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Assessment of diets consumed by women of child bearing age in Ahoada east local government area of rivers state

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Abstract
Maternal nutrition status prior to conception is believed to affect embryonic and fetal growth and pre-pregnancy weight is a common indicator of a woman's nutritional status. Undernutrition in women contributes to 20% of maternal deaths. This study assessed the diets consumed by women of child bearing age in Ahoada East Local Government Area of Rivers State, Nigeria. Considering the nature of the study, a descriptive design was applied. Simple random sampling was adopted for easy accessibility of the respondents. A total number of 179 questionnaires were used to collect the opinion of the respondents. Simple percentage procedures were adopted. Result shows that women of child bearing age hardly eat fruits and iron containing foods, but consumed roots and tubers (carbohydrates giving food) frequently at three times and above per day (45%) and most regular food consumption outlet of the women was Buka (34%,) and most of them ate emotionally (70%) while some of them combined food with drugs (20%). Based on the result, it was recommended that Government should engage the services of dietician to conduct seminars and workshops periodically to educate women of child bearing age and food sellers on diets consumption. Also, women of child bearing age eating habits should be improved upon by providing decent environment at the community-based level by the government or food sellers.

Keywords: Diets, child bearing age, women, Ahoada east

Introduction

In nutrition, diet is the sum of food consumed by a person or other organism. Maternal nutrition status prior to conception is believed to affect embryonic and fetal growth and pre-pregnancy weight is a common indicator of a woman's nutritional status (Wilter *et al*., 2012). Under nutrition in women contributes to 20% of maternal deaths. Pre-pregnancy under nutrition, has been stated to lead to an increased risk of fetal loss, preterm birth, anemia, infections, fetal growth restriction (FGR), birth defects, low birth weight (BW), brain damage, admission to neonatal intensive care unit, and a longer duration of hospital stay, signs of the metabolic syndrome accompanied the catch-up in body weight and central adiposity (Mesuid, 2016) [4].

A child's future nutrition status is affected before conception and is greatly dependent on the mother's nutrition status prior to, and during pregnancy. Globally, maternal under nutrition and its consequences is estimated to account for 3.1 million child deaths annually (Tony, 2015) [8]. In Africa, the lowest rates of underweight among women are found in Benin, Cameroon, Ghana, Lesotho, Rwanda, Swaziland and Togo (Tony, 2015) [8].

Studies have found associations between dietary patterns and health outcomes and biomarkers, including the body mass index (BMI). Cohort studies have suggested that healthy dietary patterns up to 3 years before pregnancy resulted in a healthy pregnancy and pregnancy outcomes. In these studies, healthy dietary patterns are characterized by high intake of fruits, vegetables, legumes, nuts, and fish, and low intake of red and processed meat. The need for maintaining optimal nutrition throughout a woman's lifetime is essential to optimize her health and that of her offspring. Women of reproductive age have the same dietary requirements as the general population. In order to meet dietary guidelines, women of childbearing age should restrict simple carbohydrates while complex carbohydrates in the form of starches, legumes, seeds and bread should be limited to reasonable quantities. Useful protein sources can be meat, fish, cheese and dairy products (source of calcium), supplemented with small amounts of butter and vegetable fats (Anson, 2014) [1].

Women of reproductive age, especially those who are planning a pregnancy, should be counseled to consume a well-balanced diet including fruits and vegetables, calcium rich foods, and protein-containing foods daily and increase their consumption of iron-rich or iron-fortified foods in conjunction with vitamin C-rich foods to enhance iron absorption (Rambart *et al*., 2013) [6]. In Ahoada East Local Government Area, to our knowledge, few or no studies have assessed the dietary patterns of women of childbearing age. Therefore, with the increasing prevalence of obesity among women of childbearing age in Ahoada East, it was therefore important to carry out this study which aimed at assessment of diets consumed by women of child bearing age in Ahoada East. This is in order to provide adequate dietary advices in preconception specific to these groups of Ahoada East women, so as to prevent malnutrition; and adverse malnutrition pre-pregnancy and pregnancy outcomes.

This study is an attempt to assess the diets consumed by women of child bearing age in Ahoada East Local Government Area of Rivers State, Nigeria.

Objectives of the study

The general objective of the study is to assess the diets consumed by women of child bearing age in Ahoada East Local Government Area of Rivers State, Nigeria.

Specifically, the objectives of the study are:

1. To examine the food consumption pattern.
2. To ascertain the frequency at which each diet is eaten.

Materials and Methods

Study Design

The study is a cross sectional.

Study Area

This study was carried out in Ahoada Women Association in Ahoada East Local Government Area of Rivers State of Nigeria. Specifically, the Ahoada Women Association includes: Igbu Upata clan (8 communities), Igbu Ahoada clan (4 communities) and Igbu Akoh clan (9 communities). Ahoada East Local Government Area of Rivers State is one of the Local Government Area (LGA) that makes up Rivers State. The area is bounded by Ogba/Ndoni/Egbema LGA in the North, Abua/Odua LGA in the South, Ahoada West LGA in the West and Emohua LGA in the East. The major Rivers that run through the area are Orashi River and Sombrero River. The area has lots of amenities such as general hospital, private hospitals, primary health centers, and modern primary and secondary schools.

Population of the study

The population of the study consisted of women of child bearing age from Ahoada East Local Government Area of Rivers State.

Sampling and sampling procedure

Sampling size

The Sample size of one hundred and seventy-nine (179) was determined for this study. The Yaro Yemen formula was used to determine the sample as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Required sample size
N = Population size
e = Level of significance = 0.05

$$n = \frac{325}{1 + 325\ (0.05)^2} = 179$$

Hence, the sample size is 179.

Sampling procedure

The population of the study was drawn from the three clans in Ahoada Women Association in the Local Government Area. The population was determined as number of women who are registered member of the association. The records of the association gave a total of three hundred and twenty-five (325) women.

Table 1: Population of registered women in all clans/communities of Ahoada Women Association in Ahoada East Local Government Area

Clans	Communities	No. of women
Igbu Upata clan	Edeoha	13
	Ula-Upata	15
	Idoke	14
	Ihuaba	16
	Ihuowo	12
	Ihuama	13
	Odiabidhi	12
	Okporowo	16
	Okoma	13
Igbu Ahoada clan	Igbu Oshi	18
	Nwekuya	21
	Igbu Ogbor	18
	Igbu Aya	16
Igbu Akoh clan	Ogbo	18
	Ula-Ehuda	14
	Abarikpo	12
	Odiemerenyi	15
	Ihugbogo	12
	Odisama	13
	Ekpena	15
	Odiemudhie	14
	Ihuaje	15
Total		325

Data collection

Instrument for data collection

The instrument for data collection was a structured questionnaire titled Assessment of Diets Consumed by Women of Child Bearing Age (ADCWCBA). The questionnaire interviewer obtained information on feeding pattern, socio demographic characteristics of women of childbearing age, and anthropometric measurement of height and weight to know the BMI, of the respondents.

Administration of the instrument

Copies of the instrument was administered directly to the respondents by the researcher with the help of five other research assistants. Instructions guiding the filling of the questionnaire was explained to the participant by the Researcher and Research Assistants. The Research Assistants supervised the filling and in some cases by the researcher. Thereafter the questionnaires were retrieved from the respondents.

Data analysis techniques

The data analysis was carried out using simple percentages and figures on a frequency distribution table which analyses the responses retrieved from the respondents.

Response rate

A total of one hundred and seventy-nine (179) questionnaires were administered to Ahoada Women Association in the Local Government Area. Out of this number and all of them were completed and retrieved.

Table 2: Response Rate Table

Table No. of Questionnaire Sent Out	Total No. of Questionnaire Received	Percentage (%) Response Rate
179	179	100

Results

Socio demographic characteristics of women of child bearing age in Ahoada East L.G.A. of Rivers State

Table 3 shows the socio demographic characteristics of women of child bearing age 6.7% of the respondent were 45 years, 34.4% within the age range of 35 - 45 years, 40.7% within age range of 25 - 35 years. While 20% within the age range of 18 - 25 years. 100% of the respondents are female. The predominant religion were Christians 55.0%, 39.1% were Traditional, 5% were Muslim. A total of 89.3% were married, 8.3% were single, 2.2% were divorced, 54% attended secondary school, 41.3% primary, 3.9% tertiary and 2.7% no educational status.

Table 3: Socio demographic characteristics of women of child bearing age in Ahoada East L.G.A. of Rivers State

Variable	Frequency	Percentage
Age (years)		
18 – 25	36	20
25 – 35	73	40.7
35 – 45	58	34.4
> 45	12	6.7
Religion		
Christianity	100	55.8
Traditional	70	39.1
Muslim	9	5.0
Educational Status		
Primary	69	38.5
Secondary	98	54.7
Tertiary	7	3.9
None	5	2.7
Marital Status		
Married	160	89.3
Single	15	8.3
Divorce	4	2.2

Foods consumed weekly by women of child bearing age in Ahoada East L.G.A. of Rivers State

Table 4 shows the foods consumed weekly by the women of child bearing age. The table showed confectionaries, Roots and tubers, having the highest consumption of 17%, vegetable 12.5%, legumes 14, and protein 10.6%, iron foods, fruits, beverages and alcohol 6%, cereal and root 5%.

Table 4: Foods consumed weekly by women of child bearing age in Ahoada East L.G.A. of Rivers State

Types of food		weekly consumption					
		Once Daily	1-3 times daily	1-3 times per week	4-7 times per week	Not at all	Percentage (%)
Cereal	Bread, rice, maize, Cocoyam, custard	-	5	4	-	-	5
Legumes	Beans, peas, ugba (oil bean seed).	15	-	-	-	15	14
Iron food	Plantain: boiled, fried, potage, and bananas	5	-	5	-	-	6
Fruits	Orange, mango, paw-paw, pineapple, apple, garden eggs.	5	-	-	6	-	6
Confectionaries	Sweets coffees, chocolate, honey, cakes.	-	15	-	15	-	17
Protein	Beef, goat meat, chicken, and bush meat, snails, cow head and tozo, pork	-	7	-	12	-	10.6
Roots and tubers	Garri, Yam, cocoyam, potatoes, (Sweet and Irish)	15	5	10	-	-	17
Vegetables	Ugu, water leaf, ukazi, green oha, bitter leaf, cabbage and lettuce	7	-	-	7	-	12.5
Beverages	Ovaltine, milo, bournvita tea	-	6	-	6	-	6
Alcohol	Beer, stout, whisky, brandy, kaikai	-	6	-	5	-	6
Total		47	44	19	51	15	100

Food consumption pattern of women of child bearing age in Ahoada East L.G.A. of Rivers State

Table 5 show the food consumption pattern of women of child bearing age in Ahoada East L.G.A of Rivers State. 70% ate emotional, 20% use drugs, 6% ate late at night, and 4% skipped their meals.

Table 5: Food consumption pattern of women of child bearing age Ahoada East LGA of Rivers State

Options	Respondents	Percentage (%)
Emotional eating	125	70
Eating late at night	10	6
Use of drug with food such as cigarette, alcohol	36	20
Skipping meals	8	4
All of the above		
Total	179	100

Food consumption frequency per day of women of child bearing age in Ahoada East LGA of Rivers State

Table 6 shows frequency consumption per day of women of child bearing age 45% consumed thrice and above, 30% consumed twice, 25% consumed once per day.

Table 6: Food consumption frequency per day of women of child bearing age

Options	Respondent	Percentage (%)
Once	45	25
Twice	54	30
Three and above	80	45
Total	179	100

Discussion

Socio demographic characteristics of women of child bearing age in Ahaoda East L.G.A of Rivers State

In our study, the respondents were generally women of child bearing age; 6.7% of the respondent were 45 years, 34.4% within the age range of 35 - 45 years, 40.7% within age range of 25 - 35 years. While 20% within the age range of 18 - 25 years. 100% of the respondents are female. The predominant religion of the respondents were Christians 55.0%, 39.1% were Traditional, 5% were Muslim. A total of 89.3% were married, 8.3% were single, 2.2% were divorced, 54% had secondary school as their highest level of formal education, 41.3% primary, 3.9% tertiary and 2.7% had no educational status.

Foods consumed weekly by women of child bearing age in Ahoada East L.G.A. of Rivers State

The highest weekly intake was reported for confectionaries, roots and tubers which had 17%, 14% legumes, 12.5% vegetable, protein 10.6%, iron foods, fruits, beverages, and alcohol 6% while cereal and root 5%. According to the result gotten, legumes, iron food, fruits, roots and tubers, and vegetables were consumed once daily by 47 respondents, 44 respondents had cereal, confectionaries, protein, roots and tubers, beverages and alcohol 1-3 times daily, 19 respondents had cereal, iron food, roots and tubers 1-3 times weekly, 51 respondents had fruits, confectionaries, protein, vegetables, beverages, alcohol 4-7 times per week, 15 respondents did not have legumes at all. The low micronutrient intakes in this study reflect their inadequate consumption of important food groups such as fruits, vegetables, dairy, meat and fish in comparison to their recommendations. This finding is line with Garrett and Ruel, (2005) [3] who reported that populations in many developing countries are now consuming more energy, more processed foods, including more refined grains, and foods higher in saturated fat, sugar, and salt.

Food consumption pattern of women of child bearing age in Ahoada East LGA of Rivers State

The food consumption pattern of the respondents was reported. One hundred and twenty five (125) respondents engage in emotional eating, 10 respondents eat dinner late at night, 35 respondents engage in substance use with food while 8 respondents skip meals. This finding shows that the respondents have poor quality diet which could be as a result of low socio-economic status coupled with low educational status where 95.3% had secondary school and primary school as their highest form of education which could have led to poor socio-economic variables. This is consistent with the reports of Thiele *et al*, (2003) [7] and with other previous studies that reported that lower socioeconomic position was associated with poorer diet quality (Milligan *et al*., 1998; Ball *et al*., 2006) [5, 2]. The result also showed positive correlation between diet quality and educational level of the respondents. The educational level of respondents' significant relationship to diet quality could be that the higher the educational level of respondents the higher the awareness and understanding of the need for good quality diet. High quality diet in terms of the consumption of vitamins, minerals and trace elements increases when income and education levels are high (Thiele *et al.*, 2003) [7]. Families with higher socio-economic status and higher educational level can afford more variety of foods and thereby can obtain a higher dietary quality.

Food consumption frequency per day of women of child bearing age in Ahoada East LGA of Rivers State

The daily food consumption frequency of the respondents was reported. Fort five (45) respondents consumed meal once a day, 54 respondents had meal twice daily and 80 respondents had meals thrice daily and more. The result shows that the respondents' eating frequency could be affected by age, stress and by foods that could be obtained at their place of work.

Conclusion

From the study, it can be conclusively revealed that women of child bearing age in Ahoada East L.G.A hardly eat fruits and foods rich in iron. They are not very conscious or worried about the quality or environment where they eat their food, and hardly eat the food of their choice but eat what they see that is nearer to where they work and stay.

Recommendation

Government should engage the services of dietician to conduct seminars and workshops periodically to educate women of child bearing age and food sellers on diets consumption.

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