 25% of the energy content in additional food comes from protein.

2. Infectious Diseases

Based on the results of the case study obtained that both respondents did not have a history of illness but experienced KEK. From the case study it was found that the history of illness is not a determinant of the cause of KEK, because both mothers who have a history of illness or not can also experience KEK.

This is contrary to Teguh et al., (2019) who stated that a history of illness can result in the onset of malnutrition, resulting in decreased appetite, difficulty swallowing, and disruption of the digestive process. This has an impact on the nutritional status of pregnant women, because the digestive process is disrupted, resulting in increased nutrition and energy. The relationship between infectious diseases and malnutrition is a reciprocal or cause-and-effect relationship.

3. Age

Based on the results obtained, the age of Respondent 1 is 20 years old while Respondent 2 is 24 years old. This data shows that both respondents are in the age range that is ready to experience pregnancy, because being too young <20 years old and being too old >35 years old are not good ages to experience pregnancy.

This is in line with the opinion of

(Fitri, 2022) who stated that KEK usually occurs at the age of <20 years, because at that age it is the age of development where the mother needs nutrition for herself, so if the mother experiences pregnancy, her nutritional needs increase. Meanwhile, pregnant women who are elderly (> 35 years) can also affect nutritional intake because, at that age the body has begun to experience a decline in health, so that it can inhibit nutritional intake for the fetus which will be distributed through the placenta.

4. Education

Based on the results obtained, the level of education of Respondent 1 is junior high school and Respondent 2 is high school. This data shows that Respondent 1 and Respondent 2 are both at the middle level.

This is due to the lack of knowledge of mothers about foods that have good nutritional content, how much portion is needed to meet the nutritional needs of pregnant women, how to manage good food so that the nutrients in the food do not decrease, so that the nutrients in the body are not met and result in KEK.

This is in line with (Antarsih & Suwarni, 2023) that a person's education can influence whether or not it is easy to understand various types of knowledge. The

higher the mother's education, the better the nutritional knowledge the mother will get.

5. Economy

Based on the results obtained, the economic income of Respondent 1 is higher, namely > Rp 2,240,701.00 per month which is above the UMR of Bangkalan Regency compared to the economic income of Respondent 2, namely < Rp 2,240,701.00 per month which is still below the UMR of Bangkalan Regency. Low economic income makes it difficult to meet daily needs, especially nutritional intake.

This is in line with (Mansoben, 2022) that there is a relationship between family income and the incidence of KEK in pregnant women, economic status will affect the mother's food needs, the increasing family income, the more complete the fulfillment of nutritional needs.

Income is one of the factors that determine the quality and quantity of food to be consumed. The family's ability to buy food depends on the amount of income earned, families with limited income are likely to experience deficiencies in meeting their food needs, especially to meet the nutritional needs in the body.

B. The Impact of Primigravida With KEK

1. Anemia

Based on the results obtained, Respondent 1 has Hb = 10.5 g / dL while Respondent 2 has Hb = 10.0 g / dL. These results indicate that both of them experienced the impact of the KEK they experienced.

This is because Respondent 1 has a poor nutritional pattern and Respondent 2 has a poor rest pattern. Thus, experiencing KEK can inhibit the process of fulfilling nutrition in the body, causing anemia.

This is in line with the opinion of (Farahdiba, 2021, Fitriah et al., 2023) which states that pregnant women who experience Chronic Energy Deficiency (CED) tend to experience higher levels of anemia than pregnant women who do not experience CED. The cause is due to improper use and absorption of food during pregnancy. If a woman is pregnant and does not pay attention to a balanced and appropriate diet during pregnancy, including the consumption of macronutrients and micronutrients, then the risk of health problems or CED in pregnant women such as anemia can increase. Thus, both of them experience complications, namely anemia from the

impact of the CED they experience.

2. Weight Gain (BW)

Based on the results obtained with UK 21-22 weeks, the weight gain that occurred in Respondent 1 should be 5 kg. However, with UK 21-22 weeks Respondent 1 only experienced a weight gain of 4.60 kg. This also happened to Respondent 2 where with UK 22-23 weeks only experienced a weight gain of 3.30 kg. Respondent 2 with UK 22-23 weeks should have experienced a weight gain of 5 kg. Pregnant women with KEK in the 2nd trimester should experience a weight gain of 0.5 kg per week.

This is in line with the theory of the Indonesian Ministry of Health (2022) where weight gain in pregnant women who have a BMI <18.5 kg/m² must experience a minimum total weight gain of 12.5 kg and a maximum weight gain of 18.0 kg. And in the first trimester the recommended weight gain is 1-3 kg, and the second and third trimesters the recommended weight gain is 0.5 kg per week.

3. IUGR

Based on the results obtained from the measurement of the TFU fetus, Respondent 1 was 3 fingers below the center (18 cm), so the TFU did not match the gestational age, while Respondent 2 was

three fingers below the center (18 cm) categorized as not matching the gestational age. If the mother's weight gain is small, the baby's anthropometric measurements are also small, the baby's growth and development can be affected by conditions while still in the womb. So that the lack of nutrients needed during pregnancy can cause stunted fetal growth and development which can result in disabilities. This is in line with (Kurdanti, 2020) the greater the mother's weight gain, the better the anthropometric measurements of the baby born (weight, body length, and head circumference).

Another study proves that malnutrition in inadequate antenatal care (ANC), and inappropriate weight during pregnancy (maternal weight before giving birth <45 kg and height <145 cm) are some of the impacts of giving birth to LBW babies. Where LBW babies can be predicted through TBJ during pregnancy, if TBJ is smaller than the gestational age that should be or is not appropriate then the baby is said to be IUGR.

C. KEK Management In

Primigravida

1. Routine ANC

Based on the results obtained, Respondent 1 only had one examination in

the second trimester at PMB because Respondent 1 still did not know that the mother was pregnant, this was not in accordance with routine ANC examinations, while Respondent 2 had already had routine ANC. By routinely conducting ANC examinations, the mother's condition can be monitored so that the early risk of KEK can be prevented.

This is contrary to the opinion of Mandella et al., (2023) who said that Antenatal Examination (ANC) has an influence on the incidence of KEK that occurs in pregnant women, this aims if the mother carries out regular pregnancy checks, the pregnant woman will get monitoring for pregnancy complications as early as possible. Another goal of routine ANC services is treatment and nutritional management of the health of pregnant women, especially KEK problems.

2. Fe Tablets

Based on the results obtained, Respondent 1 had received Fe tablets but had never consumed Fe tablets, while Respondent 2 had never consumed Fe tablets but replaced them with Folamin Genio and Folavit, because when consuming Fe tablets, the mother experienced nausea so she replaced it by taking Folamin Genio and

Folavit. Consuming Fe tablets regularly can prevent anemia. This is in line with (Nova, 2021) respondents who did not want to consume Fe tablets because they did not know the benefits of Fe tablets for themselves and the fetus, and during pregnancy every Fe tablet given was rarely consumed, due to the lack of respondent knowledge of the side effects, benefits, how and when to consume Fe tablets so that respondents experienced anemia. Respondents assumed that consuming Fe tablets would cause constipation and nausea so that pregnant women refused to consume the Fe tablets that had been given, while respondents who consumed Fe tablets experienced anemia because pregnant women were not regular in consuming them.

3. Supplementary Feeding Provider (PMT)

Based on the results obtained, Respondent 1 never received local PMT, because Respondent 1 never came to the integrated health post or other facilities so that health workers did not know if there was a case of KEK. Meanwhile, Respondent 2 had received milk for pregnant women during the first trimester. Pregnant women with KEK should receive local PMT for 90 consecutive days and if there is still no

significant increase, PMT will continue to be given for 120 days. This is not in line with the Minister of Health Regulation No. 42 of 2022 concerning Technical Instructions for the Use of Non-Physical Special Allocation Funds in the Health Sector for the 2023 Budget Year, where if a mother experiences KEK or is at risk of experiencing KEK during 90 days of pregnancy and still has not experienced weight gain in accordance with her gestational age, then PMT will be continued for up to 120 days or until there is an increase in recommended weight based on BMI before pregnancy or BMI in the first trimester.

CONCLUSION

This case study aims to determine the factorscauses, impacts and management.The results of this case study are that the causative factor of KEK in R1 is food intake, while in R2 it includes food intake and income. The impacts experienced by both respondents include anemia, weight gain does not increase normally, and TFCU does not match gestational age. The management obtained by R2 is to carry out routine ANC, consume folamil genio and folavit, and get PMT in the form of milk while for R1 did not do routine ANC, did not consume iron tablets and did not get PMT in

any form..

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