

**NUTRITIONAL HEALTH PROBLEMS IN NIGERIAN
ADOLESCENTS ATTRIBUTABLE TO AVAILABILITY OF FOODS
AND FEEDING CULTURE IN NIGERIA.**

BY

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ABSTRACT

This study investigated the Nutritional Problems in Nigerian adolescents attributable to availability of foods and feeding culture in Nigeria. The study was conducted using a descriptive survey research method. A total of 400 senior secondary schools in Yagba West and Yagba East Local Government Areas of Kogi State using stratified and purposive simple random techniques. A 16 item self designed questionnaire tagged NHPNAAFFCNQ was used to illicit information from the respondents. Five null hypothesis were generated and tested at 05 alpha level. The items were analyzed using chi-square analysis. The results revealed that, (i) adolescent students eat mainly carbohydrate foods because it is mainly available, this accounts for high rate of kwashiorkor among the secondary school students; (ii) parents sparingly encourage adolescents in secondary schools in the consumption of proteinous food because protein especially beans is for idol worship in their locality, (iii) also people eat mainly crops that are grown and in their locality. Therefore, it was recommended that seminars, lectures and symposium be organized for parents and adolescent students in secondary schools on the need to eat balanced die. Also, the government at every level should pay its staff well so as to be able to feed well.

INTRODUCTION

Adolescents (ages 14 – 18 years) though require energy giving foods to aid their spirit in growth, several nutrients are also needed to compliment the carbohydrate and fat consumption. Culturally, some students perceived food as the stomach filling substances. The stomach is a factor without

which adolescents feel that they wouldn't grow very well. The protruding stomach had been indoctrinated by parents into children as the concept of being fed. Parents have induced children to make preference for left over cooked Eba. Fufu, Iyan (pounded Yam) eaten with or without mat, fish, snail, edible mushroom and shrimps (Olanegan, 1999).

With this, adolescents aged 14 – 18 years, should eat, 589 gm of protein for girls and boys respectively, if protein requirement should not be missing and the 1.5 I.U riboflavin needed should not also lost. Therefore, the blood shortage is gradually induced too. The implication of this is, as National Research Council (2007) and Myles (1993) stated, inadequate nutrition causes anemia, weakness of the body, blurred vision, fainting and dwindling academic performance.

The conception of balanced diet to an average Nigerian student (like student, like parents); is consumption of palatable food which builds the body irrespective of the nutrients contained in these diets. No wonder then that food vendors in Nigeria schools would prepare porridge, beske (Soya beans cheese) and yams mixed with fried onions and some curry to make these foods smell palatable and appeal to the students' nose and appetite. Folawiyo (1990) considered the vendors' technique of food preparation as food faddists' thrive in Nigerian secondary schools. However, Armstrong (1997) recommends that the students should be given food that contains nutrients and ingredients that build the body, which makes the tissues grow well. These nutrients include vitamins and proteins, preferably first class protein. But where 1st class protein is not available, then 2nd class protein should be consumed.

According to Armstrong (1997) and Ogunsakin (1992), the adolescents nutritional health becomes adequate if they consume (1). First Class protein: Meat, Fish, Eggs, Shrimps, Crayfish, snail, moni-moni (tree maggot) and fresh Ponmo (cow, goat, skin) (2) Second class protein: Beans, Pea, and some specie. (3) Vitamins: A, B1, B2, B3, B6 and B12 Vitamin D, K and Folic acid. Armstrong (1997) and Ogunsakin (1992) stated that the Vitamins are necessary for the youths (adolescents' aged 11 – 21 years) so that diseases like hemorrhage, rickets, scurvy, unhealing wounds, anaemia, beri-beri and constipation can be prevented. The position of Ogunsakin (1992) was that adequate balanced diet promotes the production of champion athletes and brilliant and successful academics in secondary schools.

Owojaiye (2001) posited that traditional Nigerian parents (that formed 75% of adolescents in secondary schools' parents) can not give eggs, meat or fish and other proteins in required percentage and

kilocalories to their children due to poverty. These parents by ethical standards are naïve to nutritional requirements. Children given meat, eggs and fish are conceived to develop positive attitude to stealing. The palatable nutrients were conceived as containing the chemicals that promote theft, kleptomania in children. Olowe (2001) observed that: (1) these nutrients (proteinous foods) build, repair and strengthen the growing tissues of the young adolescents. (2) The traditionally conceived feeding habits of parents can cause nutritional health problems: A. young adolescent female suffers late breast development. B. Late menstrual cycle. C. Malformation of male genital hormones. D. stunted growth among boys and girls (big muscle development at the arm and legs: biceps, triceps, calf, temporal region) with rough scaly skin.

2nd class proteins, which consist of beans, peas, sese, epa gboro (sese = local beans, epa gboro = beans) are viewed to be stubborn to cook, contains chemicals that burn the heart and cause ulcer. Some students claim that these 2nd class proteins cause obesity (Danladi, (1998; Ibeagbha and Nwafor, 1999; Owojaiye 2001). All proteins are viewed to be appetizers and not foods because these nutrients cannot fill the stomach of farmers, carpenters, bricklayers, sawyers, who have to accomplish high energy requiring jobs of the adolescent' parents, unlike the civil servants who have less work to do.

STATEMENT OF THE PROBLEM:

Despite the primary, Junior and senior secondary school curriculum comprising topic taught, radio and television programmes that would have enlightened/educated parents and secondary school students on the feeding on the balanced diet. Evidence had showing that a lot of them still do not know how to feed well, this could be noticed in some food deficiency diseases and death as a result of malnutrition. Through these nutritional health problems, a lot of secondary school adolescents that would have been great men and women were lost. This study therefore intends to study the nutrition health problems in Nigerian adolescents attributable to availability of food and feeding culture in Nigeria.

RESEARCH QUESTIONS:

1. What are the adolescents' parents' nutritional cultural practices that influence adolescents' (students) feeding habits in Nigerian secondary schools?
2. Why do adolescents (students) detest proteinous nutrients in Nigerian secondary schools?
3. What adverse effect of Nigerian tradition on 1st class protein consumption induces nutritional diseases initiated by the adolescents' (student) parents in Nigerian secondary schools?
4. What is the adverse effect of Nigerian traditional concept on some food items that promotes nutritional diseases among adolescent students' in Nigerian secondary schools'?

RESEARCH HYPOTHESES

1. There is no significant influence of adolescent parents nutritional cultural practices on feeding habits of adolescent students in Nigerian secondary schools.
2. There is no significant influence of adolescent students' disliking of proteinous nutrients on their nutritional health in Nigerian secondary schools.
3. There is no significant influence of adverse Nigerian tradition on 1st class protein consumption of adolescents (students) that promotes nutritional diseases in Nigerian secondary schools.
4. There is no significant influence of adverse Nigerian tradition on 1st class protein consumption of adolescents' parents that promotes nutritional diseases in Nigeria secondary schools.
5. There is no significant influence of adverse Nigerian traditional concept on some food items that promotes nutritional diseases among adolescent students in Nigerian secondary schools.

PURPOSE OF THE STUDY

The purpose of this study is to:-

- (i) Find out Nigerian parents' nutritional practices
- (ii) See the reasons why adolescent students do not consume proteinous nutrients.
- (iii) Elucidate the effect of adverse Nigerian nutritional tradition on 1st class protein consumption among adolescent students.
- (iv) Explain the adverse effect of Nigerian nutritional tradition on 1st class protein consumption among adolescents' parents.

- (v) Find out the Nigerian nutritional concepts as they affect Nigerian adolescent students.

SIGNIFICANCE OF THE STUDY

The research is focused on adequate feeding habits, balanced diet and resultant nutritional diseases for the knowledge of educational nutritionists, Home Economists, dieticians and health educators. Also, to sensitized literate parents; on the hazards of giving unbalanced diets to the children or their wards. Also, to teach health education, integrated science, biology and agricultural science teachers the feeding habit, food preference and health problems of students relating to nutrient consumption. Plus; that; nutritional health education curriculum planners to include emphasis on teaching of balanced diet, detest of food mysticism, imbibe the values of balanced nutrient consumption.

METHODOLOGY

The research method for the study was a descriptive survey. This method was seen and approved to be suitable for gathering huge data, using mammoth population to derive among inferences; within a single research (Awolola, 2002). The population of this study comprised all secondary school students in Yagba West and Yagba East Local Government Areas of Kogi State. The sampled population consisted of 400 (four hundred) senior secondary school students II, (160 males and 240 females) from twenty (20) secondary schools in Yagba East L.G.A. Kogi State. The sampling procedure was a stratified and purposive sampling procedure (S.S.S. II students within 13 – 16 years of age) sampled. The self-developed instrument used for the study. The instrument was termed (NHPNAAFFCNQ). Two Ibadan lecturers from the department of Physical and Health Education, University of Ilorin and the Department of Human kinetics, University of Ibadan, read through and ascertained the face construct and content validity of the instrument. The final draft of the instrument was based on their observations, comments and criticism. The instrument become reliable as 50 NHPNAAFFCNQ were given to 50 (fifty) S.S.S. II students from 5 secondary schools in Ilorin metropolis to fill twice. Data transmit 1st administration of the instrument and the 2nd administration were collected,

coded and analyzed using Pearson product moment correlation co-efficient. The value obtained was $r = .86$ which was high enough for a study of this magnitude. Data gathered

were analyzed using chi-square statistical analysis at 0.05 alpha levels and at 398 degree of freedom.

RESULTS AND DISCUSSION

Research Hypothesis 1: There is no significant influence of adolescents Parents' nutritional practices on feeding culture of adolescents (students) in Nigeria.

Table 1 χ^2 summary on influence of parents on adolescents (students) feeding culture.

Statement	Responses							
	CHOICES				DECISION			
	SA	A	D	SD	χ^2_{CAL}	χ^2_{CRI}	$\chi^2_{@0.05}$	Decision
1. I always eat carbohydrate. That's what my parents eat and give me to eat carbohydrate is what my parent prefer to give me.	190	140	25	45	Calculated $\chi^2 = 394.8$	Critical $\chi^2 = 234.0$	394.8 > 234.0	Rejected
	47.5	35.0	6.26	11.25				
2. Food Rolled Into Bolus is Observed to fill the Stomach than Grains	98	210	21	71				
	24.5	52.5	5.25	17.75				
3. Eating bolus foods at night make me sleep soundly.	88	186	94	62				
	22.0	46.5	16.0	15.5				
4. Carbohydrate foods (eba, fufu, amala, pounded yam, eko, tutu, bloused guinea corn mashed into beans) are the types of foods stuff commonly obtained in our culture	119	171	78	12				
	29.75	42.75	19.5	3.0				

df = 398

$\chi^2 = \text{calculated} = 394.8$

$\chi^2_{critical} = 234.0$

$\chi^2_{calculated} > \chi^2_{critical}$

$394.8 > 234.0$

Hypothesis = Rejected

Adolescents' parent nutritional culture had significantly influenced adolescents' feeding culture in Nigeria. The formulated null hypothesis is rejected at Alpha 0.05 level of significance and at 398 degree of freedom since $\chi^2_{calculated}$ is greater than $\chi^2_{critical}$. 73.50% of the S.S.S.II students (the adolescents stated that carbohydrate foods, eba, fufu amala, pounded yam, eepa(mashed dried and pounded yam or burnt yam); agidi and eko tutu, are mostly the foods available. These types of foods are starchy to provide strength. Such foods consumed in excess could cause kwashiorkor, marasmus. Little amazement then is that most students are bulky, stocky with big belly, easily fatigued, easily infected with malaria.

These findings do not correlate with the recommendations of Ogunsakin (1992) who advocated for proteinous foods to dominate the nutrition of the adolescents. Ogunsakin (1992) suggested that protein foods could aid in growth, aid athletes production and promote brilliant performance.

Research hypothesis 2: There is no significant influence of adolescent students' detest of portentous nutrients on their nutritional health in Nigerian Secondary Schools.

Table 2: X² summary of influence of adolescent (students) detest of proteineous foods on adolescent (students) nutritional health

Statement	Responses							
	CHOICES				DECISION			
	SA	A	D	SD	X ² CAL	X ² CRIT	X ² @.05	Decision
1. Beans – proteins are too tough to cook, it's difficult to be done. It wastes time to pick (separate beans from stone and pebbles) and it takes too much palm oil.	134	169	41	56	Calculated X ² = 400.0	Critical X ² = 234.0	400.0 > 234.0	Rejected
	33.5	42.25	10.25	14.0				
2. Beans (protein) food burns my heart whenever I eat it in grains, even if cooked with yam or rice	199	177	49	61				
	29.75	42.75	12.25	15.25				
3. Protineous foods are too sweet and can make me pass water stool.	133	144	58	68				
	33.25	35.25	14.5	17.0				
4. Protineous foods are too sweet, it is always water and it cannot fill my stomach	119	171	78	12				
	29.75	42.75	19.5	3.0				

df = 398
 χ^2 = calculated = 400.0
 χ^2 critical = 234.0
 χ^2 calculated > χ^2 critical
 400.0 > 234.0
 Hypothesis = Rejected

Table 2 represents X² summary on influence of adolescents (students) detest of proteineous foods on adolescent students nutritional health.. The DF=398, χ^2 calculated =400.0; critical = 234.0 χ^2 calculated > χ^2 critical. The formulated null hypothesis is rejected at alpha 0.05 level of significance and 398 degree of freedom. 75.30%(303)adolescents i.e. S.S.S. II Sudendts do not desire the repair of tissues efficiency of beans. This is because these students do not cook beans and they may nothave enough money to buy meat. This finding negated the submission of Myles (1997) who would have loved that poor students are disposed to at least 22nd class protein if unable to obtain 1st class protein.

Research hypothesis 3: There is no significant influence of adverse Nigeria tradition on 1st class protein consumption among adolescents that promotes nutritional diseases in Nigeria secondary schools.

Table 3 X² Summary of Nigerian student tradition on 1st Class Protein

Statement variables	Responses							
	CHOICES				DECISION			
	SA	A	D	SD	X ² CAL	X ² CRIT	X ² @.05	Decision
1. 1 st Class protein is always too small, its costly and cannot fill my stomach. It cannot satisfy my hunger appetite.	225	115	45	15	Calculated X ² = 400.0	Critical X ² = 234.0	400.0 > 234.0	Rejected
	56.25	28.75	11.25	3.25				
2. 1 st Class protein is always too sweet, it can cause diarrhea and dysentery if eaten too often	247	111.	16	26				
	61.75	27.75	4.0	6.5				
3. 1 st Class protein is too sweet, it can make me demand for more, my feeding money is not enough to buy meat, fish, snail or shrimps.	201	121	49	29				
	50.25	30.25	12.25	7.25				
4. 1 st Class protein is not easily come by some food sellers can sell dog and pig that are detested by me.	200	140	11	49				
	50.0	35.0	2.75	12.25				

df = 398
 χ^2 = calculated = 400.0
 χ^2 critical = 234.0
 χ^2 calculated > χ^2 critical
 400.0 > 234.0
 Hypothesis = Rejected

Table 3 above presents X² summary of the Nigerian students tradition on 1st class protein . The df=398 X² calculated =400.0; X² table =234.0. X² calculated > X² critical (400.0 > 234.0). The stated null hypothesis is rejected at alpha 0.05 level of significance and at 398 degree of freedom. Nigeria secondary school students are significantly influenced by their own decision (traditional) on 1st class protein. 89.50% (358) of the S.S.S. II students in secondary schools understudy cried out that 1st class protein is always too small when served, too costly to buy and cannot fill the stomach. Therefore. Cannot satisfy their appetite. These inferences are not in line with Olowo(2001) who said that protein of this class repairs the adolescents growing and wearing tissues. Armstrong (1992) stated that the body repairing vitamins (1st class protein) are vitamins A,B1,B2,B3,B6,B12,D,K and folic acid that growing students require for blood richness.

Research hypothesis 4: There is no significant influence of adverse Nigerian tradition on 1st class protein consumption among adolescent parents that promotes nutritional diseases in Nigerian secondary schools.

Table 4: X² Summary of Nigerian parents tradition on 1st Class Protein consumption

Statement variables	Responses							
	CHOICES				DECISION			
	SA	A	D	SD	X ² CAL	X ² CRI	X ² @ .05	Decision
1. My parents eat the largest part of the 1 st class protein cooked in our house	279 69.75	111 27.75	21 5.25	9 2.25	Calculated X ² = 396	Critical X ² = 234.0	396 > 234.0	Rejected
2. My parents feel that 1 st class proteins is too sweet and can induce stealing into students.	251 62.75	101 25.25	32 8.0	16 40.0				
3. My parents do not regard 1 st class protein in the soup as a thing that must be included in our food	240 60.0	98 24.5	41 10.26	21 5.25				
4. My parents do not have enough money to buy 1 st class protein all the time. We do not eat 1 st class protein at every meal.	212 53.0	121 30.25	51 12.76	16 4.0				

df = 396
 x² = calculated = 400.0
 x² critical = 234.0

x² calculated > x² critical
 396 > 234.0
 Hypothesis = Rejected

Table 4 above presents X² summary of Nigerian parents tradition on 1st class protein consumption. The df=398, X² calculated =396, x² critical =234.0. The X² calculated > x² critical (table)(396.0 > 234.0). The stated null hypothesis is rejected at alpha 0.05 level of significance 398 degree of freedom. Nigerian parents' tradition on 1st class protein consumption significantly influenced the adolescents' 1st class protein consumption negatively. i.e. 97.50%(390) S.S.S. II Students' conformed that their parents always eat the biggest part of class proteins' cooked in their homes. With these inferences champion athletes may not be turned out in most schools as Ogunsakin (1992) reiterated that for production of champion athletes, adequate/balanced diet have to be provided for the growing adolescent. The academic performance of such adolescents may not be excellent or not adequate as hungry and diseased students may not be good academics in Nigeria. The combination of good diets with all the classes assures a balanced diet. What is the concept of Nigerian concept of nutrition?

Research Hypothesis 5: There is no significant influence of adverse Nigerian traditional concept on some food items that promotes nutritional diseases among adolescent students in Nigerian secondary schools.

Table 5: X² Summary of Nigerian concept of foods and nutritional diseases.

Statement variables	Responses							
	CHOICES				DECISION			
	SA	A	D	SD	X ² CAL	X ² CRI	X ² @0.05	Decision
1. Carbohydrate foods that can fill children's stomach is provided at our homes. Foods like yams, yam powder, garri, cassava, is bought for us in our homes	141	112	78	69	Calculated X ² = 400.1	Critical X ² = 234.0	400.1 > 234.0	Rejected
	35.25	28.0	19.5	17.25				
2. Proteineous foods (beans) can make children become too fat so it should be eaten sparingly; not all the time.	147	101.	80	72				
	35.75	25.25	20.0	18.0				
3. Vitamins are appetizers, they are not foods. Taking mango, paw-paw and oranges as do prepare the appetite.	169	98	71	62				
	42.25	24.5	17.75	15.5				
4. Instead of meat, fish, eggs and shrimps, rice, portage can be eaten	180	100	62	58				
	45.0	25.0	15.50	14.50				

df = 400.1
 $\chi^2 = \text{calculated} = 400.0$
 $\chi^2 \text{ critical} = 234.0$
 $\chi^2 \text{ calculated} > \chi^2 \text{ critical}$
 $400.1 > 234.0$
 Hypothesis = Rejected

Table 5 above shows X² summary of Nigerian concepts of foods as they affect adolescent students' The df=398, χ^2 calculated = 400.1, χ^2 critical =234.0, χ^2 calculated> χ^2 critical(table)400.1>234.0). The stated null hypothesis is rejected at alpha 0.05 level of significance and 398 degree of freedom. Nigerian concept of food actually negatively influenced adolescent' mode of consuming foods and therefore could induce students's nutritional diseases. 63.25%(253)S.S.S. II students asserted that carbohydrate foods that can fill children's stomach is provided in their homes; that foods such as yams, yam powder and cassava(flour) and garri are stocked into their feeding stores. 62%(248)S.S.S. II Students' conformed that they perceive beans (2nd class protein)as possessing the propensity to induce obesity in students' so these proteins are not consumed and these foods are what Ogunsakin(1992) had wished students should intensity, for consumption for brain cells formation and blossom body.

CONCLUSION

Based on the result, data analysis and the discussion, the following conclusions are drawing.

1. 76.10%(308)S.S.S. II students take carbohydrate foods because this could

- be rolled (molded into bolus and swallowed to fill the stomach more than grains (rice and beans)
2. Adolescent students do not eat beans because they confirmed that beans burn their heart whenever they eat it in grain even if cooked with yam or rice. So students do not eat beans.
3. Adolescent students do not eat meat (1st class protein)because they feel that the nutrients are too sweet, too small, cannot fill their stomach and can tempt them to steal.
4. Adolescent students confirmed that they do not eat 1st classm protein because because their parents do not have enough money to buy them (1st class protein).
5. Adolescent students do not eat balanced diet.

RECOMMENDATIONS

Based on the conclusions drawn, it could be recommended that:

1. Adolescent student's should be taught adequately in nutritional education and emphasis should be placed on balanced diet.
2. Parents should be sentized on the importance of balanced diet to an adolescent child. This will encourage them to serve

- adolescents in Nigeria with normal growth and development.
3. Secondary schools in Nigeria should make mid-day meal(lunch)to be balanced and compulsory for students' consumption.

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