

LOCAL FOOD UTILIZATION TO SUPPORT PMT AMONG PREGNANT WOMEN WITH CED

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ABSTRACT

Background: Chronic Energy Deficiency (CED) among pregnant women remains a public health problem affecting maternal and fetal health outcomes. Local food utilization as part of Supplementary Feeding Programs (PMT) may serve as an alternative strategy to support maternal nutrition because it is accessible, affordable, and culturally appropriate. **Objective:** This study aimed to describe local food utilization among pregnant women with CED in supporting PMT programs. **Methods:** A quantitative descriptive design was used. The study population consisted of all 25 pregnant women with CED using a total sampling technique. Data were collected using validated and reliable structured questionnaires and analyzed descriptively using frequency and percentage distributions. **Results:** The results showed that most respondents had poor knowledge (40%), followed by moderate knowledge (32%) and good knowledge (28%). Regarding attitudes, 56% of respondents showed negative attitudes, while 44% demonstrated positive attitudes toward local food utilization in supporting PMT programs. **Conclusion:** Local food utilization in supporting PMT programs among pregnant women with CED remains suboptimal. Strengthening nutrition education and continuous assistance from healthcare providers, particularly midwives, are needed to improve maternal knowledge and positive attitudes toward local food utilization during pregnancy.

Keywords: CED, local food, PMT, pregnant women, food utilization

INTRODUCTION

Chronic Energy Deficiency (CED) among pregnant women remains an important public health problem in many developing countries, including Indonesia. CED during pregnancy is associated with inadequate long-term intake of energy and nutrients, which negatively affects maternal and fetal health. This condition increases the risk of anemia, preterm birth, low birth weight (LBW), fetal growth restriction, and higher maternal and neonatal morbidity and mortality (Fatimah & Yuliani, 2019; Hellyana, Aritonang, Evawany Y, Sanusi, 2019; Heriyanti, Suminar, Rohmah, & Hindiarti, 2026). In addition to affecting pregnancy outcomes, maternal CED also contributes to stunting and impaired child growth and development in later life (Eshak et al., 2020; Koletzko et al., 2019; Wati et al., 2024).

Globally, maternal undernutrition remains a major concern in efforts to improve maternal and child health. Previous studies have reported that the prevalence of CED among pregnant women remains high in developing countries due to limited access to nutritious food, low educational levels, socioeconomic conditions, and inadequate maternal knowledge regarding nutrition (Desyibelew & Dadi, 2019; Okube et al., 2022). In Indonesia, data from the 2023 National Basic Health Research (*Riskesmas*) reported a prevalence of 17.3% among pregnant women, while West Java Province recorded a prevalence of 14.08% (Dinas Kesehatan Provinsi Jawa Barat, 2023; *Riskesmas*, 2023). At the regional level, the Ciamis District Health Office

reported an increase in CED prevalence among pregnant women from 48% to 51% in 2024. A similar increase was also found in the working area of Baregbeg Primary Health Center, from 7.7% to 8.9% (Dinkes Ciamis, 2024; Heriyanti, Suminar, Rohmah, & Hindiarti, 2026).

Various government efforts have been implemented to address CED among pregnant women, including Supplementary Feeding Programs (PMT). This program aims to improve maternal energy and protein intake through supplementary foods that support maternal nutritional status during pregnancy. However, PMT implementation still faces several challenges, including limited food diversity, low utilization of local food resources, and inadequate maternal understanding of nutritious food sources available in the surrounding environment (Heriyanti, Suminar, Ningrum, et al., 2026; Kementrian Kesehatan Republik Indonesia, 2023).

Local food has considerable potential as an accessible, affordable, and culturally appropriate nutritional source. The utilization of local food in supporting PMT programs may become a strategic and sustainable approach to improving maternal nutritional status. However, successful utilization of local food is strongly influenced by maternal knowledge and attitudes regarding nutritious food consumption during pregnancy (Heriyanti, Suminar, Ningrum, et al., 2026; Heriyanti, Suminar, Rohmah, Heryani, et al., 2026; Jauhari et al., 2025).

Although many studies have discussed CED and PMT programs, research regarding local food utilization among pregnant women with CED remains limited, particularly concerning maternal knowledge and attitudes in rural settings. Most previous studies focused on risk factors and nutritional status, while studies describing local food utilization as support for PMT programs are still limited. This condition indicates a research gap that requires further investigation to support the development of local food-based nutrition education.

Therefore, this study aims to describe local food utilization among pregnant women with CED in supporting Supplementary Feeding Programs (PMT). This study is expected to contribute to the development of maternal health promotion and local food-based nutrition education by healthcare providers, particularly midwives, in preventing and reducing CED among pregnant women.

METHOD

Participant characteristics and research design

This study employed a quantitative descriptive design. The study was conducted in Sukamulya Village, Ciamis Regency. Participants were pregnant women with Chronic Energy Deficiency (CED) identified through mid-upper arm circumference (MUAC) measurements of less than 23.5 cm. Respondent characteristics examined in this study included age, educational level, occupation, parity, knowledge, and attitudes toward local food utilization in supporting Supplementary Feeding Programs (PMT).

The inclusion criteria were pregnant women with CED who were willing to participate and able to communicate effectively. Exclusion criteria included respondents who did not complete the questionnaire.

Sampling procedures

The study population consisted of all pregnant women with CED registered in the study area, totaling 25 respondents. A total sampling technique was applied, in which all eligible participants were included in the study. Data collection was conducted in the working area of Baregbeg Primary Health Center.

Before data collection, the researcher explained the objectives and procedures of the study to all participants. Respondents who agreed to participate signed informed consent forms. The study was conducted according to ethical principles, including confidentiality, voluntary participation, and the right to withdraw from the study at any time.

Sample size, power, and precision

The intended and actual sample size in this study consisted of 25 pregnant women with CED. The sample size was determined based on the total number of pregnant women with CED available in the study area. No interim analyses or stopping rules were applied during the study.

Measures and covariates

The research instrument was a structured questionnaire developed by the researcher based on theories related to maternal nutrition, CED, local food utilization, and Supplementary Feeding Programs (PMT). The questionnaire consisted of respondent characteristics, knowledge, and attitude sections.

Content validity of the questionnaire was assessed by experts in midwifery and public health nutrition to ensure the relevance of questionnaire items to the research objectives. Reliability testing was conducted prior to the study and indicated that the instrument was appropriate for data collection.

Knowledge variables were measured using multiple-choice questions regarding the definition and benefits of local food, maternal nutritional needs, and local food utilization in PMT programs. Attitude variables were measured using a Likert scale with response options including strongly agree, agree, disagree, and strongly disagree regarding local food utilization during pregnancy.

Data analysis

Data were analyzed using univariate analysis. The analysis aimed to describe respondent characteristics, knowledge levels, and attitudes toward local food utilization in supporting PMT programs. The results were presented in the form of frequency and percentage distributions.

RESULTS AND DISCUSSION

Table 1
Characteristics of Respondents (n=25)

Characteristics	Frequency (f)	Percentage (%)
Age		
<20 years	6	24
20–35 years	11	44
>35 years	8	32
Education		
Elementary School	9	36
Junior High School	8	32
Senior High School	6	24
Bachelor Degree	2	8
Occupation		
Unemployed	14	56
Employed	11	44
Parity		
Primigravida	16	64
Multigravida	9	36

This study involved 25 pregnant women with Chronic Energy Deficiency (CED) who participated in nutrition education regarding local food utilization in supporting Supplementary Feeding Programs (PMT). Respondent characteristics included age, educational level,

occupation, and parity. The results showed that most respondents were aged 20–35 years, totaling 11 respondents (44%), had elementary school education totaling 9 respondents (36%), were unemployed totaling 14 respondents (56%), and were primigravida totaling 16 respondents (64%).

Table 2
Knowledge of Pregnant Women with CED Regarding Local Food Utilization

Knowledge Level	Frequency (f)	Percentage (%)
Good	7	28
Moderate	8	32
Poor	10	40
Total	25	100

Based on Table 2, most respondents had poor knowledge regarding local food utilization in supporting PMT programs totaling 10 respondents (40%). Respondents with moderate knowledge totaled 8 respondents (32%), while only 7 respondents (28%) had good knowledge. These findings indicate that maternal understanding regarding the benefits and utilization of local food remains relatively limited.

Table 3
Attitudes of Pregnant Women with CED toward Local Food Utilization

Attitude	Frequency (f)	Percentage (%)
Positive	11	44
Negative	14	56
Total	25	100

Based on Table 3, most respondents demonstrated negative attitudes toward local food utilization totaling 14 respondents (56%), while positive attitudes were found among 11 respondents (44%). These findings indicate that some pregnant women with CED still have limited acceptance and unfavorable perceptions regarding local food utilization as a nutritional source to support PMT programs.

Discussion

The findings showed that most pregnant women with CED had limited knowledge regarding local food utilization in supporting Supplementary Feeding Programs (PMT). Low knowledge levels may be associated with respondents' educational background, as most participants had only elementary school education. Education is an important factor influencing an individual's ability to receive and understand health information, including information related to maternal nutrition during pregnancy (Hapsari & Lestari, 2024; Prajayanti & Baroroh, 2023).

Limited knowledge regarding local food may cause pregnant women to lack understanding of the benefits, nutritional content, and utilization of local food as a nutritional source during pregnancy. In fact, local food has considerable potential as a nutritious, accessible, and culturally appropriate food source (Heriyanti, Suminar, Ningrum, et al., 2026; Heriyanti, Suminar, Rohmah, Heryani, et al., 2026; Jauhari et al., 2025). These findings are consistent with previous studies reporting that inadequate maternal knowledge is associated with suboptimal nutritional practices during pregnancy (Liliandriani & Nengsi, 2021; Vonny, 2023).

Regarding attitudes, most respondents demonstrated negative attitudes toward local food utilization. Negative attitudes may be influenced by dietary habits, limited variations in local food processing, and perceptions that local food has lower nutritional value compared to modern food products (Heriyanti, Suminar, Ningrum, et al., 2026; Heriyanti, Suminar, Rohmah, Heryani, et al., 2026). Sociocultural factors and family support may also influence maternal acceptance of local food utilization during pregnancy (ANDRIYANI, 2026; Gustanella & Pratomo, 2022).

Local food utilization has substantial potential in supporting PMT programs because local food resources are generally affordable, accessible, and widely available within the community. Local foods such as tubers, legumes, green vegetables, and local protein sources may serve as alternative energy and protein sources for pregnant women with CED (Heriyanti, Suminar, Ningrum, et al., 2026). However, without adequate knowledge and positive attitudes, local food utilization cannot be optimized.

These findings highlight the important role of healthcare providers, particularly midwives and community health workers, in delivering nutrition education regarding local food utilization among pregnant women. Continuous nutrition education through antenatal care services, maternal classes, and community health activities is expected to improve maternal understanding and acceptance of local food as a nutritional source during pregnancy.

LIMITATION OF THE STUDY

This study has several limitations, including the relatively small sample size and the focus on a single study area, which may limit the generalizability of the findings. Future studies are recommended to involve larger sample sizes and examine other factors influencing local food utilization among pregnant women with CED.

CONCLUSIONS AND SUGGESTIONS

This study showed that local food utilization in supporting Supplementary Feeding Programs (PMT) among pregnant women with Chronic Energy Deficiency (CED) remains suboptimal. Most pregnant women with CED had poor knowledge and demonstrated negative attitudes toward local food utilization during pregnancy. These findings indicate that maternal knowledge and attitudes remain important factors influencing the utilization of local food as a source of maternal nutrition. This study contributes to the development of local food-based maternal health promotion, particularly in rural communities. Healthcare providers, especially midwives and community health workers, play an important role in improving nutrition education and encouraging the utilization of local food resources as preventive efforts to support PMT programs and reduce CED among pregnant women.

Future studies are recommended to involve larger sample sizes and broader study areas to provide more comprehensive findings regarding community conditions. Further research may also examine other factors influencing local food utilization, such as dietary culture, family support, socioeconomic conditions, and food accessibility among pregnant women with CED.

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ETHICAL CONSIDERATIONS

This study obtained permission from the relevant authorities prior to data collection. All respondents were informed about the objectives, procedures, benefits, and participants' rights during the study. Respondents who agreed to participate signed informed consent forms as evidence of voluntary participation. The researchers ensured the confidentiality of participants' identities and data, and all collected information was used solely for research purposes. This study was conducted in accordance with ethical principles in health research.

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Conflict of Interest Statement

The authors declare that there are no financial or non-financial conflicts of interest that could have influenced the results, analysis, or publication of this study. This research was conducted independently without any relationship or involvement with organizations or parties that could potentially create bias in the implementation or reporting of the research findings.

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