

## Dietary Patterns and Nutritional Knowledge Among Pregnant Women in Okrika, Rivers State Nigeria

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### Abstract

This study examined dietary patterns and nutritional knowledge among pregnant women in Okrika, Rivers State. Three specific objectives and three research questions guided the study. The study adopted a cross-sectional survey design. The population was 420 comprising of 120 pregnant women and 300 breastfeeding mothers. The sample size for this study was 200 comprising 100 pregnant women and 100 breastfeeding women who were selected using the stratified sampling technique. A 4-point rating scale questionnaire was used to collect data through direct contact. Mean and standard deviation were used to analyse the data from the questionnaires while independent t-test was used in testing the hypotheses at 0.05 level of significance. The major findings are that there is low level of nutrition knowledge among the pregnant women and breastfeeding mothers. Poor nutrition attitudes by the pregnant women include: not focusing on optimal nutrition; rely on local foods; not prioritize their food intake; while the determinants of dietary patterns amongst pregnant women include the level of one's education; level of income; cultural beliefs; nutrition awareness. Poor dietary patterns amongst pregnant women leads to: maternal health complications; poor growth/development of the foetus; pregnancy complications; The study recommended among others that relevant agencies such as community health managers, local government authorities and public health professionals should collaborate for a comprehensive nutrition education programme that is aimed at improving the nutrition knowledge of pregnant women and women of childbearing ages.

**Keywords:** Dietary Patterns, Nutritional Knowledge, Pregnant Women

#### History:

Received : October 6, 2025

Revised : October 27, 2025

Accepted : November 30, 2025

Published : December 31, 2025

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## INTRODUCTION

Nutrition has a vital role in both development and health. Increased longevity, stronger immune systems, safer pregnancies and deliveries, a decreased risk of non-communicable illnesses, and better newborn, child, and maternal health are all associated with better nutrition (Nas, 2017). Individuals who eat healthily are more productive and can open doors to progressively ending the cycles of hunger and poverty. The impact of nutrition on individuals, particularly pregnant and gestating women, is determined by a number of factors, including dietary patterns, according to research (Loy & Cheung, 2019).

The style of dieting is referred to as a dietary pattern. According to Lowensohn and Stadler (2016), it is the amount, kind, or combination of various meals and beverages in a diet as well as how frequently they are regularly taken. At all times, it also covers what, how, and when people eat. Rather than specific food components, the overall dietary pattern may have a significant impact. Consuming a lot of fruits, vegetables, nuts, and legumes, as well as low-fat dairy products and whole grains, while limiting intakes of processed meats, are all components of healthy dietary patterns (Morrison, 2016). Access to information on nutrition and how it interacts with health may have an impact on a person's eating habits.

Nutrition knowledge is the understanding of the ideas and procedures pertaining to nutrition and health, such as diet and health, diet and disease, and dietary guidelines and recommendations (Lowensohn & Stadler, 2016). Diet quality has been found to be favourably correlated with nutrition knowledge, which is thought to be a way to influence customers to make healthier decisions. The connection between pregnant women's food habits and their knowledge of nutrition is up for debate. Nonetheless, the importance of eating a balanced diet and making good nutritional choices throughout pregnancy have been emphasized.

The time between conception and birth is known as pregnancy. The infant grows and develops inside the mother's womb throughout this time (Martin-Fairey & Zhao, 2019). During pregnancy, this phrase is frequently used to indicate the stage of the pregnancy. In viviparous animals, it is also the developmental stage during the bearing of an embryo and, subsequently, a fetus (Lovibond & Lovibond, 2019). Although it is common in mammals, certain non-mammals also experience it. Pregnant mammals may experience one or more gestations concurrently, such as in a multiple birth. Pregnancy-related nutritional needs are therefore crucial.

For a pregnancy to be healthy, nutrition is important. For this reason, scientists and professionals have argued that eating a balanced diet is important for a healthy pregnancy and beyond. According to research, an additional 300 calories per day are required to ensure a healthy pregnancy (Loy & Cheung, 2019). A balanced diet consisting of whole grains, fruits, vegetables, and protein should provide these calories (Lovibond & Lovibond, 2019). Certain pregnancy symptoms, such as nausea and constipation, can also be lessened with a nutritious, well-balanced diet or food intake (Martin-Fairey & Zhao, 2019).

Conversely, a departure from wholesome meals may lead to unhealthy eating patterns. Unhealthy eating habits put a pregnancy at risk, perhaps putting the mother's life and the unborn child at jeopardy. These behaviors include irregular food consumption, overeating, undernutrition, skipping meals, and drinking alcohol. Lack of information about nutrition may cause people to adopt poor eating habits, such as consuming insufficient amounts of vital nutrients and energy. Despite efforts to educate and encourage pregnant women to choose a better, more balanced diet, it appears that they continue to frequently consume diets that are higher in sugar, saturated fats, salt, and processed cereals (Morrison, 2016). Pregnant women have been undernourished as a result.

Furthermore, women who are undernourished in the early stages of pregnancy are more likely to experience metabolic problems and labor and delivery issues. Furthermore, missing meals when pregnant is bad for the unborn child as well as the expectant mother. What the mother eats throughout pregnancy provides the baby with vital nutrients (Morrison, 2016). The fetus draws nourishment from the blood and placenta. During the first trimester of pregnancy, a baby's organs are developing and need particular vitamins and minerals to flourish as best they can (Nas, 2017). However, a lot of pregnant women miss meals, which adds up to bad eating habits that could deprive the expectant mother of vital nutrients.

A key factor in determining nutritional status during pregnancy is the consumption of essential nutrients, which is mostly influenced by dietary choices. A nutritious diet rich in fruits, vegetables, whole grains, and proteins can help most pregnant women fulfill their increased needs (Loy & Cheung, 2019). Nutrients abound in fruits and vegetables. Pregnant women are likely to obtain the majority of the vitamins, minerals, and fiber they and their unborn children require when they include a variety of them in their diet. Constipation is another typical pregnancy symptom that can be avoided by eating fruits and vegetables

(Lovibond & Lovibond, 2019). But in rural places like Okrika, poor eating of fruits and vegetables is a problem for many pregnant women.

Policymakers have taken notice of the need to provide pregnant women special attention in developing regions like Okrika in Rivers State. This is due to the fact that many women already face significant eating issues. Pregnant women thus have an additional nutritional burden. Previous research has focused on women's overall nutritional status and food management techniques. This study was being conducted against this backdrop.

### **Statement of the Problem**

Pregnancy increases the requirement for nutrients and energy. In the womb and during the early years of life, meeting them is essential for the health of the mother and her fetus/child. However, many pregnant women engage in irregular food consumption and eat whatever within their reach to satisfy their hunger in various parts of the world, such as Okrika in the Niger Delta. The majority of the foods they consume are heavy in fat, sugar, and salt. They shouldn't eat these things. Eating poorly can raise the mother's and the unborn child's risk of health problems both during and after pregnancy. Anaemia, pre-eclampsia, hemorrhage, and maternal mortality can also result from inadequate diets deficient in important micronutrients, such as iodine, iron, folate, calcium, and zinc. Additionally, they may cause wasting, low birthweight, stillbirth, and problems in a child's development. For pregnant women and their fetus to grow and develop healthily both during and after pregnancy, proper dietary knowledge is necessary. Thus, the research on eating habits and nutritional awareness among pregnant women in Okrika, Rivers State.

### **Purpose of the Study**

The main purpose of this study was to examine dietary patterns and nutritional knowledge among pregnant women in Okrika, Rivers State. Specifically, the study has the following objectives which are to determine:

1. pregnant women's nutritional awareness in Okrika, Rivers State;
2. pregnant women's attitudes toward practicing good nutrition in Okrika, Rivers State;
3. the factors influencing pregnant women's eating patterns in Okrika, Rivers State.

### **Research Questions**

The study was guided by the following research questions:

1. What is the extent of awareness on nutritional awareness for pregnant women's in Okrika, Rivers State?
2. What are the attitudes of pregnant women's toward practicing good nutrition in Okrika, Rivers State?
3. What are the factors influencing pregnant women's eating patterns in Okrika, Rivers State?

### **Conceptual Framework**

Pregnancy is the period of time between conception and birth. During this time, the baby grows and develops inside the mother's womb. According to Gadson et al. (2017), pregnancy is the period of development during the carrying of an embryo, and later foetus, inside viviparous animals (the embryo develops within the parent). It is typical for mammals, but also occurs for some non-mammals. In the assessment of Scobell and Mackenzie (2021),

Nutrition knowledge is essential in creating cognizance of ample nutrition intake among pregnant women. Lack of knowledge of sufficient nutrition is stated as an instant cause of malnutrition. Evidence has shown that nutrition knowledge is predictive of change in dietary habits and is one of the contributing factors to having a better nutritional practice (Crozier et al., 2018). Thus, pregnant women are expected to have adequate knowledge to meet their increased dietary demands and attain optimal nutritional status during pregnancy (Black et al., 2017). Women may have myths about diet selection during the pregnancy period. According to a finding from Turin, most pregnant mothers have incorrect nutrition knowledge and wrong opinions about nutrition practices (Crozier et al., 2018). As evidenced by a large body of research, educational status, occupations and parity is a factor that influences nutrition knowledge, attitude and practice (Black et al., 2017).

Dietary patterns are defined as the quantities, proportions, variety, or combination of different foods, drinks, and nutrients in diets, and the frequency with which they are habitually consumed (Crozier et al., 2018). The approach of using dietary patterns as an assessment tool to determine diet quality provides a meaningful bridge toward disseminating messages intended to promote high-quality diets (Englund-Ögge et al., 2017). Diet quality reflects dietary patterns comprised of foods and beverages that, in total, are associated with better health and reduced risk for chronic disease. High-quality refers to the most nutrient-dense form of a food with the least amount of added sugars, sodium, and saturated fat (Fowles et al., 2021). The nutritional quality of a dietary pattern can be determined by assessing the nutrient content of its constituent foods and beverages and comparing these characteristics to age- and sex-specific nutrient recommendations for inadequacy and quantitative limits (Crozier et al., 2018).

## **METHODOLOGY**

This study adopted a cross-sectional survey design employing quantitative methods of data collection. The study was conducted in Rivers State's Okrika. The capital of the same-named Local Government Area is the island of Okrika in Rivers State, Nigeria. The town is a suburb of the much larger city of Port Harcourt, located on an island to the south. Many pregnant women in Okrika experience difficulties both during and after their pregnancies and deliveries. A good food pattern should have prevented some of these issues, such as nutritional ones. The population for the study comprised: (i) all the 120 pregnant women who are registered for antenatal care programmes, and (ii) 300 breastfeeding mothers on postnatal care appointments, both at the Okrika General Hospital, Okrika (Okrika Hospital Records, 2023). In addition they were considered to be ideal for the study because the pregnant women are directly involved, while the breastfeeding women have just emerged from the same conditions and with dietary experiences in the area.

The sample size for this study was 200 respondents. The Krejcie and Morgan (1970) sampling table was used to determine the sample size. A total of 100 pregnant women and 100 breastfeeding mothers on postnatal care appointments were selected for the study. The stratified sampling technique was used to group this population into two namely: Pregnant Women (PW) and Breastfeeding Mothers (BM). The instrument used for data collection was a structured questionnaire form titled 'Nutrition Knowledge and Dietary Practice Questionnaire' (NKDPQ) which was designed to answer the research questions. The questionnaire was designed on a 4-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The NKDPQ was divided into two sections – A and B. The Section A was designed to solicit information from the first category of sample (PW and BM).

Three senior staff at of the Rivers State University Teaching Hospital in Port Harcourt were presented with the questionnaires for face validation based on the clarity of purpose, especially in achieving the objectives of the study. The test – retest method was used to test the internal consistency of the questionnaires using eleven pregnant and breastfeeding mothers from Rivers State Teaching Hospital, Port Harcourt. The reliability of the instrument was tested using Cronbach’s alpha coefficient test to obtain a reliability index of 0.84. A total of two hundred copies of the instruments were distributed to the respondents. One hundred (100) copies of the NKDPQ for Section A of was administered on a day for antenatal meeting, while the other 100 copies was administered on post-natal meetings for breastfeeding mothers on appointments. However, these surveys were carried out after the researcher have received an approval from the management of the hospital. In the end, a 100% retrieval rate was obtained. Mean and standard deviation were used to analyze the data. The decision rule was set based on the cut-off mark of 2.5 mean score. The implication is that any item with mean score lower than 2.5 was disagreed with (D), while items with mean scores of 2.5 and higher were agreed with (A). Independent t-test were used in testing the hypotheses.

## RESULTS

### Research Question 1

What is the extent of awareness on nutritional awareness for pregnant women's in Okrika, Rivers State?

**Table 1: Mean and Standard Deviation on the awareness on nutritional awareness for pregnant women's in Okrika, Rivers State**

	n= 100 (PW)			n=100 (BM)		
	$\bar{X}$	SD	RMK	$\bar{X}$	SD	RMK
I am aware:						
1. of what constitute a balanced diet	2.44	0.89	D	1.89	0.93	D
2. that folic acid is essential in pregnancy	2.65	0.84	A	2.56	0.83	A
3. that iron-rich foods are essential	1.90	0.93	D	2.01	0.91	D
4. of the need to consume calcium-rich foods	2.01	0.92	D	1.88	0.91	D
5. that importance of omega-3 fatty acids	1.11	0.98	D	2.03	0.91	D
6. Vitamin D foods are essential for pregnant women	1.17	0.97	D	1.81	0.92	D
7. that staying well-hydrated is essential during pregnancy	3.01	0.85	A	2.99	0.86	A

**Keys:** PW=Pregnant Women; BM=Breastfeeding Mothers;  $\bar{X}$  =Mean; SD=Standard Deviation; RMK=Remark; n=sample size

Table 1 shows the mean and standard deviation on the awareness on nutritional awareness for pregnant women's in Okrika, Rivers State. The results show that items 1, 3-6 were disagreed with because the items had mean scores which were less than  $\bar{X}$  2.50 which was the cut-off mark. However, items 2 and 7 were agreed with because they had mean scores which were above  $\bar{X}$  2.50. The table also shows that the highest mean score was  $\bar{X}$  3.01 (item 7), while the lowest mean score was  $\bar{X}$  1.11 (item 5). The standard deviation ranged from 0.83 to 0.97.

**Research Question 2**

What are the attitudes of pregnant women's toward practicing good nutrition in Okrika, Rivers State?

**Table 2: Mean and Standard Deviation on the attitudes of pregnant women's toward practicing good nutrition in Okrika, Rivers State**

	n= 100 (PW)			n=100 (BM)		
	$\bar{X}$	SD	RMK	$\bar{X}$	SD	RMK
<b>pregnant not:</b>						
1. do not avoid skipping meals	3.21	0.83	A	3.18	0.81	A
2. focus on optimal nutrition	1.09	0.91	D	2.19	0.90	D
3. do not rely on local foods	2.76	0.89	A	3.01	0.93	A
4. prioritize their food intake	2.15	0.94	D	1.99	0.86	D
5. pay attention to food hygiene	2.36	0.87	D	2.17	0.85	D
6. include adequate vegetables in meals	1.88	0.89	D	2.15	0.94	D
7. make efforts to include fruits in diets	2.22	0.85	D	2.24	0.85	D
8. avoid the intake of alcohol	2.14	0.93	D	1.78	0.96	D

Keys: PW=Pregnant Women; BM=Breastfeeding Mothers;  $\bar{X}$  =Mean; SD=Standard Deviation; RMK=Remark; n=sample size

Table 2 shows the mean and standard deviation on the attitudes of pregnant women's toward practicing good nutrition in Okrika, Rivers State. The results show that items 2, 4-8 were disagreed with because the items had mean scores which were less than  $\bar{X}$  2.50 which was the cut-off mark. However, items 1 and 3 were agreed with because they had mean scores which were above  $\bar{X}$  2.50. The table shows that the highest mean score was  $\bar{X}$  3.21 (item 8), while the lowest mean score was  $\bar{X}$  1.09 (item 2). The standard deviation ranged from 0.81 to 0.96.

**Research Question 3**

What are the factors influencing pregnant women's eating patterns in Okrika, Rivers State?

**Table 3: Mean and Standard Deviation on the factors influencing pregnant women's eating patterns in Okrika, Rivers State**

	n= 100 (PW)			n=100 (BM)			
	$\bar{X}$	SD	RMK	$\bar{X}$	SD	RMK	
<b>The following are the factors influencing dietary patterns amongst pregnant women:</b>							
1. the level of one's education	2.67	0.89	A	2.81	0.88	A	
2. level of income	3.01	0.86	A	2.90	0.88	A	
3. cultural beliefs	2.81	0.90	A	2.88	0.89	A	
4. nutrition awareness	2.91	0.89	A	3.66	0.83	A	
5. food availability	3.89	0.79	A	3.91	0.76	A	
6. access to available foods	2.96	0.87	A	3.67	0.77	A	
7. extent of support from family		3.27	0.76	A	3.33	0.76	A
8. personal beliefs/perceptions	2.71	0.91	A	2.56	0.93	A	

Keys: PW=Pregnant Women; BM=Breastfeeding Mothers;  $\bar{X}$  =Mean; SD=Standard Deviation; RMK=Remark; n=sample size

Table 3 shows the mean and standard deviation on the factors influencing pregnant women's eating patterns in Okrika, Rivers State. The results indicate that all the items 1-8 were agreed with because the items had mean scores which were  $\bar{X}$  2.50 and above which was the cut-off mark. The table shows that the highest mean score was  $\bar{X}$  3.91 (item 5), while the lowest mean score was  $\bar{X}$  2.56 (item 8). The standard deviation ranged from 0.76 to 0.93.

## **Discussion of Findings**

The findings from the research questions on the awareness on nutritional awareness for pregnant women in Okrika Rivers State revealed that there was low level of nutrition awareness among the pregnant women and breastfeeding mothers because majority of the responses showed low scores which below  $\bar{X}$  2.50 – the cut-off mark. The findings revealed that the respondents were not aware of what constitute a balanced diet; that iron-rich foods are essential; the need to consume calcium-rich foods; importance of omega-3 fatty acids; and Vitamin D foods are essential for pregnant women. However, the respondents agreed that they are aware that folic acid is essential in pregnancy, and that staying well-hydrated is essential during pregnancy.

Abraham (2016) asserts that many pregnant and lactating women in rural or semi-urban areas are less conscious of nutrition, which lends credence to these findings. In order to promote both their personal health and the growth of their developing unborn child, pregnant women are advised to acquire a solid awareness of the many facets of nutrition. According to Boufars et al. (2016), pregnant women should aim for a balanced diet that consists of a range of meals from all food groups that are high in nutrients. Usually, this entails eating enough fruits, vegetables, whole grains, lean meats, and healthy fats. But a lot of these women might not know what a balanced diet is or what foods offer the nutrients they need to grow and thrive.

Adequate folate intake is crucial for the early development of the baby's neural tube, which later forms the brain and spinal cord (Coleman-Jensen et al, 2016). Pregnant women in rural areas may not get adequate information and advice to consume foods rich in natural folate, such as leafy green vegetables, legumes, and citrus fruits. Additionally, a folic acid supplement is often recommended before and during early pregnancy to ensure sufficient intake. On the other hand, iron is necessary for the production of red blood cells and to prevent iron-deficiency anemia in both the mother and the baby. Good sources of iron include lean meats, poultry, fish, legumes, and fortified cereals. Iron absorption can be enhanced by consuming vitamin C-rich foods along with iron-rich foods. Also, calcium is essential for the development of the baby's bones and teeth. Pregnant women need to be aware of the foods to consume such as adequate amounts of dairy products, such as milk, cheese, and yogurt, or other calcium-rich foods like fortified plant-based milk, leafy green vegetables, and tofu.

Furthermore, DHA (docosahexaenoic acid), one of the omega-3 fatty acids, is essential for the development of the baby's brain and eyes. Walnuts, chia seeds, flaxseeds, and fatty fish (such as salmon, sardines, and trout) are all excellent providers of omega-3 fatty acids (Cook et al., 2018). Bone health and calcium absorption depend on adequate vitamin D. Sunlight, fatty fish, egg yolks, and fortified dairy products or plant-based milk are all natural sources of vitamin D. A supplement could be suggested in certain situations, particularly if exposure to sunshine is restricted. It's crucial to drink enough of water while pregnant. Drinking a lot of water throughout the day is important for pregnant women since dehydration can cause problems.

The findings from the research question on the attitude of pregnant women towards practice of good nutrition in Okrika Rivers State revealed poor nutrition attitudes by the respondents because the items had mean scores which were lower than 2.50 which was cut-off mark. The following are the attitude of pregnant women towards practice of good nutrition: avoid skipping meals; focusing on optimal nutrition; rely on local foods; prioritize their food intake; pay attention to food hygiene; include adequate vegetables in meals; make efforts to include fruits in diets; avoid the intake of alcohol. These findings are supported by Adetutu

(2014) who noted that in rural areas, the attitudes of pregnant women towards the practice of good nutrition can vary depending on several factors such as poor nutrition education and awareness.

Traditional beliefs and traditions are important in many rural communities, like the Okrika area of Rivers State. Some expectant mothers may place a high value on adhering to customary eating habits that have been handed down through the ages. They might use regional foods, herbs, and cures that are thought to promote a safe pregnancy. Additionally, they might take up unhealthy habits like drunkenness. Access to fresh and varied food alternatives, medical services, and nutritional education are frequently issues in rural locations. In these places, expectant mothers might not have easy access to nutritionists, dietitians, or prenatal care, which could affect how they feel about eating healthily.

Furthermore, pregnant women's views about healthy eating can also be influenced by financial limitations. Families in rural locations with little economic options could find it difficult to pay for a healthy, diversified diet. Pregnant women may place more importance on supplying their fundamental nutritional demands than on achieving optimal nutrition. It's crucial to remember that pregnant women in rural areas may have very different opinions about this. The distinct cultural, social, and economic circumstances of every community should be taken into account when working to enhance nutrition during pregnancy.

The findings from the research question on factors influencing pregnant women's eating patterns in Okrika Rivers State, indicate that all the items 16-23 were agreed with because the items had mean scores which were  $\bar{X}$  2.50 and above which was the cut-off mark. The results indicate that the following are the determinants of dietary patterns amongst pregnant women: the level of one's education; level of income; cultural beliefs; nutrition awareness; food availability; access to available foods; extent of support from family, and personal beliefs/perceptions. These findings are supported by the notion of Demola (2020) which noted that the dietary patterns of pregnant women are influenced by a variety of determinants. This author reported that the socioeconomic status of pregnant women, including income, education level, and occupation, can influence their dietary patterns. Higher socioeconomic status is often associated with better access to resources, including nutritious food options and information about healthy eating during pregnancy (Nas, 2017).

Dietary patterns are significantly influenced by cultural and ethnic backgrounds. The kinds of meals pregnant women eat can be influenced by their traditional dietary preferences, cultural beliefs and practices, and pregnancy-related customs (Morrison, 2016). Certain foods may be encouraged or discouraged during pregnancy depending on cultural norms and beliefs. Additionally, food patterns may be impacted by awareness and understanding on the significance of proper nutrition during pregnancy. Healthy eating habits are more likely to be adopted by expectant mothers who have access to reliable information and are properly educated about their nutritional needs. Dietary patterns can be significantly impacted by the accessibility and availability of nutrient-dense food sources in the neighborhood. Pregnant women living in rural or food-insecure areas may face challenges in accessing a variety of fresh fruits, vegetables, and other nutrient-rich foods (Loy & Cheung, 2019). Limited access to healthy food options can lead to reliance on processed or less nutritious alternatives.

## **CONCLUSION**

The need to promote adequate nutrition knowledge for healthy growth and development of pregnant women and their fetus during pregnancy and after pregnancy resulted in this study on nutritional knowledge and dietary patterns amongst pregnant women assessment in Okrika,

Rivers State. This study has revealed that there is low level of nutrition knowledge among the pregnant women and breastfeeding mothers in Okrika. The study further showed poor nutrition attitudes by the pregnant women. It also showed the determinants of dietary patterns amongst pregnant women. According to the study, poor dietary patterns amongst pregnant women leads to maternal health complications, poor growth/development of the fetus and long-lasting negative effects on mother and child among others. It is based on these findings that the study concludes that there is an utmost need for a comprehensive nutrition awareness for young women generally, and pregnant women in particular in the area. This is in a bid to prevent pregnancy complications as well as other related health impediments for both mother and child.

## **RECOMMENDATIONS**

Based on the findings of the study, the following recommendations were made:

1. To improve the nutrition knowledge of pregnant women and women of reproductive age, relevant agencies, including public health professionals, community health managers, and local government authorities, should work together to develop a comprehensive nutrition education program.
2. Nutrition education and awareness programs should focus on positively influencing pregnant women's attitudes toward nutrition by educating them about the consumption of both good and unhealthy foods.
3. Dissuading pregnant women from adhering to cultural customs that compromise their nutritional wellness should be part of nutrition counseling.
4. Families should be urged to provide pregnant women's nutrition top priority by giving them more consideration and helping them obtain wholesome foods.

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