

PREVALENCE OF FOOD CRAVING AND AVERSION DURING PREGNANCY IN WOMEN IN ASABA, DELTA STATE

L. A. Ejei – Okeke and Ruth Analuba

Abstract

The prevalence of food craved for and averted during pregnancy was studied. The main thrust of the study was to determine the frequency and duration of pronounced dietary craving and aversion during pregnancy. The study was a clinic – based survey. A total of fifty (50) pregnant women attending ante – natal clinics and were willing to respond to questions in the questionnaire were purposively used for the study. Questionnaire was the instrument used for data collection on the personal characteristics of respondents, prevalence of food aversion and craving among pregnant women and other information. Research questions formulated were the basis for empirical investigation. Data was analyzed using percentages and frequency. Results showed that greater proportion (84%) were in their second trimester of pregnancy. All of the respondents consumed high protein foods, fruits , vegetables and carbohydrates – rich foods to different degrees. Majority (82% each) of the women experienced nausea and 20% vomiting during pregnancy. Majority agreed that nausea and vomiting could result in food craving and aversion during pregnancy. Food craving and aversion were found to be linked to food intakes of pregnant women. A better understanding of these dietary behavioural patterns is key in addressing the maternal nutrition.

Keywords: Food craving, food aversion, pregnancy, nausea and vomiting, maternal nutrition.

During the reproductive life of women, pregnancy could be a very vital occurrence. It is a well known fact that the nutritional status of a person before and during this period goes a long way to affect the pregnancy outcome. A balanced diet consumed at this period in life is very necessary both to the health of the woman and the entire outcome of the pregnancy. However, complaints from pregnant women are often heard as regards foods they suddenly dislike or begin to crave for. These are part of the variety of nutritionally linked problems which are unpleasant and difficult to tolerate, whereas some people report strong cravings for specific foods, other people have aversion for some types of food (Isegaye, Muroki and Kogi – Maku, 1998).

Caplan (2001) stated that food cravings and aversions refer to a strong desire and strong dislike respectively for certain foods and some unpleasant experience are common during pregnancy such as nausea and vomiting. According to Ronzio (2003), a food craving is an intense desire to consume a specific food, stronger than simply normal hunger and food aversion is just the reverse of this. These complications may cause not only discomfort during pregnancy but also may interfere with the dietary intake of the pregnant woman and sometimes causing serious problems (Caplan, 2001). Morning sickness, which often occurs in more women during the first trimester of pregnancy, is commonly linked with food aversions; cravings, nausea and vomiting that are often associated with pregnancy. Although, according to Pelchat (2009) “it may be the way in which foods are consumed

(e.g. alternating access and restriction) rather than their sensory property that leads to an addictive eating pattern”. This may be true for craving outside pregnancy period. Craving for non- food items is called pica. This is sometimes a feature in pregnancy. Human pica refers to the compulsion for persistent ingestion of unsuitable substances (e.g. soil, charcoal, brut matches, cigarette, clay, chalk, etc) which have little or no nutritional value. A theory suggests that the ingestion of non – food substances relieves nausea and vomiting while another theory suggests that the deficiency of essential nutrients such as calcium or iron results in eating of non – food substances that contain these nutrients (Tierison, 1997).

Consumption of non – food substances which may contain toxic compounds or high doses of nutrients not tolerated in certain health conditions and some pica could act as antagonists to some nutrient (mineral salt) absorption.

Food cravings have no single – cause explanation, but ranges from low serotonin levels affecting the brain centres for appetite to production of endorphins as a result of consuming fats and carbohydrate (Ronzio, 2003). Food aversion which is common during pregnancy is believed to be due to a heightened sense of smell, possibly caused by hormonal changes (Erick, 1994). Professionals like nutritionists and dietitians can offer suggestions for foods to replace those that are no longer attractive to their clients. A battling issue is the reason why food taste does change during pregnancy. The sudden gastronomic changes can be balanced on hormonal hyperactivity during the first trimester. While some works show aversion and craving as idiosyncratic (extrinsic) – for example pelchat (2009), and others attribute aversion and craving to intrinsic physioplogical processes aimed at ensuring optimal growth and development of the foetus (tierison, Olsen and hook, 1985).

Isegaye, Muroki And Kogi – Macaw, (1998) found that women who avoid carbohydrate food 2 – 4 times are more likely too crave for other foods like protein than those who did not avoid food. This implies that aversion and craving are complementary processes geared towards ensuring optimal nutrition during pregnancy. They added that aversion results in the avoidance of monotonous diet while craving calls for varied and nutritious foods.

Materials and Methods

A clinical – based prevalence study of the food craving and aversion of women during pregnancy in Asaba, Delta State was done to determine the frequency and duration of pronounced cases. Pregnant women in their child bearing age who came for ante – natal visits in two government hospitals (federal medical centre (FMC) and general hospital, Okwe) in Asaba metropolis who were willing and gave their consent to participate in the study were used. A preliminary visit to the study areas was done by the researchers to FMC and Okwe before the study.FMC had 34 and Okwe had 48 pregnant women during the visits.

A structured questionnaire developed by researchers and validated by specialist lecturers in nutrition was used for data collection. This was administered on the women during their ante – natal visit hours. Some could fill theirs while some who were not literate were assisted by the researchers. Areas of focus in the questionnaire were the socio – demographic characteristics of the respondents, food consumed; foods craved or averted, observed reasons for such behavior, experience of nausea

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and vomiting, observed causes of nausea and vomiting and effects of cravings and aversion, research questions are

1. What was the prevalence of food aversion and craving among pregnant women in Oshimili south L.G.A?
2. What foods have commonly avoided or craved for during pregnancy in the study area?
3. How did pregnant women manage aversion and craving?
4. What is the time of onset of nausea and vomiting as sequenced by respondents?
5. What causes food cravings and aversion according to their perception?
6. What numbers of women experience nausea and vomiting in pregnancy. Data collected were analyzed using frequency and percentages.

Results

The socio – economic and demographic characteristics of the respondents are presented in table 1. The age of the respondents ranged from 20 to 50 years. More than half (36%) of the respondents were married, a few (4%) were divorced. Some respondents (32%) were civil servants and others were house – wives (30%), students (20%) and in business (18%) respectively. Only a few (6%) had no formal education, while half (50%) had tertiary education. The majority (66%) were Christians and others were traditionalists (20%) Moslems and atheists.

Table 1: Age, Marital Status, Occupation, Educational Qualification and Religion of Respondents.

Age Range (years)	Frequency	Percentage
20 – 30	20	40
40	22	44
40 – 50	08	16
Total	50	100
Marital Status.		
Single	15	30
Married	28	56
Divorced	02	04
Widowed	05	10
Total	50	100
Occupation		
Business	09	18
Civil servant.	16	32
Students	10	20
House wives	15	30
Total	50	100
Education Qualification		
No formal	03	06
Primary	06	12
Secondary	16	32
Tertiary	25	50
Total	50	100

Table 2: Religion, Income/Month and Gestation Age of Respondents.

Religion	Frequency	Percentage
Traditional	10	20
Christian	33	66
Islam	03	06
Others	04	08
Total	50	100
Gestation Age (Months)		
1 – 3 (1 st trimester)	04	08
4 – 6 (2 nd trimester)	41	82
7 – 9 (3 rd trimester)	05	10
Total	50	100
Income/Month (₦)		
<₦10, 000	06	12
₦10, 000 – ₦20, 000	06	12
₦21, 000 – ₦30, 000	10	20
>₦30, 000	28	54
Total	50	100

Data in table 2 shows that the majority (82%) of the respondents were in their second trimester of pregnancy, some (10%) were in their third trimester while the rest (8%) were in their first trimester. Equal numbers (12% each) were within the ₦10, 000 and ₦10, 000 – ₦20, 000 categories of income earners. More than half (54%) were in the group that earned more than ₦30, 000 per month.

Table 3: Food Consumed/Consumption Time of Respondents

Food	Breakfast		Lunch		Dinner		Total	
	F	%	F	%	F	%	F	%
Boiled yam	9	18	9	18	9	18	27	54
Pounded yam	10	20	4	8	4	8	28	56
Amala	15	30	14	28	10	20	39	78
Yam Pottage	10	20	20	40	10	20	40	80
Garri	14	28	14	28	14	28	42	84
Potatoes	15	30	8	16	22	44	45	90
Rice	22	44	15	30	8	16	45	90
Semovita	10	20	15	30	8	16	33	66
Pap	22	44	8	16	11	22	41	82
Corn + Beans	5	10	19	28	7	14	31	62
Plantain	13	26	15	30	9	18	37	74
Beans	7	14	14	28	11	22	33	66
Beef	40	80	40	80	40	80	40	80
Poultry	10	20	17	34	13	26	40	80
Eggs	22	44	8	16	3	6	35	70
Fish	50	100	50	100	50	100	50	100
Vegetable (Leafy)	10	20	50	100	50	100	50	100
Fruity	8	16	50	100	50	100	50	100
Starch	6	12	4	8	5	10	15	30
Corn Porridge	12	24	3	6	10	20	25	50

Data in table 3 shows the staples eaten by the respondents and the time of the day in which they consume them. This table reveals that the commonly consumed foods like fish, poultry, meat,

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fruits and vegetables by respondents (100%), were also eaten at any time of the day though to different degrees. First class protein highly consumed were beef (80%) and fish (100%). Others were poultry (80%) and eggs (70%) respectively. Fruits and vegetables (leafy) were also greatly consumed (100%) each by respondents and eaten at any time of the day. Carbohydrate___ based staples mostly consumed by respondents were potatoes and rice (90%) each. Others included yam pottage (80%), garri (84%) pap (82%) and Amala (78%) respectively. The less consumed sources included boiled yam (54%), pounded yam (56%), corn porridge (50%) and starch (30%).

Concerning the time of the day these foods were consumed, the table shows that all the foods were eaten at all the time of the day to different degrees but for fish (100%), beef (80%) were eaten to the same degree any time of the day. Vegetables and fruits which were eaten by all were mostly eaten at both lunch and dinner to the same degree (100%). Less were eaten by respondents at breakfast time. Another feature in this study (tables) concerning craving is that the heavy carbohydrate foods craved for were also eaten at breakfast time which is not usually the case, as light meals were eaten at breakfast times before pregnancy.

Table 4: Reasons for Food Craving and Aversion and Experience of Nausea and Vomiting and Craving and Aversion by Respondents

Aversion (Reason)	Frequency	Percentage
Vomiting	15	30
Nausea	22	44
Smell/odour	13	26
Total	50	100
Craving (Reason)		
Good health	11	22
To stool easily	18	36
Growth	21	42
Total	50	100
Have Nausea in Pregnancy		
Yes	41	82
No	09	18
Total	50	100

Have Vomiting in Pregnancy

Yes	10	20
No	40	80
Total	50	100

Table 4 shows that nearly half of the respondents (44%) averted certain foods because of nausea, others (30%) because of vomiting while some (26%) because of smell/odour. The most important factor for food craving (42%) was attributed to growth while health related issues to stool easily (36%) and good health (22%) were other reasons given respectively. A good number of the respondents (82%) do experience nausea in pregnancy, while some (18%) do not experience it.

Most of the respondents (80%) do not have vomiting in pregnancy while some (20%) actually vomited. All the respondents experience food aversion and craving but at different levels.

Table 5: Time of Onset of Nausea and Vomiting, and if Food Intake Causes Them

Time of onset(months)	Frequency	Percentage
1__3(1 st trimester)	41	82
4__6(2 nd trimester)	04	08
(3 rd trimester)	04	08
Not at all	01	02
Total	50	100
Food intake causes them:		
Yes	43	86
No	07	14
Total	50	100

Table 5 shows that majority of respondents(82%) do experience nausea and vomiting during the first trimester of pregnancy, same number(8%) do have the experience in the 2nd and 3rd trimesters respectively, while very few (2%) do not have the experience at all. The majority of the respondents (86%) also agreed that intake of food triggers off the nausea and vomiting experiences, only a few (14%) agreed that food intake does not cause nausea and vomiting for them.

Table 6: Observed causes of Nausea Vomiting, Implicating food, and Effects of Nausea Vomiting of Respondents

Observed Causes	Frequency	Percentage
Aroma of food being cooked ↑se nausea		
Yes	45	90
No	05	10
Total	50	100
Cooking aroma ↑se vomiting		
Yes	11	22
No	39	78
Total	50	100
Implicating Foods(triggers):		
Fried Foods	30	60
Highly spiced foods	04	08
Fatty foods	16	32
Total	50	100
Implicating Foods(reduces):		
Fruits and Vegetables	20	40
Salty snacks (crackers and chips)	22	44
Salty foods	08	16
Total	50	100
Affects the Health of Mother and Child:		
Yes	48	96
No	02	04
Total	50	100
Nausea and Vomiting Result in Aversion:		
Yes	45	90
No	05	10
Total	50	100

Table 6 shows that aroma from cooking food is an observed cause (increase) of nausea by respondents (90%). Less than half (22%) agreed that vomiting can be increased by the same aroma from cooking food while more than half (78%) said that vomiting cannot be caused by aroma from cooking food. More than half (60%) implicated fried foods, 30% implicated fatty foods and a few 8% implicated spicy foods. Foods mentioned to reduce these conditions included vegetables and fruits (40%), salted snacks (e. g. chips and biscuits) – 44% and salty foods generally (16%). Almost all the respondents (96%) agreed that food craving have effect on both mother and feotal health while nausea and vomiting can result to food aversion (90%).

Analysis of Research Questions

Research question 1: What is the prevalence of food aversion and craving among pregnant women in Oshimili South South L.G.A?

From table 4, it can be said that the prevalence of women who experience craving and aversion during pregnancy was high since all the women studied experienced it in one time or the other.

Research question 2: What foods are commonly avoided or craved for during pregnancy in the study?

Results from this study (table 3) reveal that first class protein foods such as fish (100%), beef (80%), poultry (80%) and eggs (70%), fruits and leafy vegetables (100% each) were highly craved for and consumed. Carbohydrate foods such as rice and potatoes (90%) each, yam pottage (80%), garri (84%), pap (82%) and amala (78%) were also consumed respectively. From table 6, implicating foods in aversion which were avoided include fried foods (60%) highly spiced foods (8%) and fatty foods (32%).

Table 4 shows that nearly half of the respondents (44%) averted certain foods because of nausea, others(30%) because of vomiting while some(26%) because of smell/ odour. The most important factor for food craving (42%) was attributed to growth while health related issues of to stool easily (36%) and good health (22%) were other reasons given respectively. A good number of the respondents (82%) do experience nausea in pregnancy, while some (18%) do not experience it.

Most of the respondents (80%) do not have vomiting in pregnancy while some (20%) actually vomited. All the respondents experience food aversion and craving but at different levels.

Research question 3: How did pregnant women in the study manage cravings and aversion?

They consumed the food they found that they liked because they felt that it was good for their health, it makes them to stool easily and it was good for growth and also it reduces nausea and vomiting. (See table 4) Foods they averted were those that they felt caused them nausea and vomiting so they avoided them (90% and 2%) respectively (see table 6).

Research question 4: What is the time of onset of nausea and vomiting as experienced by respondents?

From table 5, it could be see that the time of onset of nausea and vomiting by the respondents were mostly (82%) during the first trimester of pregnancy(1---3 months), while equal number have the experience(8%) at both the second and third trimesters respectively.

Research question 5 __ What causes food cravings and aversion according to their perceptions?

Table 4 reveals that based on the perceptions of the respondents, food cravings were caused by the fact that foods craved were good for health, they make the consumers stool easily and they were important for growth. While aversion was caused by vomiting, nausea and smell/ odour.

Research question 6: ___ what number of women experience nausea and vomiting?

A good number of respondents (82%) experience nausea in pregnancy, while some (18%) did not have the experience. Although a large number experience nausea, only few (20%) actually vomit.

Discussion

Result from data revealed that there is a relatively high prevalence of craving and aversion found in this study and this is comparable to other works ranging from 50% to 85%. This work also showed that aversion to some carbohydrates (starches) was observed (starch, 30%; corn porridge 50%) while more craving was for 1st class protein foods as meat and poultry and fish (80%, 80% and 100%) respectively. This agrees with the observation by Tsegaye *et al.*, (1998) that there is aversion to commonly consumed samples which were eaten before pregnancy. High aversion to fatty foods (30%) and fried foods (60%) was found in this study and may be linked with mechanism associated with delayed fat digested and other experiences like heart burn experienced at such times. The result on time of onset of the nausea and vomiting could be seen to be more experienced during the 1st trimester of pregnancy; this may be linked with hormonal changes within this period as also observed by Erick (1994). However, Ronzio (2003) is of the opinion that it may not have a single – cause. A high link was also revealed in this study between nausea and vomiting and food aversion (90%). In this study, although most women experienced nausea (82%), only a few (20%) actually vomited. The tendency here is that the nutritional status of these women who actually vomit will be more compromised than that of those who do not vomit. Food craving may be a natural way for the body system to compensate itself for the ones averted in terms of nutrients needed and vice – versa. This agrees with the view of Tierison (1997). Heavy carbohydrate foods craved for in this study were observed to be liked at a time not usual before pregnancy, this may be another dimension to the craving, not only to the type of food but also to the time of the day the food is craved for, although no literature was found relating to this. Among the foods mentioned to be craved after and consumed, there was no mention of any non – food materials consumed by the respondents as implicated in some other studies. (Coronious – Vergas, *et al*, 1991). From the data on economic status of the respondents, more (54%) earning above ₦30, 000 per month may be a pointer that economic status may not really be a factor for craving and aversion to occur but may be a factor in whether what is craved for can be gotten to satisfy the craving urge. A further study may be geared towards the degree to which cravings are satisfied. This factor may be more important as to what actually would affect the nutritional status of the pregnant woman and not just the presence of aversion and craving.

Summary

Craving and aversion are prevalent in the study area, and linked with the pregnant women's dietary intakes. First class protein foods, fruits and vegetables are the most foods craved for by respondents although heavy carbohydrate foods were also highly consumed and eaten more at lunch and dinner.

Aversion was mainly triggered by nausea and vomiting resulting from eating of fried, fatty and highly seasoned foods. More attention should be geared towards finding solution to food aversion and craving for non-food items since they are the aspects that affect the food intake of the pregnant woman negatively. Poor/bad food intakes are implicated in maternal/foetal health and negative pregnancy outcomes.

Conclusion

Whatever the chemistry underlining the onset of craving and aversion of food in the pregnant women, more nutritional focus need to be geared towards the degree to which cravings are satisfied and aversion are obeyed because these degrees are more likely to influence the food intake and subsequently the nutritional status of these women than just the urge. Healthcare providers like nutritionists and dietitians will have their problems of reacting out in counseling easier for them.

Recommendations

The following recommendations are made:

1. Healthcare providers like nutritionists and dieticians should be totally integrated into the healthcare process especially during antenatal clinics so as to relate with pregnant women and offer dietary counseling capable of influencing their food choices.
2. There is need for formulation of new food recipes from our local staples which would be nutritious but blend in taste and low in fat to be used by pregnant women to check the occurrence of nausea and vomiting especially in the first trimester of pregnancy. This may reduce aversion found to be linked in this study.

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