

Predictors of Nutritional Practices among Pregnant Women Attending Ante-Natal Clinic in Health Centres in Akpor Kingdom of Obio/Akpor Local Government Area of Rivers State, Niger Delta

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Authors' contributions

This work was carried out in collaboration between both authors. Author AG designed the study, performed the statistical analysis and wrote the protocol. Author AP wrote the first draft of the manuscript, managed the analyses of the study and managed the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

This study investigated the predictors of nutritional practices among pregnant women attending ante-natal clinic in health centres in Akpor Kingdom of Obio/Akpor Local Government Area of Rivers State. A descriptive design was used for this study. The target population for this study was seven hundred (700) pregnant women. A simple random sampling technique was used to select a sample size of 422. The instrument for data collection was a self-structured questionnaire with a reliability coefficient of 0.70. Data was collected through face to face administration of the questionnaires to the respondents and analyzed using the Statistical Product for Service Solution (SPSS) version 23.0. Hypotheses were tested with the regression statistics at 0.05 alpha level. The findings of the study showed that nutritional preference significantly predicted the nutritional practices of the pregnant women attending ante-natal clinic in health centres in the study area ($r = 0.448, p < 0.05$). Other factors considered in this study such as knowledge ($r = 0.078, p > 0.05$), age

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($r = 0.010$, $p > 0.05$) and educational status ($r = 0.061$, $p > 0.05$) did not significantly predict the nutritional practices of the pregnant women. It was concluded that the predictor of nutritional practices among pregnant women attending ante-natal in Akpor Kingdom was their nutritional preference. It was recommended that, midwives should focus on conveying health information in their lessons during antenatal visits of pregnant women in such a way that their nutritional preferences can be influenced positively.

Keywords: Predictors of nutritional status; pregnant women; antenatal clinic in health centres; Akpor Kingdom; rivers state in Niger Delta.

1. INTRODUCTION

Maternal nutrition during pregnancy is a vital reproductive health issue because adequate intake of certain food elements during pregnancy improves birth weight and labour spontaneity. According to the World Health Organization, nutrition is the intake of food considered in relation to the body's dietary needs [1]. Good nutrition, well balanced diet combined with regular physical activity is a cornerstone of good health, whereas poor nutrition can lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development, and reduced productivity. Summerbell et al. noted that, when a woman is pregnant, her nutritional needs and intestinal functions changed and the portion and sizes of food changed making her to eat higher and smaller portions more slowly and more frequently [2]. Also, Nash stated that, the relationship that exists between the mother and her unborn child is much and even while the child is still in the womb, its genes engage the environment of the womb in an elaborate conversation, which is a two-way dialogue that involves not only the air the mother breathes and the water she drinks but also what drugs she takes, what diseases she contacts and what hardship she suffers and once the beginning embryo is able to obtain good nutrition directly from the mother, development can proceed more rapidly. However, if what is obtained from the mother is not healthy or balanced, so many complications are bound to arise in pregnancy [3].

The foregoing elucidates the fact that intake of adequate and balanced diet is required for successful pregnancy outcomes. Yet, poor nutritional practices are being reported among pregnant women as shown in several studies. For instance, the study by Madiforo on nutrition among pregnant women in the Western parts of Nigeria, have showed that 75% of pregnant women had inadequate nutritional energy intake [4]. In the same vein, Butler reported that,

inadequate nutrient intake of both macronutrients (carbohydrate, protein, fat) and micronutrients (such as iron, calcium, phosphorus, magnesium, zinc, vitamin A, thiamine, riboflavin, niacin, and vitamin C) appear to affect maternal anemia, increasing the risk for other maternal morbidities and mortality, fetal growth retardation and low fetal birth weight [5].

Furthermore, there are some discrepancies in the nutritional practices of pregnant women with respect to the nutritional preference, knowledge of maternal nutrition, educational status and age, of mothers despite that all pregnant women have an increased nutrient requirement for the growth and development of the foetus. Williams noted that nutritional hazards increased with age, which influence the nutritional needs of the mother and the outcome of pregnancy [6]. On the other hand, Carolan and Frankowska noted that, the increasing maternal age has become an issue of public health concern because women of advanced maternal age experience higher rates of pregnancy complications, obstetrical intervention, and severe maternal morbidity than younger mothers and this makes nutrition very important as it can affect the outcome of the pregnancy [7]. Thus, this study investigated the predictors of nutritional practices among pregnant women.

1.1 Objectives of the Study

The specific objectives of this study include to:

1. Determine if knowledge of maternal nutrition is a predictor to the nutritional practices of pregnant women attending ante-natal clinic in health centres in Akpor Kingdom.
2. Investigate if nutritional preference is a predictor to the nutritional practices of pregnant women attending ante-natal clinic in the study area.
3. Determine if age of women is a predictor to the nutritional practices of pregnant women attending ante-natal clinic in the study area.

4. Investigate if educational status of women is a predictor to the nutritional practices of pregnant women attending ante-natal clinic in the study area.

1.2 Hypotheses Tested

The following null hypotheses postulated were tested at 0.05 level of significance:

1. Knowledge of maternal nutrition will not significantly predict the nutritional practices of pregnant women attending ante-natal clinic in health centres in Akpor Kingdom.
2. Nutritional preference will not significantly predict the nutritional practices of pregnant women in the study area.
3. The age of women will not significantly predict the nutritional practices of pregnant women in the study area.
4. The educational status of women will not significantly predict the nutritional practices of pregnant women attending ante-natal clinic in the study area.

2. METHODOLOGY

2.1 Study Design

A descriptive design was used for this study. This design allows the researcher to collect data from a subset of the population with the aim of describing the situation as it is at a particular point in time without manipulating any variable. This study on predictors of nutritional practices was aimed at collecting data from the respondents using questionnaire and analyzing the data without manipulating any variable or giving any intervention, thus, the design was considered appropriate for use in this study.

2.2 Population

The target population for this study consisted of all the pregnant women that attended ante-natal health centres in model primary health centers in Ozuoba, Rumuigbo, Rumueme, Rumuepirikom and Rumuodumanya, within the period of the study. The target population comprised of 700 pregnant women gotten from the records/registers in the selected facilities.

2.3 Sample and Sampling Technique

A sample size of 422 was determined using the Fisher's formula as shown below: $n = z^2pq/d^2$
Where, n = sample size, P = Proportion of the

population with desired characteristics set at (51%), from Masuku and Lan (2014) which showed that 51.2% of the respondents on the average practice good nutrition during pregnancy); $z =$ confidence level 95% (1.96)²; $q = 1-p = 0.49$, $d^2 =$ confidence interval = 5%. Adding 10% non-response rate $n = 422$. The simple random sampling technique. was used in the selection of the respondents for the study.

2.4 Instrument for Data Collection

The instrument for data collection was a self-structured questionnaire.

2.5 Validity and Reliability of the Instrument

The instrument for data collection was given to the supervisor to access the suitability of the items on the instrument. The questionnaire was corrected and recopied by integrating the suggestions and corrections pointed out by the supervisor. The instrument therefore has face validity and content validity.

To determine the reliability of the questionnaire, a test retest method was used. Ten (10) copies of the questionnaires were administered to respondents who attended the model primary health centre in other place. The questionnaires were retrieved and a re-test was done after two weeks to the same persons. The scores of the test were analyzed using the Pearson product moment correlation and the result obtained was 0.70 which proved that the instrument was reliable.

2.6 Method of Data Collection

The method of data collection was through face to face administration of the questionnaires.

2.7 Method of Data Analysis

Completed questionnaires were collected, coded and entered into the computer using the Statistical Product for Service Solution (SPSS) version 23.0. Descriptive statistics such as percentage, and frequency were used to answer the research questions while hypotheses were tested with the inferential statistics such as simple regression at 0.05 alpha level. Results were presented in charts and tables.

3. RESULTS

The results of the study are presented in Tables 1-4:

Table 1. Regression analysis showing knowledge of maternal nutrition as a predictor of nutritional practices of pregnant women attending ante-natal clinic in health centres in Akpor Kingdom

Model	R	R square	Adjusted R square	B	P	Decision
Knowledge	0.078	0.006	0.004	2.729	0.109	Accepted

Table 2. Regression analysis showing nutritional preference as a predictor of nutritional practices of pregnant women attending ante-natal clinic in health centres in Akpor Kingdom

Model	R	R square	Adjusted R square	B	P	Decision
Nutritional preference	0.447	0.200	0.198	4.629	0.000	Rejected

Table 3. Regression analysis showing age of women as a predictor of nutritional practices of pregnant women attending ante-natal clinic in health centres in Akpor Kingdom

Model	R	R square	Adjusted R square	B	P	Decision
Age	0.010	0.000	-0.002	2.942	0.832	Accepted

Table 4. Regression analysis showing educational status as a predictor of nutritional practices of pregnant women attending ante-natal clinic in health centres in Akpor Kingdom

Model	R	R square	Adjusted R square	B	P	Decision
Educational status	0.061	0.004	0.001	2.794	0.211	Accepted

Table 1 shows that only 0.6% of the respondents' nutritional practice was predicted by their knowledge (R square = 0.006) and its predictability is very low ($r = 0.078$). The p-value = 0.109 is greater than the alpha level = 0.05 thus, the null hypotheses is accepted. This implies that knowledge of maternal nutrition did not significantly predict the nutritional practices of the pregnant women attending ante-natal clinic in health centres in Akpor Kingdom.

Table 2 shows that 20% of the respondents' nutritional practices was predicted by their nutritional preference (R square = 0.200) and its predictability was moderate (0.447). The p-value = 0.000 is lesser than the alpha level = 0.05 thus, the null hypotheses was rejected. This implies that nutritional preference significantly predicted the nutritional practices of the pregnant women attending ante-natal clinic in health centres in Akpor Kingdom.

Table 3 shows that the predictability of the nutritional practices of women by their age was very low (0.010). The p-value = 0.832 is greater than the alpha level = 0.05 thus, the null hypotheses was accepted. This implies that the age of women did not significantly predict the

nutritional practices of the pregnant women attending ante-natal clinic in health centres in Akpor Kingdom.

Table 4 shows that only 0.4% of the respondents' nutritional practices was predicted by their educational status (R square = 0.004) and its predictability was low (0.061). The p-value = 0.211 is greater than the alpha level = 0.05 thus, the null hypotheses was accepted. This implies that educational status did not significantly predict the nutritional practices of the pregnant women attending ante-natal clinic in health centres in Akpor Kingdom.

4. DISCUSSION OF FINDINGS

The finding of the study shows that the nutritional preference significantly predicted the nutritional practices of the pregnant women attending ante-natal clinic in health centres in Akpor Kingdom ($r = 0.448, p < 0.05$). The finding of this study is in line with a report by Akeredolu, Osisanya, Mbah & Okafor who specified that, a pregnant woman's choices of food are determined by some factors such as the availability of food in the locality, and the food preference [8]. The finding of this study is in line with that of Daba, Beyene, Fekadu &

Garoma posited that, nutrition is a fundamental pillar of human life, health and development throughout the entire lifespan hence, during pregnancy, maternal nutrition requires considerable attention of which nutritional knowledge has been found to play an important role in adopting optimal nutrition practices [9]. The findings of this study shows that knowledge of maternal nutrition did not significantly predict the nutritional practices of the pregnant women attending ante-natal clinic in health centres in Akpor Kingdom ($r = 0.078$, $p > 0.05$). The finding of this study is not in keeping with that of Akeredolu et al. specified that, a pregnant woman's choices of food are determined by some factors such as the knowledge the individual possess about the value of food [8].

The finding of the study shows that the age of women did not significantly predict the nutritional practices of the pregnant women attending ante-natal clinic in health centres in Akpor Kingdom ($r = 0.010$, $p > 0.05$). This is in line with that of Alemayehu & Tesema who examined dietary practice and associated factors among pregnant women in Gondar Town North West, Ethiopia which showed that, there was no statistically significant association between dietary practices of mothers and age and as such government in collaboration and a strong integration with concerned bodies should be focused on providing nutritional education to increase the practices of pregnant mothers on maternal nutrition during pregnancy [10]. This finding is not in line with that of Ojiugo on nutritional practices among pregnant women in Onitsha North and South Local Government Areas of Anambra State which showed a relationship between age and nutritional practices [11]. Carolan and Frankowska noted that, the increasing maternal age has become an issue of public health concern because women of advanced maternal age experience higher rates of pregnancy complications, obstetrical intervention, and severe maternal morbidity than younger mothers and this makes nutrition very important as it can affect the outcome of the pregnancy [7]. Williams noted that nutritional hazards increased with age, which influence the nutritional needs of the mother and the outcome of pregnancy [6].

The finding of the study shows that educational status did not significantly predict the nutritional practices of the pregnant women attending ante-natal clinic in health centres in Akpor Kingdom ($r = 0.061$, $p > 0.05$). The finding of this study is not

in line with that of Alemayehu and Tesema which showed that there is a statistically significant association between educational status and nutrition [10]. The findings of this study is at variance with that of Masuku & Lan which indicates that educational level ($p = 0.001$) was a predictor of nutritional knowledge [12]. The findings of this study is not in line with Whaling, Luginaah, Reid, Hekmat, Thind & Mwang who noted that education enhances nutritional knowledge, thereby influencing practices towards good nutrition [13].

5. CONCLUSION

Based on the findings of the study, it was concluded that the predictor of nutritional practices among pregnant women attending ante-natal in Akpor Kingdom was their nutritional preference.

6. RECOMMENDATIONS

The following recommendations were made based on the findings of the study:

1. Nutritionists should not neglect the pregnant women and their nutritional preferences when designing nutrition programmes and such programmes should be ensure the reception of feedback from the pregnant women for better implementation.
2. Midwives should focus on conveying health information in their lessons during antenatal visits of pregnant women in such a way that can influence their nutritional preferences positively.
3. Community health professionals should put more effort and ensure continuity in conveying messages that promote good nutritional practices among the populace by making more nutritional information available to the pregnant women.

CONSENT AND ETHICAL APPROVAL

Ethical approval was obtained from the Research Ethics Committee of the Health Centres before the respondents were accessed. The respondents informed and voluntary consents were obtained before questionnaire administration as they were assured that their responses would be treated with confidentiality; none was coerced to participate as only willing respondents were given the questionnaire.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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