

Food Avoidance in Pregnancy and its Reasons Among Pregnant Women in Ebonyi State of Nigeria

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Abstract

Women have distinct nutritional requirements, especially before, during pregnancy and while breastfeeding. Avoiding certain foods during pregnancy for any reasons devoid of scientific proofs adversely affects maternal nutritional needs. This study explored foods avoidance in pregnancy and related reasons among pregnant women in Ebonyi state. The study adopted a descriptive survey research design. Population was made up of pregnant mothers attending antenatal clinics in the health care facilities in Ebonyi state. Questionnaire was used for data collection. Data were analyzed using percentages, rank order, means and standard deviation. Results include 25 avoided foods by pregnant women in Ebonyi state. Those with the high avoidance percentage scores are squirrels (59.1%), bird gizzard (59.1%), snails (55.50%), frogs (55.2) and others. Other findings are four strongest reasons for avoiding foods, namely, snails in pregnancy because my baby would be sluggish and spit too much saliva ($\bar{X}$ = 2.53), bird gizzard (*eke-okuko*)/ meat liver (*mejiu - anu*) during pregnancy because it is against my culture and can prolong labour and delivery difficulties ($\bar{X}$ = 3.06), okra soup in pregnancy because my baby spit too much saliva after birth ($\bar{X}$ = 3.01), and snails were avoided in pregnancy because it is against my culture ($\bar{X}$ = 3.12). There are also six weak reasons for avoidance of food. These are egg during pregnancy because it will make my baby a thief ($\bar{X}$ = 2.13), male organ of an animal during pregnancy because it is a taboo in my community ($\bar{X}$ = 2.02), vegetables like cabbage and avocado during pregnancy to avoid fatty baby which is difficult to deliver ($\bar{X}$ = 1.67) and others. The study recommended the need for nutritional education programme and sensitization campaign by the relevant stakeholders/health educators to address foods avoidance in pregnancy and its reasons, especially during antenatal care services.

Keywords: Foods, Avoidance, Pregnancy, Women, Reasons, Nutrition, Needs

Introduction

Women have distinct nutritional requirements, especially before, during pregnancy and while breastfeeding, (UNICEF, 2022). Before pregnancy, women need adequate nutrition and safe diets to establish sufficient reserves for pregnancy. During pregnancy and breastfeeding, the dietary requirements in women increase to provide optimal health, support changes in maternal tissues, metabolism, and foetal growth and development (World Health Organization. 2016; Ramulondi, de Wet, & Ntuli, 2021). Their nutrition needs to take care of their requirements for micronutrient, adequate energy intake, diversified diet, using fruit, vegetables, and animal products throughout the life cycle to ensure they enter pregnancy and lactation without deficiencies (Amare, Tura, Semahegn & TejiRoba, 2022). More so, it helps to improve immune systems, lower sickness rate, and prevent pregnancy complications among women (Anyasor & Olowu, 2017; WHO 2021). However, inadequate or poor nutrition during pregnancy and breastfeeding can impact mothers' health and makes it more difficult to replenish their nutrient stores in order to meet their additional dietary needs (UNICEF, 2022). Thus, during pregnancy, poor diets lacking in key nutrients like iodine, iron, folate, calcium and zinc could cause anaemia, pre-eclampsia, haemorrhage and death in mothers. It can also lead to still birth, low birth weight, and developmental delays for children (UNICEF, 2022).

Studies show that meeting and maintaining adequate nutritional requirements and a healthy diet during pregnancy is challenging due to certain food avoidance practices especially in low and middle income countries (Tela,

Gebremariam & Beyene, 2020; Tsegaye et al., 2021). Food avoidance is a condition characterized by a person avoiding certain foods or types of food intake for a number of different reasons (Fitzgerald and Frankum 2017). In another view, food avoidance refers to abstaining from certain food due to habit or as a result of food taboos (Ningtyias & Kurrohman, 2020). In the words of Maduforo et al., (2013), food taboo is the avoidance of food due to people's tradition, cultural beliefs or religion. In this study food avoidance is abstaining from eating certain food for some reasons related to the people's cultural beliefs of impending consequences (Tsegaye et al., 2021). Evidences abound where people of all regions and countries, especially in low- and middle-income countries avoid eaten certain food in pregnancy due to the cultural beliefs on the effect of eating certain foods in pregnancy (Getnet, Aychew, & Tessema 2018; Chakrabarti, & Chakrabarti, 2019). For instance, studies in South Africa, have reported that some pregnant mothers avoid eggs, fruits, meat, fish, potatoes, beans, butternut, and pumpkin due to the cultural belief that eating such foods while pregnant might lead to pregnancy outcome, and fetal problems (Chakona& Shackleton 2019). In Ethiopia, foods like honey, sugarcane, milk, yoghurt, cheese, fatty meat, eggs, and vegetables were also avoided in pregnancy due to the misconceptions that when consumed would compromise maternal health and fetal deformity (Zerfu, Umeta&Baye 2016).

In many states in Nigeria, certain foods were avoided in pregnancy due to tradition and the fore-fathers' beliefs of impending consequences of eating such

food in pregnancy (Ekwochi, Osuorah, Ndu *et al.* 2016). Some of the consequences were that eating egg during pregnancy would make the child steal later in life, gizzard of a bird or liver would cause bleeding during delivery, grass-cutter meat would cause prolong labour, okra, and snail would make the baby sluggish, salivate like a snail leading to imbecile later in life (Ekwochi, Osuorah, Ndu *et al.* 2016, Maduforo, 2010). Some fruits, and vegetables were believed to cause miscarriage and fetal deformity (Oluleke, Ogunwale, Arulogun *et al.* 2016). Ebonyi state, Nigeria with its population characterized by diverse traditions and cultures, some of which influence what, how and when to eat, especially among pregnant women in various communities in the state (Slattery, 2016). It is also common to observe women in Ebonyi State discuss foods they enjoy or do not like to eat or avoid during pregnancy for one reason or another. The information associated with the cultural beliefs on food choices and avoidance of certain food especially during pregnancy has continued to spread among members of different communities from one generation to another (Okafor, 2005).

Research has reported that the health indices and literacy level of people of Ebonyi state especially mothers were generally poor, and this may be due to certain food avoidance in the area (Umezulike, Anikwe, Nnachi *et al.*, 2021). This is because food avoidance and/or restriction during pregnancy for reasons of cultural or traditional misconceptions of food, and devoid of scientific proofs adversely affects maternal nutrition, a risk factor for maternal morbidity, poor birth outcome and fetal deaths (WHO, 2013; UNICEF

2022; Wollelaw, Wubie & Taddele 2018). Available evidence indicates that approximately 50 percent of childhood deaths were attributed to maternal undernutrition in Nigeria (Obiakor-Okeke 2014). In Ebonyi state, the proportion of undernourished mothers and children in separate national surveys were reported to surge from 16.2% to 20.6% in 2013 and 2015 respectively (National Bureau of Statistics 2015; National Population Commission 2014; Umeokonkwo *et al.*, 2020). This may be associated to the avoidance of certain food in pregnancy, among others, in Ebonyi state. This scenario has prompted this research.

There are several studies carried out on food avoidance and/or restriction in pregnancy in both Nigeria (Ekwochi, Osuorah, Ndu, *et al.* 2016; Oluleke, Ogunwale, Arulogun, *et al.*, 2016), and other countries (Wollelaw, Wubie & Taddele, 2018; Tela *et al.*, 2020), however, there is little or no studies on food avoidance among pregnant women in Ebonyi State.

Purpose of the Study

The general purpose of the study was to examine foods avoidance practices among pregnant women in Ebonyi state of Nigeria. Specifically, this study determined:

1. various foods avoided by women during pregnancy in Ebonyi state, Nigeria.
2. reasons associated with food avoidance in pregnancy among pregnant women in Ebonyi state, Nigeria.

Methodology

Design of the study: This study adopted a descriptive survey research design.

Area of the study: The area of the study was Ebonyi State, which is one of the five states of the South-East geopolitical zone of Nigeria with a population of about 2.17 million people and a total landmass of 5,533km² (National Bureau of Statistics, 2017). Ebonyi state is characterized by diverse Igbo traditions and cultures which can influence food avoidance practices (Slattery 2016). Ebonyi State has two tertiary health facilities, 13 general hospitals, 534 primary health centres, and six faith-based (mission) hospitals (Ebonyi State Ministry of Health 2022).

Population for the Study: The study population comprised of all 1636 pregnant women attending antenatal clinics in the public health facilities in Ebonyi State at the time of this study. (Hospital Records, 2022). The women were within the age bracket of 26-35 years, (51.2%). Some of the women had secondary school level of education. Up to 74.7 percent of the women were artisans and traders. Some of the women (29.9%) already had three children.

Sample for the Study: A sample size of 400 pregnant women attending antenatal clinics was selected through multi-stage sampling procedure. One government-owned and a mission-owned hospital were selected. These were two hospitals that had the highest patronage for maternal and child health care delivery services in the area. Thereafter, 217 and 183 pregnant women attending antenatal of the mission clinic and government clinic respectively were selected using convenience sampling technique of balloting without replacement. This procedure yielded 400 pregnant mothers used in the study.

Instrument for Data Collection: Questionnaire was used for data collection. It was developed based on the

purpose of the study and literature review. The questionnaire was divided into three sections (A to C). Section A contained seven items of demographic characteristics of participants, while section B contained a checklist of the common foods avoided in pregnancy. Respondents were required to use a tick (✓) to indicate the food avoided during pregnancy. Section C dealt with reasons associated with the avoidance of food during pregnancy. Respondents were required to use a four-point scale response options ranging from "Strongly Agree, SA" (4 points), "Agree, A" (3 points), 'Strongly Disagree SD' (2 points) and "Disagree D" (1 Point). The instrument was face-validated by three experts in health education. Twenty copies of the questionnaire were administered on 20 respondents who were not part of the study sample. Cronbach Alpha reliability method was used to determine the internal consistency of the items. A reliability index of $r = 0.923$ was obtained.

Method of Data Collection: A total of 400 copies of questionnaire were administered to the respondents by hands. Seventy-two (72) copies (18%) had incomplete responses and were discarded. A total of 328 copies were properly filled and fit for data analysis.

Date Analysis Technique: Data were analyzed using frequencies and percentages, mean and standard deviation. The mean of 2.50 and above was considered as strong reasons. Any cluster mean that was less than the mean of 2.50 was considered as weak reasons for avoiding food taboos in pregnancy.

Results of the Study

Data analysis of Socio-demographic characteristics of the respondents: shows that a total of 328 participants

completed the questionnaire accurately and were used for the final analysis. Out of 328 participants, 83 (25.3%), 154 (47.0%), and 91 (27.7%) were within the age bracket of 15-25, 26-35, and 36-45 years respectively. Marital status shows that majority were married (50.9 %), single mothers (20.1%), divorced (13.7%) and widowed (15.2%). Educational levels varied widely as majority attended secondary schools (51.2%), tertiary institutions (29.9%) and primary schools (18.9%). Occupational status shows that majority were artisans (39.6%), traders (35.1%), house-wives

(14.6%) and civil servants (10.7%). The family income status ranges from ₦30000-99000 (45.7%), <₦30000 (31.4%), and ₦100,000 (22.9%). Religious affiliation data shows that majority of the participants were Christians (67.7%), traditional religion (21.7%), and Muslims (10.7%). In terms of parity, the participants had given birth three times (29.9%), had given birth two times (19.5%), had given birth four times (18.9%) and five times (18.9%), and had given birth once (12.8%).

Table 1: Frequency (F) and Percentage (%) Responses on Foods Avoided in Pregnancy (FAP) among Women in Ebonyi State of Nigeria

S/N	Foods Avoided in Pregnancy (FAP)	F (%)	Food Types Rank
Proteins			
1	Squirrels	194 (59.1)	1 st
2	Bird Gizzard	194 (59.1)	1 st
3	Snail	182 (55.5)	3 rd
4	Frogs	181 (55.2)	4 th
5	Rats	149 (45.4)	5 th
6	Grass-cutter (Nchii)	141 (43.0)	6 th
7	Eggs	89 (27.1)	7 th
9	Cold meat (Chicken)	51 (15.5)	8 th
10	Pig meat (Pork)	49 (14.9)	9 th
11	Fish	45 (13.7)	10 th
12	Beef(Cow meat)	44 (13.4)	11 th
Carbohydrates			
13	Banana	75 (22.9)	1 st
14	Bread	68 (20.7)	2 nd
15	Cakes	40 (12.2)	3 rd
16	Potatoes	23 (7.0)	4 th
Fruits			
17	Pawpaw	95 (28.9)	1 st
18	Mango	60 (18.2)	2 nd
19	Avocado Pea	24 (7.3)	3 rd
Vegetables			
20	Cabbage	71 (21.6)	1 st
21	Okro	57 (17.4)	2 nd
22	Pumpkin	30 (9.1)	3 rd
Drinks			
23	Alcohol drinks	113 (34.5)	1 st
24	Soft drinks	84 (25.6)	2 nd
25	Tea	42 (12.8)	3 rd

Table 1 shows that the most commonly foods avoidance in pregnancy (FAP) were proteins such as squirrels (59.10%) and bird gizzard (59.10%) both of which occupy the first position in the ranking of avoided proteins. Snails (55.50%) and frogs (55.2) were the third and fourth avoided proteins respectively. The Table

further shows that the least foods avoided were carbohydrates like Potatoes (7.0%); fruits like avocado pea (7.3%); vegetables pumpkin (9.1%); and drinks including tea (12.8%), which occupied lower positions in their food group ranks.

Table 2: Mean ($\bar{x}$) responses on Reasons for Avoiding Food in Pregnancy among Women in Ebonyi state of Nigeria

S/N	Reasons for Avoidance	$\bar{X}$	SD	R
I do not eat:				
1.	meat (like squirrel and grass cutter) in pregnancy because it causes prolonged labour and difficulty delivery.	2.27	1.00	WR
2.	snail in pregnancy because my baby would be sluggish and spit too much saliva	2.53	1.22	SR
3.	okra soup in pregnancy because my baby would spit too much saliva after birth.	3.01	1.21	SR
4.	bird gizzard (<i>eko-okuku</i>), and liver (<i>meju - anu</i>), during pregnancy because it is against my culture and can prolong labour and delivery difficulties.	3.06	1.13	SR
5.	egg during pregnancy because it will make my baby a thief.	2.13	0.98	WR
6.	snail in pregnancy because it is against my culture.	3.12	1.10	SR
7.	drink milk products, <i>soft drinks</i> and other 'sweet drinks' in pregnancy because it causes worm to a child.	2.42	1.05	WR
8.	some fruits like bananas and avocado during pregnancy to avoid fatty baby which is difficult to deliver.	2.33	0.98	WR
9.	vegetables like cabbage, pumpkin during pregnancy to avoid miscarriage	1.67	0.52	WR
10.	male organ of an animal during pregnancy because it is a taboo in my community.	2.02	0.78	WR

Key: Mean 2.50 ($\bar{X}$) and above =SR- Strong Reason; Less than 2.50= WR- Weak Reason; R- Remark

Table 2 shows the mean ($\bar{X}$) responses and standard deviations of reasons for food avoidance in pregnancy (FAP). Specifically, the Table shows that the pregnant mothers ($\bar{X}$ =2.27±SD=1.00), avoid meat (grass cutter) during pregnancy, because it causes prolonged labour and delivery difficulty. Snail were avoided in pregnancy because their baby would be sluggish and spit too much saliva after birth ($\bar{X}$ =2.53± SD = 1.22),Okra soup were avoided in during pregnancy with strong reasons that their

baby would spit too much saliva after birth ($\bar{X}$ = 3.01± SD=1.21). Bird gizzard (*eke-okuko*), and meat liver (*mejiu-anu*), were avoided in pregnancy ($\bar{X}$ = 3.06±SD =1.13), with strong reasons that it is against their culture and that it causes miscarriage or delivery difficulty. Egg was avoided during pregnancy because it will make baby become a thief ($\bar{X}$ = 2.13±SD =0.98). Vegetables including cabbage, pumpkin were avoided ($\bar{X}$ =1.67 ± SD = 0.52) because it causes miscarriage. Drinks including milk

products, *soft drinks* and other sweet drinks were avoided ($\bar{X} = 2.42 \pm SD = 1.05$) because it causes worm to the baby. Some fruits like bananas and avocado were avoided ($\bar{X} = 2.33 \pm SD = 0.98$), with the reasons that it causes fatty baby with delivery difficulty. Snail in pregnancy was avoided ($\bar{X} = 3.12 \pm SD = 1.10$) with strong reasons that it is against their culture. Male organ meat of an animal was avoided in during pregnancy because it is a taboo in their community ($\bar{X} = 2.02 \pm SD = 0.78$). By implications, there were strong reasons for avoiding foods like snails, okra soup, bird gizzard (*eke-okuko*), and meat liver (*mejiu-anu*), in pregnancy due to its perceived consequences and moreover, snail in pregnancy were avoided with strong reasons that it is against their culture.

Discussion

The present study has shown that the highest commonly food avoided in pregnancy (FAP) were protein foods like squirrels, birds, snails and frogs. The study further shows that the least FAP were carbohydrates: potatoes; fruits: avocado pea; vegetables: pumpkin; and drinks: tea. The findings were in agreement with those which reported that protein food like snail, grass-cutter and meat were the highest commonly avoided foods during pregnancy (Ekwochi, Osuorah, Ndu, et al., 2016). The present study further supported the study conducted among Pendhalungan community in the East Java of Indonesia which reported that protein foods such as shrimp, chicken liver, egg and fish were the most avoided food taboos among pregnant women of Pendhalungan Society (Ningtyias, Kurrohman, 2020). The current study however disagrees with the report of a study in Eastern Cape South Africa and

Ethiopia where protein foods were the least avoided food during pregnancy (Chakona& Shackleton 2019).

The study further shows that the least FAP were carbohydrates: potatoes; fruits: avocado pea; vegetables: pumpkin; and drinks: tea. The findings were in line with studies which reported that foods of plants origin like fruits, banana, honey, sugarcane, and vegetables were least avoided among pregnant mothers in their various communities (Zepro, 2016; Zerfu, Umeta&Baye 2016). The findings however differ with those that observed that food of animal origin were the least avoided foods during pregnancy (Amare et al., 2022). The variations in the findings might be dependent on the location, availability and accessibility of the food types.

The present study indicated strong reasons for avoiding foods like snails, okra soup, bird gizzard (*eke-okuko*)/ meat liver (*mejiu-anu*), in pregnancy. Some of the reasons were due to the perceived consequences that it causes prolonged labour, difficulty delivery, too much saliva, miscarriage, and baby becoming a thief after birth. Moreover, snail in pregnancy were avoided with strong reasons that it is against their culture. The findings were in line with findings of other studies in South Africa and Ethiopia, which reported that pregnant mothers avoid food such as okra soup with strong reason that they cause miscarriage and fetal deformity (Zepro, 2016; Oluleke, Ogunwale, Arulogun et al. 2016). Snails were avoided in the current study with strong reasons associated with culture. This is supported by Ekwochi, Osuorah, Ndu et al. (2016), and Maduforo, (2010) who in their separate studies reported that okra, and snail were avoided in pregnancy

due to the reasons related to cultural beliefs. The present study further disagrees with the findings from Indonesia, where protein food such as snail were avoided in pregnancy because of food taboo (Ningtyias, Kurrohmanm 2020). The current findings vary with those in Northern Ethiopia, where pregnant women strongly believed that food like banana, legumes, honey cause abortion, abdominal cramps and prolonged labor (Tela et al., 2020).

There are several reasons for avoidance of certain foods in pregnancy due to misconceptions of cultural beliefs. Studies have reported that avoidance of essential food in pregnancy for any reason not proved scientifically, might impact maternal nutritional requirements and lead to maternal morbidity, poor birth outcome and fetal deaths (UNICEF, 2013; Tela, Gebremariam&Beyene, 2020). In Ebonyi State, Nigeria, it is noteworthy that the separate national survey conducted between 2013 and 2015 alluded to the high rate of under nutrition among mothers and children in the state (Umeokonkwo et al., 2020). This might not be unconnected to certain foods avoidance during pregnancy.

Conclusion

The findings of this study indicate that the highest commonly FAP were protein foods like squirrels, bird gizzard (*eke-okuko*)/ meat liver (*mejiu-anu*), snails and frogs. It is further observed that the least FAP were carbohydrates: potatoes; fruits: avocado pea; vegetables: pumpkin; and drinks: tea. Also, the reasons for the avoidance were strong due to cultural beliefs and misconceptions on the effects of the food on miscarriage, prolonged labour, and difficulty delivery amongst others. These

findings emphasize the need for a well-organized nutritional education and sensitization campaign for both mothers and their husbands. These call for involvement of well-informed health educators, and concerned relevant stakeholders in addressing food avoidance and its reasons among pregnant mothers in Ebonyi state, Nigeria.

Recommendations

1. The ante- and post-natal clinics in the health facilities in the area of the study should design intervention programmes to address foods avoidance and educate the women appropriately.
2. Relevant bodies should organize extensive nutritional education for the women during antenatal health care services.

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