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IDENTIFICATION OF NUTRITIONAL HEALTH PROBLEM AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINICS IN AWKA SOUTH LOCAL GOVERNMENT AREA ANANMBRA STATE

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ABSTRACT

Nutrition plays a vital role in the foetal developmental phase; this growth phase is a determinant of lifetime risk of diseases. The role of optimal nutrition from the beginning of preconception, during pregnancy, at birth, and beyond extending through childhood cannot be overemphasized. The study is aimed towards investigating the nutritional health problems of pregnant women attending antenatal clinics in Awka South Local Government Area of Anambra state. Five null hypotheses guided the study. The research design adopted for the study was documentary research design because a proforma was used as instrument for data collection. The population of the study 3036 pregnant mother attending antenanal Clinics in Chukwuemeka Odumegwu Ohukwu Teaching Hospital Awka. The research showed that the following nutritional problems were the most prevalent identified within the study population: anaemia, hypertension, gestational diabetes, obesity, low protein, and undernourishment. Anaemia was seen to be the most prevalently (n = 162, 32%) while obesity was the least prevalent (n = 32, 6%) nutritional problem. The influence of some factors such as age, educational level of the participants, location, parity, and occupation on the nutritional health of the pregnant women was also investigated. It was seen that the age of the participants did not have any significant impact (p=0.11) on their nutritional health; educational level and location of the participants significantly affected their nutritional health (p=0.004 and p=0.035 respectively). The parity of the participants significantly (p=0.069) influenced their nutritional health but the occupation of the participants has no significant (p=0.069) effect on their nutritional health. It was concluded that nutritional problems existed amongst women attending antenatal with Awka South LGA. There are some factors that can influence the effect of these nutritional health problems. Thus, it was recommended that these women should be educated more on the dangers nutritional health problems pose to their well-being and child's development. It was also recommended that Micronutrient supplementation, monitoring more nutritional health problems and factors that can influence it.

Keywords: Identification; Nutritional Health Problem; Pregnant Women; Antenatal Clinics

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Introduction

Optimal nutrition plays a vital role in the development of the foetus, from preconception to the time of birth, and even beyond birth extending through childhood. Thus, improving the nutritional status and health of mothers prior to conception and during pregnancy period contributes greatly to fetal development, fetal growth, obstetrical outcomes, perinatal survival, and long-term maternal health (Dadi and Desyibelew, 2019). According to Okube, Wanjiku, and Andermariam (2022) reduced risk of disorders and complications (like gestational diabetes mellitus (GDM), preterm birth, obesity-related complications) during pregnancy can be associated with healthy dietary pattern of mothers.

Furthermore, during pregnancy the mother is at her most nutritional vulnerable phase; according to Hassan, (2022) the nutritional requirements of women is dependent on different phases of their life. In certain phases of women's life primarily: preconception, pregnancy, and breastfeeding, their nutrition is heightened. Preconception phase require nutritious and healthy diet to create sufficient reserves for pregnancy. At pregnancy and breastfeeding phase, women require more energy-giving nutritious diet (Desyibelew and Dadi, 2019). For a healthy mother and child, it is necessary to meet the nutritional requirements. Maternal diet and the lifestyle of pregnant mothers are determinant factor of the health of mother and child. Adequate nutrition during pregnancy is essential for the health and survival of mothers and infants (Ocheja, Adesina, Folasire, and Okunlola, 2025). Maternal nutritional risks have been associated with adverse outcomes such as anemia, infections, gestational diabetes, preeclampsia, miscarriage, stillbirths, preterm births, low birth weight, birth defects, and stunted growth. Other complications associated to maternal undernutrition according to Wakwoya, Lema, and Nigatu (2023) are poor fetal development and higher susceptibility to diseases later in life. However, many pregnant women especially in developing countries face multiple nutritional deficiencies due to inadequate dietary intake, poverty, food insecurity and limited access to quality antenatal care. Assessing and addressing maternal nutrition during this vulnerable period is crucial.

In Nigeria, there is poor maternal and child health outcomes due to the prevalence of malnutrition among pregnant women. The country's national surveys according to Desyibelew and Dadi, 2019 indicated that 14-20 percent of Nigerian women are underweight during pregnancy while over a third are anemic. Only 26 percent met minimum dietary diversity scores reflecting poor diet quality. Deficiencies in iron, folic acid, zinc, iodine, vitamin A and other essential micronutrients range from 35-65 percent among pregnant Nigerian women (Ocheja et al., 2025). Key underlying factors that have influenced maternal nutritional problems in Nigeria include food insecurity, inadequate nutrition knowledge, cultural taboos, low educational levels, and insufficient antenatal care access and quality (Desyibelew and Dadi; Clark, 2020). The high burden of malnutrition contributes to Nigeria having one of the highest maternal mortality ratios globally, over 500 deaths per

100,000 live births, mostly due to anemia and infections (National Population Commission, 2019). It also contributes to neonatal mortality rate of 33 per 1000 births, with fetal growth restriction underlying 30 percent of newborn deaths. The annual productivity lost and healthcare expenditures due to malnutrition in Nigeria is about ₦1.35 trillion, significantly hindering socioeconomic development (SUN Nigeria, 2017). Within Anambra state, research also indicates a persistent high burden of nutritional deficiencies among pregnant women. Studies estimated 60 percent of pregnant women attending antenatal clinics were anemic, predominantly due to iron and folate deficiency (Ayensu, et al 2020). Rates of vitamin A deficiency range from 18-65 percent contributing to maternal mortality and vision problems (Abdullah, et al, 2019). Underlying factors for these malnutritional problems in Anambra State are inadequate nutrition knowledge, myths, poverty and limited dietary diversity (Desyibelew and Dadi, 2019).

Despite knowledge on evidence-based nutrition interventions, there appear to be significant gaps in implementation of these services through antenatal care platforms in Anambra state. Assessing the nutritional status, knowledge, behaviours and utilization of preventive services among pregnant women can identify service gaps to guide targeted improvements. Strengthening antenatal nutrition has immense potential to improve pregnancy outcomes and reduce malnutrition-related morbidity and mortality. According to Tijani, Aliyu and Afolabi, (2020), identified nutritional therapy as a fundamental treatment of gestational diabetes mellitus and obesity, most especially for obese pregnant women that have undergone bariatric surgery. This surgery according to Tijani, et al., is usually carried out to assist obese patients' loss weight; it is also known as weight loss surgery.

This background provides an overview of maternal nutrition issues globally, in Nigeria, and Anambra state context, highlighting the need for further research in this area. Improving maternal nutrition has been recognized globally as a priority for enhancing maternal and child survival and health. Multiple undernutrition factors like low weight, short stature, anemia and micronutrient deficiencies affect 20-30 percent of women of reproductive age in developing regions (World Health Organization, 2016). Key risk factors include food insecurity, inadequate healthcare access, gender inequity, low literacy, and poor sanitation (World Health Organization, 2016). Poor maternal nutrition is the underlying cause for up to 20 percent of maternal deaths, 30 percent of newborn deaths and contributes to 2.1 million child deaths annually (Clark, 2020).

Statement of the Problem

Maternal nutrition is crucial for the health of both the mother and the developing fetus during pregnancy. Inadequate dietary intake or poor nutritional status can lead to various health problems for the mother and the baby, such as anemia, gestational diabetes, preeclampsia, low birth weight, and birth defects. Despite the importance of proper nutrition during pregnancy, many pregnant women may not be aware of or

adhere to recommended dietary guidelines and preventive measures.

Maternal nutrition cannot be overemphasized in the sense that the ideal health status of a pregnant woman involves a combination of physical, emotional and mental well-being. By focusing on adequate nutritional food or supplements, pregnant women can optimize their health and well-being, reducing the risk of complications and promoting a healthy pregnancy and birth outcome. It can arise from various factors such as inadequate nutrient intake, poor diet quality due to economic or social constraints, lack of education, cultural and social norms, religious beliefs, preexisting medical conditions and lifestyle factors (Smoking, alcohol consumption etc.)

In light of the above, various policies, intervention programs and strategies put in place by the Anambra State Government to control and prevent maternal nutritional health problems are the free antenatal and delivery programme which was set up in 2023, aimed at addressing this crisis head-on. The programme mandates government owned hospitals and Primary Healthcare Centres (PHCs) to offer free antenatal care and delivery services. Also, the subsidization of routine drugs for pregnant women by the National Primary Health Care Development Agency (NPHCDA).

Despite the availability of antenatal care services in health care centers in Anambra State, there is a lack of comprehensive understanding regarding the preventive measures adopted by pregnant women to address nutritional health problems. This knowledge gap hinders the effective implementation of interventions aimed at improving maternal and child health outcomes.

Therefore, there is a need to investigate the preventive measures practiced by pregnant women attending antenatal clinics in Anambra State to mitigate nutritional health issues and enhance maternal and child well-being. This situation speeds down and there is grave danger if this issue is not mitigated, the lack of comprehensive studies on the nutritional health benefits of adequate knowledge on nutritional health problems of mothers and intending mothers can cause a lot of harm on both mother and child, this underscores the need for focused research which this study intends to investigate.

Therefore, the statement of the problem for this study would be to investigate the extent to which pregnant women attending antenatal clinics in health care centers in Awka South Anambra State are aware of and adopting preventive measures for nutritional health problems during pregnancy.

Purpose of the Study

The purpose of this study was to identify the nutritional health problems of pregnant women attending antenatal clinics in Awka South Local Government Area of Anambra state, Nigeria. Specifically, the study identified:

1. prevalent nutritional health problems of pregnant women attending antenatal clinics in Awka South Local Government Area of Anambra State.
2. nutritional health problems of pregnant women attending antenatal clinics in Awka South Local

Government Area of Anambra State based on their ages.

3. nutritional health problems of pregnant women attending antenatal clinics in in Awka South Local Government Area of Anambra State based on their educational levels.

Research Questions

The following research questions guided the study:

1. What are the prevalent nutritional health problems of pregnant women attending antenatal clinics in Awka South Local Government Area of Anambra State?
2. What are the Nutritional health problems of pregnant women attending antenatal clinics in Awka South Local Government Area of Anambra State based on age?
3. What are the Nutritional health problems of pregnant women attending antenatal clinics in Awka South Local Government Area of Anambra State based on educational level?

Methodology

The research design adopted for the study was documentary research design. Area of the study was Awka South local government area of Anambra State situated in the south-eastern part of Nigeria. The population for this study consisted of 3036 pregnant women attending antenatal care in Chukwuemeka Odimegwu Ojukwu Teaching Hospital Awka South in Ananmbra State, during the period of this study 2020-2024. The sample size for the study was 3036 pregnant women attending antenatal care in Chukwuemeka Odimegwu Ojukwu Teaching Hospital in Awka South Local Government Area of Anambra States from 2020-2024. The research targeted Chukwuemeka Odimegwu Ojukwu Teaching Hospital in Awka South due to their affordability and proximity to individuals within the communities it is situated, thus it is accessible to the majority of the populace and also the hospital has equipment and good facilities for pregnant women.

The instrument used for data collection was a proforma designed by the researcher. The constructed proforma contained the groups to be investigated (age, parity, education, location, and occupation) and nutritional challenges faced by pregnant women. was used to collect data. The proforma titled; "Nutritional Health Problems among Pregnant Women (NHPAPW), comprised two sections; A and B. Section 'A' contained questions on demographic characteristics of interest of the participants. Section B 'Contains 12 nutritional challenges of pregnant women.

The proforma used to collect data was validated by the record keeper, the statician and a health educator in Health Promotion and Public health Education. There was no test of reliability for the instrument of the study because the instrument is in form of an inventory. In addition, the variable will be fixed and it is standardized. The information will require no change or re-modification. On these bases, there will be no test of reliability. Three research assistants were used by the researcher. They were mainly health officers that were familiar with the proforma and patient folders. The research assistant assisted the researcher in collecting the data from the patient's folders to the modified

proforma inventory card and method of collection was based on four years of pregnant women who were attending antenatal clinics from 2020 to 2024.

The collection of data lasted for six weeks; this was arranged on the years which was involved in the study; that is from 2020 to 2024. Frequency and percentage were used in analyzing the research questions while the hypotheses formulated for the study was tested using chi-square. The statistical package for the social sciences (SPSS) version 21.00. Chi-square was used in testing the hypotheses at 0.05 level of significance since it serves as a procedure for test of independence, the idea that one variable is not affected or related to another variable and is not a measure of the degree of relationship but a test of association (Akuezeilo & Agu, 2007).

Research Question 1: What are the prevalent Nutritional health problems of pregnant women attending antenatal clinic in in Awka South LGA of Anambra State?

Table 1: Frequency and Percentage of Nutritional Problems Among Pregnant Women of Different Age Range (N=358)

Nutritional Health Problems	**Age Range** 18 - 27 years N(%)	28 - 37 years N(%)	38 years & above N(%)	**Total**
Anaemia	61 (57)	76(45.2)	25(30.5)	162
Hypertension	29(27.1)	75(44.6)	46(56.1)	150
Gestational Diabetes	18(16.8)	35(20.8)	30(36.6)	83
Obesity	5(4.7)	13(7.7)	14(17.1)	32
Protein	7(6.5)	10(5.9)	3(3.7)	20
Undernutrition	32(29.9)	26(15.5)	9(11)	67
Total	107	168	82	358

Research Question 2: What are the Nutritional health problems of pregnant women attending antenatal clinic in in Awka South LGA of Anambra State based on age?

Table 2: *Frequency and Percentage of Nutritional Problems Among Pregnant Women of Different Educational Level*

Nutritional Health Problems	**Educational level**			**Total**
	Primary N(%)	Secondary N(%)	Tertiary N(%)	
Anaemia	35(51.5)	62(47.3)	65(40.9)	162
Hypertension	25(36.8)	46(35.1)	79(49.7)	150
Gestational Diabetes	8(11.8)	23(17.6)	52(32.7)	83
Obesity	8(11.8)	9(6.9)	15(9.4)	32
Protein	-	7(5.3)	13(8.2)	20
Undernutrition	3(4.4)	38(29)	26(16.4)	67
Total	68	131	159	358

Research Question 3: What are the Nutritional health problems of pregnant women attending antenatal clinic in Awka South LGA of Anambra State based on educational level?

Table 3: *Frequency and Percentage of Nutritional Problems Among Pregnant Women in Urban and Rural Areas*

Nutritional Health Problems	Location		Total
	Urban N(%)	Rural N(%)	
Anaemia	99(44.2)	63(47)	162
Hypertension	106(47.3)	44(32.8)	150
Gestational Diabetes	62(27.7)	21(15.7)	83
Obesity	17(7.6)	15(11.2)	32
Protein	15(6.7)	5(3.7)	20
Undernutrition	39(17.4)	28(20.9)	67
Total	224	134	358

As shown in Table 3, three (3) out of the six (6) identified nutritional health problems were more prevalent among pregnant women in rural areas, namely, anaemia (44.2%), obesity (11.2%) and undernutrition (20.9%). On the other hand, three others, namely, hypertension, gestational diabetes and protein were more prevalent among pregnant women in urban areas as shown by the percentage values of 47.3%, 27.7% and 6.7% respectively. These indicate that there are differences in nutritional health problems based on the location of the pregnant women.

Discussion of Findings

In an attempt to identify the prevalent nutritional health problems faced by pregnant women attending antenatal within Awka South the study observed six nutritional health problems to be predominant. These problems were anaemia, hypertension, gestational diabetes, obesity, low protein, and undernourishment. Anaemia was observed to be the most prevalent while low protein showed the least prevalence. This finding is in line with Ayensu et al. (2020) study on the relationship between maternal nutritional status and birth outcome among pregnant women attending antenatal clinic at Kaduna, which identified anaemia as the most prevalent nutritional health problem faced by pregnant women. To lend support to this observation, Ejikeme et al. (2022), also identified anaemia as the most prevalent nutritional faced by pregnant women attending antenatal in Ebonyi State. In contrast to this finding, Tafara et al. (2023) identified low protein as the most prevalent nutritional health problem faced by pregnant women.

The study observation of low protein as the least prevalent nutritional health problem faced by pregnant women lends support to Aneto et al. (2022) study of food taboos and nutritional implications in pregnancy: findings among antenatal clinics attendees in Ile-Ife, Southwestern showed low protein as the least prevalent nutritional health problem. Traditional practices and beliefs not only influence but also supports the behaviour of women during pregnancy and childbirth. These cultural traditions continually shape the maternity experience of pregnant women worldwide, some communities adhere to traditional food taboos and practices during pregnancy, postpartum recover, and infant feeding. Study have shown that about 64% of

pregnant women adhere to these cultural food taboos and practices, as such they avoid certain fruits and foods (such as mango, pawpaw, orange, eggs, fish). It necessary to develop cultural appropriate nutritional mediation programs for pregnant women with the goal of providing effective nutritional counseling.

The investigation also included the influence of age on the nutritional health of the pregnant women attending antenatal within Awka South LGA. The study showed higher nutritional health problem for pregnant women within the age bracket 28-37 years old. This finding is in line with Anetor et al. (2022) food taboos and nutritional implications in pregnancy: findings among antenatal clinics attendees in Ile-Ife, Southwestern Nigeria study that reported that women within their late 20s and mid 30s exhibits more nutritional health problems during pregnancy. According to Tiijani et al. (2020) this can be due to the lifestyle and activities of women at this age. Tiijani et al. (2020) noted that women in their late 20s and mid 30s are under intense pressure during pregnancy due to their age. These pressures can be cultural, physical, or financial as most of these women have formal jobs and occasionally breadwinners of their families.

Conclusion

In conclusion, pregnancy places extra demands on the body systems of pregnant women, necessitating optimal intake of essential nutrients for better foetal development and general health of the mother. Food restrictions as commonly practiced by the Southeasterners have contributed to the nutritional health challenges faced by pregnant women. These women were observed to battle with anaemia, hypertension, gestational diabetes, undernourishment, obesity, and low protein. Some factors that influence the maternal nutritional health significantly include educational level of the women, residential location, and parity. The age of the mothers and their occupation has no significant influence on their nutritional health. Nutritional deficiency during have led to various health complications for both mother and child. Addressing the nutritional health challenges faced by pregnant women requires a multifaceted approach which involve improving access to nutrient-dense foods, promoting nutrition education and counseling, and addressing sociocultural factors that affects pregnant women nutrition.

Recommendations

Based on the findings the following recommendations were made:

1. Micronutrient supplementation: pregnant women should be provided with micronutrient supplements particularly folic acid, iron, calcium, and vitamin. These nutrients are essential for the proper development of the foetus.
2. Nutritional Counseling: pregnant women are encouraged to attend nutritional counseling where their nutrient dietary gaps can be identified and guidance on food choices will be provided to ensure adequate calorie and nutrient intake. They can also be taught healthy cooking practices.
3. Community based intervention is recommended to ensure food security and

the abolition of some food taboos that contain essential nutrients for maternal healthcare. This can also facilitate community based nutritional education and campaigns to boost awareness about the importance of balanced nutrition during pregnancy

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