Food Aversion and Craving among Pregnant Women in Akure, Ondo State, Nigeria

Joseph O. Olusanya and Folashade O. Ogundipe
Department of Home Economics and Hotel Management,
Tai Solarin University of Education, P.M.B. 2118, Ijebu Ode, Nigeria

Abstract: The prevalence and type of foods craved for and aversed during pregnancy was studied. Two hundred and forty three-pregnant women in Akure North and South local government of Ondo State, Nigeria, attending antenatal clinic were involved in the study. Their nutritional statuses were determined by measuring the Mid Upper Arm Circumference (MUAC) and Tricep Skinfold Thickness (TSKT). About 57.2 and 61.3% of the pregnant women aversed and craved for at least one food, respectively. The association between food aversion and craving was found to be statistically significant ($\chi^2 = 7.36$; $p<0.05$). While, statistically significant difference in nutritional status was observed among pregnant women that had aversion and those that did not have no significant difference was observed among pregnant women with and without craving for specific food. Culture has influence on the craving and aversion among the pregnant women studied.

Key words: Aversion, craving, pregnant, women, nutritional status

INTRODUCTION

Pregnancy is an important physiological phenomenon in the reproductive life of mammals, human being inclusive. A balanced diet contributes to successful delivery. Poor nutritional status among pregnant women has been reported to be responsible for the delivery of low birth weight babies and high incidence of anemia (Kravosec, 1991; Pitkin, 1994; Mohammed et al., 2006). The need for the pregnant women to be on balance diet cannot therefore, be underscored. However, it is common to hear pregnant women complain about changes in their appetites. Whereas some report of dislike of or total aversion to specific foods, others report strong craving for specific foods (Coronios-Vargas et al., 1991; Tsegaye et al., 1998).

Some researchers argue that aversion and cravings are idiosyncratic, learned behaviours, which therefore, should be considered extrinsic, exogenous phenomena (Coronios-Vargas et al., 1991).

Other researchers attribute aversions and cravings to intrinsic physiological processes geared towards ensuring the optimal growth and development of the foetus (Tierso et al., 1985). Aversions and cravings among pregnant women may therefore, have impact on the nutritional status and the outcome of pregnancy.

This study therefore, was undertaken to determine the dietary aversions and cravings among the pregnant women with a view to identifying those foods that are aversed and craved for the reasons for such practices and their effects on the nutritional status of the pregnant women.

MATERIALS AND METHODS

The study was carried out in Akure North and South local governments of Ondo State, Nigeria. Pregnant women that attended the antenatal clinic constituted the subjects for the study. Five government and three private hospitals were randomly selected in the local government areas studied. A total of 243 pregnant women were involved in the study. A questionnaire was designed and used to collect demographic and socioeconomic data, reproductive history and information on the subjects' dietary practices (aversion and craving). The questionnaire was subjected to both face and content validity by allowing colleagues to critique it. Permission to use the pregnant women attending the antenatal clinic was obtained from chief matrons in the respective hospitals. Thereafter, copies of the questionnaire were administered to the subjects with the assistance of the nurses who had earlier been educated on the objective of the study. Similarly, the subjects were educated on the objectives of the study and only volunteers were involved in the study. Mid Upper Arm Circumference (MUAC) and Triceps Skinfold Thickness (TSFT) were used to assess the nutritional status of the subjects. MUAC and TSFT measurements were taken using the

---

Corresponding Author: Joseph O. Olusanya, Department of Home Economics and Hotel Management,
Tai Solarin University of Education, P.M.B. 2118, Ijebu Ode, Nigeria

methods described by Gibson (1990). A non-stretchable tape, calibrated to the nearest 0.1 cm was used to measure MUAC and a Holtam caliper, calibrated to the nearest 0.2 mm was used to measure the TSFT.

Data analysis: The data were analyzed using both descriptive and inferential statistics. Frequency distribution and percentages were used where appropriate and desirable. Chi-square (χ^2) test and students t-test were used to determine statistically significant association and differences, respectively at 95% confidence level.

RESULTS AND DISCUSSION

Table 1 shows the demographic characteristics and reproductive history of the respondents. Majority (58.9%) of the respondents were between 30 and 39 years old while, 22.2, 11.3 and 7.0% fell between 20 and 29, over 40 and below 20 years old, respectively. Majority, 52.3% had post secondary education, while, 35.8, 7.8 and 4.1% had secondary, primary and no formal education, respectively. With respect to their occupation, majority (44.9%) were self-employed, 34.6% gainfully employed and 20.6% were full-time housewives. The monthly income of majority of the respondents (39.5%) was between 3500 and 5000₦. Those with monthly income below 2000₦ constituted 13.2%. It is interesting to note that majority (95.1%) of the respondents were married while, 3.3, 0.4 and 1.2% were single parent, divorced and widowed, respectively. On the productive history of the respondent, majority (63.4%) were in the 3rd trimester of pregnancy while, the least, 11.1% were in the first trimester. On the number of pregnancies, majority (33.7%) of the respondents were carrying their second pregnancy. The least, 15.2%, were carrying their fourth pregnancy.

Table 2 shows the prevalence of aversion and craving among the respondents. A 42.8% had no aversion for any food, 57.2% avoided at least one food while, 28.3% avoided >1 food. With respect to craving 38.7% had no craving for any food, 61.3% craved for at least one food and 23.9% craved for >1 food.

The types of foods aversed or craved for are shown in Table 3. About 81.7% of the respondents craved for cereal and cereal based food while, the least food for (16.3% of the respondents) was fish. For the drinks, 29.8% craved for non-alcoholic drinks while, 2.9% craved for alcoholic drinks. As for food aversion, the most aversed food was plantain (87.9%) and the least was cereal and cereal products, 10.1%. Majority of the respondents, 96.0%, aversed alcoholic drinks. Many of the respondents did not give reason (s) for either aversing or craving for the foods in question.

Table 1: Demographic characteristics and reproductive history of the pregnant women (n = 243)

Characteristics	N	%
Age (years)		
<02	17	7.0
20-29	54	22.2
30-39	143	58.9
>40	29	11.3
Educational background		
No formal education	10	4.1
Primary school level only	19	7.8
Secondary school level only	87	35.8
Post secondary education	127	52.3
Occupation		
Full time housewife	50	20.6
Self employed housewife	109	44.9
Gainfully employed housewife	84	34.6
Income/month (₦)		
<₦2,000.00	32	13.2
₦2,000.00 <₦3,500.00	38	15.6
₦3,500.00 <₦5,000.00	96	39.5
₦5,000.00 and above	77	31.7
Marital status		
Single parent	8	3.3
Married	231	95.1
Divorced	1	0.4
Widowed	3	1.2
Reproductive history		
Trimester of pregnancy		
1st	27	11.1
2nd	62	25.5
3rd	154	63.4
Number of pregnancies		
1st	55	22.6
2nd	82	33.7
3rd	69	28.4
4th and above	37	15.2

Table 2: Prevalence of aversion and craving among the pregnant women

Dietary practice	Prevalence (%) n = 243
Aversion	
No food avoided	42.8
At least one food avoided	57.2
>1 food avoided	28.3
Craving	
No food craved	38.7
At least one food craved	61.3
>1 food craved	23.9

Table 3: Number (percentage) of pregnant women with aversion to or craving for specific food groups

Food	Craving (n = 104)	Aversion (n = 149)
Cassava-based food	38 (36.5)	124 (83.2)
Cereal and cereal-based food	85 (81.7)	15 (10.1)
Meat and meat produce	24 (23.1)	117 (78.5)
Beans-based food	51 (49.0)	93 (62.4)
Milk and milk products	22 (21.2)	106 (71.1)
Vegetables	52 (50.0)	12 (08.1)
Fruits	29 (27.9)	40 (28.6)
Fish and fish products	17 (16.3)	119 (79.9)
Beverages (non-alcoholic)	31 (29.8)	96 (64.4)
Beverages (alcoholic)	3 (2.9)	143 (96.0)
Yam-based food	41 (39.4)	121 (81.2)
Plantain	37 (35.6)	131 (87.9)

However, some of the reasons given by the few who did are presented in Table 4a and b. The relationship between aversion and craving is presented in Table 5.

Table 4a: Reasons for aversion for specific foods

Types of food avoided	Reasons
Beans and Ankara	Can lead to the development of heart burn
Yam and Cassava-based food	Makes them to be too heavy
Plantain	Produce split mark on the head of the babies
Meat and poultry	Some claimed that the odour of the poultry, especially turkey is offensive to them while, beef irritates them
Milk and milk products Beverage (non-alcoholic)	Will make the foetus to be too big and hence, result in difficult labour
Fresh or frozen fish	Has irritating smell and hence, promotes vomiting
Alcoholic beverages	Poisonous to the foetus and can make the baby, when delivered, to be an alcoholic at adult stage

Table 4b: Reasons for craving for specific food

Types of food	Reasons
Cereal, e.g., rice	It is very light and easy to prepare.
Beans based foods	They are good sources of body building nutrients, although do not digest easily
Vegetables and fruits	Good sources of body building nutrients and make them defecate easily

Table 5: Relationship between the numbers (percentages) of women experiencing aversion or craving

	Experienced craving	
Experienced aversion	No	Yes
Yes	35 (42)	49 (58)
No	40 (25)	119 (75)

$\chi^2 = 7.36$, $p<0.05$

About 75% of the respondents who experienced food aversion also craved for at least one food. However, 42% of the respondents who did not crave for any food also had no aversion for any food. The results of the observation showed that there was significant association between food aversion and craving among pregnant women studied ($\chi^2 = 7.36$, $p<0.05$).

The results of the anthropometric parameter (MUAC and TSFT) are shown in Table 6. With respect to aversion, there was significant difference between the MUAC and TSFT among the respondents with and without food aversion ($p<0.05$). No significant differences were observed in the MUAC and TSFT among respondents that craved and did not crave for food.

The high percentage of respondents within the age bracket of 30 and 39 years indicates that many of them are matured before entering pregnancy. Similarly, that majority of the majority are married, indicates high stability in the marriage. Both are commendable.

The prevalence of aversion found in this study (57.2%) is comparable with those reported by other researchers, which ranged from 50-80% (Coronios-Vargas *et al.*, 1991; Tsegaye *et al.*, 1998). It was observed that plantain and tuber foods were the major food aversed even though these foods constituted the staple foods in this area. This finding confirms reports by other researchers that pregnant women tend to avoid the staple foods consumed in their area (Coronios-Vargas *et al.*, 1991; Tsegaye *et al.*, 1998). Aversion to commonly eaten foods may therefore, be an inbuilt mechanism to diversify the types of food consumed by avoiding monotonous diets. Equally of importance is the very high aversion (96.0%) for alcoholic drinks. Some of the reasons for avoiding some of these foods are fear of the foetus becoming too big, which might result in difficult labour, such fear had been previously documented (Brems and Berg, 1988); the food making the respondents too heavy after consumption; production of split mark on the head of the babies and the drink being poisonous for the foetus in the case of alcoholic drink. Surprisingly, however, none of the respondents adduced aversion to nausea (morning sickness).

The high prevalence of craving for specific food (61.3%) reported in this study is also comparable with the findings of Tsegaye *et al.* (1998) and Al-Kanhal and Bani (1995). The foods most craved for are cereals, vegetable and fruits. Since, the foods craved for in this study are among the cheapest, it could not be established that pregnant women craved status food. The reasons adduced to the craved food were that they are good sources of body building nutrients; serve as mild laxative and easy to prepare. A closer look at the reasons given for craving for and aversion to the foods by the respondents revealed that they were not nutritionally correct. This suggests that in spite of the high literacy rate among the respondents, they lacked correct and adequate nutritional knowledge. It is therefore, suggested that nutrition education be intensified at the antenatal clinics.

The absence of statistically significant difference in nutritional status between craving and non-craving groups can probably be due to the fact that most of the craved foods were within their reach since they are cheap and common. This observation also supports the view that craving could be an intrinsic mechanism by the body to correct nutritional deficiencies (Tierso *et al.*, 1985). However, the observed statistically significant difference in the nutritional status between respondents with and without aversion could not be explained, more so when those with aversion were found to be on better nutritional status. Ordinarily, it would be assumed that aversions should decrease food choice and thus, lead to reduced

Table 6: Anthropometric characteristics of pregnant women with or without aversion and craving

Anthropometric characteristics	Aversion		No Aversion			Craving		No craving		
	N	Mean±SD	N	Mean±SD	t-test	N	Mean±SD	N	Mean±SD	t-test
MUAC (cm)	149	21±1.8	94	19±2.2	3.21a	104	21±2.3	139	21±1.9	0.71c
TSFT (mm)	149	09±3.1	94	08±3.1	2.32b	104	09±3.5	139	09±3.1	0.95c

a: $p<0.05$, b: $p<0.05$, c: Difference not significant

dietary intake, which would invariably affect nutritional status negatively. More study is therefore, suggested in this area.

CONCLUSION

This study indicates that aversion and craving during pregnancy are significantly associated. While, significant difference in nutritional status was observed among pregnant women that had aversion and those that did not have, no significant differences was observed among pregnant women with and without craving for specific food. Culture has influence on the craving and aversion among pregnant women. The study also revealed lack of adequate and correct nutritional knowledge among the pregnant women. Hence, there is the need to intensify nutrition education at the antenatal clinics.

ACKNOWLEDGEMENTS

REFERENCES

Al-Kanhal, M.A. and I.A. Bani, 1995. Food habits during pregnancy among Saudi women. Int. J. Vit. Res., 65 (3): 206-210.

Brems, S. and A. Berg, 1988. Eating down during pregnancy: Nutrition, Obstetrics and Cultural considerations in the third World. Discussion paper prepared for the ACC/SCN Washington DC. World Bank.

Coronios-Vargas, M., R.B. Toma, R.V. Tuveson and M. Schutz, 1991. Cultural influences on food craving and aversion during pregnancy. Ecol. Food Nutr., 27: 47-49.

Gibson, R.S., 1990. Principles of Nutritional Assessment. 2nd Edn. London. Oxford University Press. New York ISBN: 0195171691.

Kravosec, K., 1991. The implications of the poor maternal nutritional status during pregnancy and future lactational performance. J. Trop. Paediatr. (Breastfeeding suppl.), pp: 3-5.

Mohammed, A.A., G.M. Spiekermann-Brouwer and A.K. Traore, 2006. Determinants of anemia among pregnant women in Mali. Food, Nutr. Bull., 27: 47-49.

Pitkin, R., 1994. Nutrition in pregnancy. Clin. Obstet. Gynaecel., 80: 884-887.

Tierso, D., L. Olson and B. Hook, 1985. Influence of cravings and aversions on diet in pregnancy. Ecol. Food Nutr., 17: 117-129.

Tsegaye, D., N.M. Murok and Wambui Kogi-Makan, 1998. Food aversions and cravings during pregnancy: Prevalence and significance of maternal nutrition in Ethiopia. Food. Nutr. Bull., 19 (1): 20-26.