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Exploration of Knowledge and Eating Behavior of Pregnant Women: A Qualitative Study of Pregnant Women with Chronic Energy Deficiency in Indonesia

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Abstract

As a developing country, Indonesia has a high problem of malnutrition and Chronic energy deficiency in pregnant women and requires serious attention. Nutrition determines the nutritional status of pregnant women and their fetuses. Chronic energy deficiency (CED) can result in sudden prenatal death, anemia, bleeding, abnormal body weight, susceptibility to infectious diseases, dystocia, and premature labor. This study aims to determine the knowledge and eating behavior of pregnant women with CED. This is qualitative research with a phenomenological design. Participants in this study were pregnant married couples with CED, midwives, and nutritionists. The results of the study showed low knowledge of pregnant women about nutrition, belief in food taboos, and eating behavior that was not following the recommendations.

Introduction

Chronic energy deficiency (CED) in pregnant women is a condition caused by low energy sufficiency in the body for a long period (chronic). Pregnant women are declared to have CED if their upper arm circumference (UAC) is less than 23.5 centimeters or if their body mass index (BMI) in the first trimester is less than 18.5 (Paramita, 2019). CED is a problem of malnutrition that often occurs in low and middle-income countries. CED can cause a significant increase in mortality. CED is caused by low socioeconomic status, poor food intake, unequal distribution of food in households, food insecurity, food restrictions, recurrent infectious diseases, and poor care practices in low and middle-income countries (Black et al., 2013; Bristol: Development Initiatives, 2021). Indonesia is a country with a high incidence of malnutrition. Branca et al., (2015) and Tang et al., (2016) stated that the highest burden of malnutrition in mothers occurs in Central-South and Southeast Asia, and sub-Saharan Africa.

The 2015-2030 SDGs nationally aim to reduce the CED rate by up to 5 percent and increase the percentage of non-CED pregnant women to 95 percent. The results of the 2018 Basic Health Research (RISKESDAS) found that the prevalence of pregnant women with CED was 17.3 percent, with a prevalence of CED in Bantul of 10.63 percent (DIY Health Office, 2020). This figure has not met the target, so it is necessary to conduct a study on CED in pregnant women. Maternal nutrition determines the health of mothers themselves, newborns, and children. Nutrition for pregnant women plays an important role in preventing stunting in the first 2 years of a child's life, and preventing obesity and non-communicable diseases later in life (Nnam, 2015). Mothers with CED increase the risk of poor pregnancy and childbirth, as well as long-term physical and cognitive consequences (Khalid et al., 2017).

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WHO, in line with Sustainable Development Goal 2 (SDG-2), agreed to undertake comprehensive steps to tackle malnutrition to improve the health and well-being at all ages. CED in pregnant women can affect the mothers and their fetuses. CED can cause sudden maternal death during the prenatal period, anemia, bleeding, abnormal weight gain, disease infection, dystocia, and premature birth (Achadi, 2007; Waryana, 2010; Heryunanto et al., 2022). CED can cause premature birth, fetal death, neonatal death, birth defects, anemia in infants, low birth weight (LBW), and stunting (Mochtar & Salma, 2021; Heryunanto et al., 2022; Waryana, 2010). Malnutrition must be taken seriously because it can hinder child development and reduce the health of mothers and children (Niang et al., 2017; Triunfo & Lanzone, 2015). Nutritional status is an important element of health that is closely related to energy intake and other important nutrients. Good nutritional status can be achieved if you obtain nutrients efficiently from food consumption (Katmawanti et al., 2019). CED is experienced by women in Indonesia, including pregnant women. CED that occurs in pregnant women is caused by a lack of calorie intake for years. The calories that the mother's body gets are closely related to the daily nutritional intake that is obtained daily over a long period (Osterne, Lima-Verde, Turatti, Nonaka, & Cavalcante, 2019). CED cannot be separated from habits, cultural beliefs, knowledge, and perceptions that exist in society. The eating habits adopted by the mother affect the nutritional intake of pregnant women. The eating habits of pregnant women, especially in Java, are usually carried out according to local culture. Eating behavior holds principles that are passed down from generation to generation (Boni, 2013). Some cultures still prohibit pregnant women from consuming certain types of food. This hereditary belief from their ancestors is still widely trusted by the community. Eating behavior is influenced by internal and external factors such as cultural principles, religion, history, socioeconomic status, personal preferences, hunger, appetite, satiety, and health (Intan, 2018).

Mothers in Indonesia still follow the culture of eating where they live. Each region has different eating habits. Mothers living in Java prioritize food for their husbands and children. 26 percent of women avoid certain foods because of dietary restrictions, and most women avoid useful foods, and prioritize their children and husbands (Hartini et al., 2005). Several cases show that pregnant women consume less food than other family members (Jing & Hatami, 2020). Knowledge of nutrition is an understanding of food and nutritional components, sources of nutrients in food ingredients, food that is safe for consumption, proper processing of food ingredients to maintain nutrient content in food ingredients, and a healthy lifestyle (Kamaruddin et al., 2019). Knowledge of poor nutrition is positively related to malnutrition in mothers (Diddana, 2019). Pregnant women generally have limited knowledge about healthy food guidelines during pregnancy (Lee et al., 2016). The research question is "How are the knowledge and eating behavior of CED pregnant women in Kasihan sub-district, Bantul regency, Yogyakarta?" (Smith & Zhang, 2014)

Method

This is qualitative research with a phenomenological design. The unit of analysis for this research is the knowledge and eating behavior of pregnant women with chronic energy deficiency. This research was conducted in the Kasihan sub-district, Bantul regency, Special Region of Yogyakarta. The research was carried out in January 2023. Sampling in this study was carried out by purposive sampling. This study involved 11 respondents consisting of pregnant women with CED, their husbands, midwives, and nutritionists. The pregnant women were recruited during ANC at the Kasihan II Health Center. Data collection was carried out through semi-structured in-depth interviews. All interview results were recorded in digital audio format and important events during the interview were recorded in field notes. The audio is transcribed into Indonesian and the quality was controlled by relistening the recorded audio and comparing it with the transcript data. The data analysis was carried out during and after data collection (Sugiyono, 2017).

Result

In-depth interviews with the respondents were conducted 11 times. The average age of the pregnant women is 28 years old and most of them are housewives. Participants in this study are as in table 1 below:

Table 1: In-depth interviewee

Participants	Sex	Age	Education	Role
Participant 1	Woman	36 years old	Higher education	Midwife
Participant 2	Woman	34 years old	Higher education	Midwife
Participant 3	Woman	32 years old	Diploma III	Nutritionist
Participant 4	Woman	29 years old	Bachelor	Pregnant woman
Participant 5	Woman	26 years old	Junior high	Pregnant woman
Participant 6	Woman	31 years old	Senior high	Pregnant woman
Participant 7	Woman	28 years old	Senior high	Pregnant woman
Participant 8	Woman	26 years old	Senior high	Pregnant woman
Participant 9	Man	30 years old	Senior high	Husband
Participant 10	Man	27 years old	Senior high	Husband
Participant 11	Man	28 years old	Senior high	Husband

Knowledge of Pregnant Women About Nutrition

The level of general knowledge about the nutrition of pregnant women who participated in this study is still lacking. They knew rice could be replaced with noodles or potatoes, but they considered that protein only came from animals such as fish, eggs, and meat, as stated in the following statements:

“...healthy foods such as rice, vegetables, and fish...” (Participant 5)

“... we can get carbohydrates, proteins, and vitamins from vegetables and fruits. So that (consuming vegetables and fruit) includes all...” (Participant 7)

“The midwife said I had to get enough carbohydrates, vitamins, and protein. Protein comes from meat and eggs...” (Participant 8)

“They (the pregnant women) know about nutrition. I have already told and (knowledge about this) can also be found in the MCH handbook” (Participant 3)

Most of the participants knew that foods were good for the body but could not explain the function of a variety of foods. They lack knowledge about the benefits of nutrition for pregnant women as stated in the following statements:

“Well, food is healthy and strengthening... (Participant 4)

“The benefit is... for health...” (Participant 5)

“...That's what I wanted to ask. If I have this condition (CED), will my child also be small (low birth weight)?...”

(Participant 6)

"I prioritize the health of my fetus, and I believe food nutrition is good for the body (health)..."

(Participant 8)

Myths or beliefs can prevent pregnant women from consuming certain types of food and replacing them with other types of food, as the following opinion says:

"my mother does not give any food restrictions, but the neighbors say that pregnant women cannot eat papaya leaves ..."

(Participant 4)

"...my mother forbade me to eat pineapple, durian, and jackfruit. So, I can eat anything but that ... (Participant 7)

"...pregnant women must consume healthy foods such as meat... my mother only forbids me to eat pineapples because she says it can cause miscarriages..." (Participant 11)

Support for Pregnant Women

According to the following statement, families and health workers support pregnant women to eat right and regularly. Husbands provide support by giving freedom to their wives to self-regulate their food and reminding them to eat according to recommendations.

"At every ANC, we always remind pregnant women to consume foods that are nutritionally balanced, such as carbohydrates, protein, vegetables and fruit. We also provide Fe tablets and supplementary food (PMT) in the form of nutrition enhancing biscuits" (Participant 1)

"She can buy the kinds of food she likes ... when I'm on holiday, I take her to the health center, but often she goes alone"

(Participant 10)

"When I work, I often ask if she has eaten and the menu. Something like that. She often eats rice at lunch and sometimes skips her dinner like before she was pregnant." (Participant 11)

Eating Behavior of Pregnant Women

Pregnant women pay less attention to nutritional intake and prioritize food for their families and children. The mothers eat a little from the menu that their children eat. The husbands said that their wives did not follow their dietary recommendations, as shown in the following statements:

"...we often buy (our food) because we are alone (with our husbands) ...usually a little rice and tempeh...and sometimes fruit... (Participant 5)

"...for various reasons I prioritize the growth and development of my children and the health of my husband who has to work. I eat after my child... or sometimes I finish my child leftover after I finish feeding him..." (Participant 6)

I always add vegetables to every dish, such as spinach, carrots, or corn ... and give meat or fish to my child ... my daily menu is vegetables, rice, and tempeh ... I rarely eat fruit ... I always prioritize meat and fish for my child (Participant 7).

"... I cook a menu that my children and husband like; that's what i eat. I cook once a day...I eat after my child..."

(Participant 8)

The types of food consumed by pregnant women were less varied. Most of the participants did not pay attention to the variety of food menus and the frequency of eating and only followed their tastes. Pregnant women also rarely consume fruits in their daily menu, as seen from the following statements:

"...I rarely eat fruit, meat, or fish... only tofu or tempeh..." (Participant 5)

“... due to circumstances, I cook myself to save money. I process easy ingredients like tofu or tempeh...” (Participant 6)

I don't like vegetables...sometimes I eat fried cabbage, but usually, I eat rice and scrambled eggs. Sometimes I also eat instant noodles ... eggs or fried are the main dishes...” (Participant 8)

Most of the participants were also lacking in the amount of food and drink, as well as the frequency of eating which was not as recommended. Pregnant women eat in small quantities and frequency. This eating pattern has been carried out since before pregnancy, as seen from the following statements:

“... since I was in school, I rarely have breakfast, and prefer to take brunch. I used to eat twice a day (afternoon and evening), and skip the dinner; just drink...” (Participant 4)

“...I sometimes have breakfast...then brunch or lunch, and dinner...I've been doing this since before I got married...” (Participant 5)

“...I usually have porridge or yellow rice for breakfast...eat again in the afternoon...sometimes for dinner...I consume lots of liquids such as tea and water. I can drink up to 6 glasses of water per day” (Participant 7)

“...since I was pregnant, I lost my appetite, snacked more often... I usually eat with my child, or just finish the leftovers...” (Participant 11)

Discussion

(NARANJI & VELAMALA, 2016) This study showed that pregnant women have less knowledge about nutrition. This study showed a lack of knowledge about the benefits of nutrition for pregnant women and caused them to neglect their diet and meal frequency. The lack of knowledge of pregnant women about nutrition is one of the factors causing the lack of variety in their diet. The diversity of nutrients consumed by pregnant women is important to improve their nutritional status. Lack of nutritional knowledge will lead to eating patterns that are not recommended and result in malnutrition, while those who have good nutritional knowledge tend to have good nutritional status (Puspitaningrum, 2017). Good nutrition and knowledge in pregnant women can prevent nutritional attitudes problems (Marchianti et al., 2022; Safitri & Husna, 2022). Women in Indonesia have always lived with taboos. Until now, people still adhere to dietary restrictions which might reduce their nutritional intake (Melesse & van den Berg, 2021). Various food restrictions for pregnant women narrow their food choices. Their compliance with taboos and taboos is influenced by the perception that any advice from parents, especially mothers, is good for them (Humaeni, 2016). Food taboos that are accompanied by various negative consequences for anyone who violates them still exist today. Susanto (1991) argues that people still believe in mystical things related to taboos or prohibitions that are accompanied by bad consequences and have mystical values. Mothers in Indonesia prioritize food for their husbands and children. Mothers think that husbands need more food to support their work and prioritize children's food for their growth and development. Some cases showed that the mother would eat after making sure there was enough food for her husband and child; she will eat the rest of the food. Mothers care for children and prioritize the nutritional needs of other members (Maykondo et al., 2022). Some families still apply gender-based food distribution, where mothers prepare and prioritize their husbands and children, and take the rest of the food, without considering nutritional needs during pregnancy (Lennox et al., 2017). Low knowledge of nutrition also causes pregnant women to only consume food according to their taste. The food eaten is not following balanced nutrition recommendations. Knowledge plays an important role in shaping one's behavior. Behavior is formed because of the stimulus. Knowledge is one of the behavioral stimuli. Knowledge-based behavior will last longer (Silalahi et al., 2013). A high level of knowledge has a relationship with a

positive attitude and good practice (Zhong et al., 2020). Behavior is a response to a stimulus, either passively or actively. In this study, most of the participants had poor eating behavior. This is following the lack of knowledge of the respondents. This behavior can be caused by knowledge. The level of nutritional knowledge is related to the attitude and behavior of a balanced nutritional diet (Melesse & van den Berg, 2021).

Conclusion

Some respondents had a bad eating pattern before becoming pregnant. Lack of knowledge about nutrition makes pregnant women not eat properly. This study showed good support from family and health workers. Pregnant women also need to be motivated to eat as recommended. Economic conditions also affect eating behavior where pregnant women prioritize their husbands or children. It is necessary to increase the knowledge and understanding of pregnant women about nutrition, especially regarding the sources and benefits of nutrition for pregnant women and their fetuses.

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