

# STUDENTS' PERCEPTION OF FREQUENCY OF PROTEIN CONSUMPTION AND IT'S INFLUENCE ON HEALTH AND ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN KOGI AND KWARA STATES.

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## ABSTRACT

*This research investigated the students' perception of frequency of protein consumption and its influence on their and academic performance at secondary school level. One thousand six hundred and twenty senior secondary school students (SS I and SS II) randomly selected from fifty secondary school in Yagba West, Yagba East, Mopamuro, Kabba/Bumu and Ijumu Local Governments area of Kogi State served as subjects of the study. Four null hypotheses were formulated and tested accordingly. The data collected were descriptively analyzed. Based on that:-(1) The students consumed protein when their parents had visitors. It was recommended among others that the Ministry of Agriculture should assist secondary schools in animal husbandry so that poultry products are made available at cheaper rate for the parents of the students.*

## INTRODUCTION

In Okunland, it was established in that protein consumption could be on special day like a visitor's presence, Sundays, Festivals, Christmas, New year or Easter break, Adejumbi, Adeniyi, Olajide and Oyinbo (1994) asserted the authenticity of non-recognition of animal protein other than protein like the plants protein. Hardly would goat, dogs pigs, fowls, or cock be slaughtered under such animals are accidentally killed by motor vehicles or mysterious means. Furthermore, they claimed that plants protein dominate clattery spiced soup quipped down with huge bolus of carbohydrate. Like Eba, Fufu, pounded yam pap (eko) the building stomach is recognized as haven eaten food. The native parents and the students prefer to spend hard earn money on carbohydrate products like yam, coco yams, cassava, guinea corn, maize and mushroom, esunsun (termite mouth), cricket, eha (dermal skin cells), iru

(mahogany seeds) besike (soya beans cake) are used as ingredients for soup. However, yam festivals are celebrated with beans soup with or without meat. (Adejumbi, Adeniyi Olajide and Oyinbo (1994), Ogunwale (2003), Obayomi (2002) submitted that low protein production debar people from eating in the required quantity cultural and ethical standards of the Yoruba make them alienate some animal protein consumption. Religion also served as impediment to animal protein production.

It's the author's perception that despite the non-consumption of animal protein produce, the plant substitutes serve most nutrient required in dietary. The animal protein (1<sup>st</sup> class protein) and the plant protein (2<sup>nd</sup> class protein) prevent health and repair the bean preparations (Devendra 1970, Katrine 1985'. And Esiminger, 1969) protein nutrients from goat milk and meat are suitable for urban and rural people. Goat

milk is adjudged more delicious and adequate for infants' nutrients requirement. The adolescent growth and development period require eggs which contain albumin (ii)lean meat that has myosin (iii) milk that has caseinogen and lactalbumin (iv)cheese with casein (v)wheat and rye containing gluten and (vi) beans (soya beans) peas called pulse foods contain legumin (Sheola, 1972). These protein nutrients provide (a)enough values for repair and building of tissues (b)has vitamin A, E, K, B2 and D (d)Vitamin D being required by students to prevent their sight for excellent studies.

Regularity of protein consumption had been hindered due to low animal protein production in these areas of study. Also financial handicaps predicated non-consumption of protein due to high cost of meat and fishes. (Adeniyi, Olajide and Oyinbo, 1994).Due to these perennial problems militating against protein (especially animal protein) production and consumption the students would have been conditioned to eating food without protein. Some students do not eat beans and beans produce because they claimed that it burns their heart (Owojaiye, 2001). This protein source that is readily available and within the reach of the people, is detested for consumption. Then would these students' be in high level? Wouldn't there be somebody functional problems like: (i)Vision problem (night blindness) (ii)Stunted growth (iii)hair defects (Unfunctional hair follicle) (iv) rickets (v)blurred eye sight. The purpose of this research therefore was to find out the frequency of students consumption of protein. To find out which class of protein is mostly consumed. Also, it investigated students' perception of the values of protein to *their health and find out the influence of protein consumption on their academic performance.* It is the author's wish that nutritionists, home economics both at primary and secondary schools would be thoroughly sensitized on the

need to assist students in consuming adequate protein during lunch breaks.

### RESEARCH QUESTIONS.

The following research questions were generated to guide the study:

1. How often do students consume protein in secondary school?
2. Which type of protein do the students consume?
3. Are the students aware of the contributions of protein consumption to their healthy state?
4. Does protein intake have influence on their academic performance?

### RESEARCH HYPOTHESES.

The following research hypotheses were formulated to guide the study'.

1. There will be no significant influence of students' perception of the frequency of protein consumption of secondary school level.
2. There will be significant influence of student's perception of the type of protein consumed at secondary school level.
3. There will be no significant influence of student's perception of contribution of protein consumption to their healthy state.
4. There will be no significant influence of students' perception of protein intake on their academic performance.

### METHODOLOGY

#### Research Design

One thousand six hundred and twenty (1620)student (senior secondary school 1 and 2 ) were randomly drawn from Yagba-East, (510 students) Yagba-West(400 students), Ilorin East (420 students)and Ilorin West (290 students)Local Government Areas of Kogi and Kwara State, Nigeria.

## Instrumentation

A self structured instrument was developed by the researcher. The instrument was validated by three nutritionist (i.e. one at the University of Ilorin and two at the University Teaching Hospital, Ilorin). The final copy of the instrument was written based on their criticisms and correction. Section A of the instrument consisted of bio data of the subject, while section B consisted of items which were used to solicit responses on students' perception of frequency of protein consumption, students perception of type of protein consumed and students' perception of protein intake and academic performance. The five points likert scale was used in scoring the responses.

Frequency counts, average weighted responses and percentages were used to analyse the data collected. The instrument was tested for reliability by test-retest (i.e. by administering the items to the same group of students twice and at two weeks interval ). The two responses were calculated and a reliability co-efficient of 0.76 was obtained which was deemed high and reliable.

## RESULTS AND DISCUSSION

**Research Hypothesis 1:** There will be no significant influence of student perception of the frequency of protein consumption at secondary school level in Kogi and State of Nigeria.

| STATEMENT  | SA            | A              | N         | D            | SD            | AWR  | HYP<br>P>3.61 |
|--|---------------|----------------|-----------|--------------|---------------|------|---------------|
|  | 5             | 4              | 3         | 2            | 1             |      |               |
| 1. my parent buy meat form the butchers on the market days (5days interval)  | 231<br>(1155) | 1124<br>(4496) | 5<br>(15) | 32<br>(64)   | 228<br>(2228) | 3.68 | R             |
| 2. My parents buy meat from the butchers on the market days (9days interval)   | 250<br>(1250) | 1231<br>(4924) | 1<br>(3)  | 35<br>(90)   | 103<br>(103)  | 3.92 | R             |
| 3. My parent buy meat and fish everyday.   | 232<br>(1160) | 1149<br>(4596) | 2<br>(6)  | 37<br>(74)   | 200<br>(200)  | 3.73 | R             |
| 4. My parent give us meat when we have visitor and slaughter a goat, cock, hen or snail (which is not always frequent).                    | 202<br>(1010) | 1199<br>(4796) | 5<br>(15) | 49<br>(98)   | 165<br>(165)  | 3.76 | R             |
| 5. My parent slaughter animal during festival (Ileya, Christmas, Yam festival Ogun festival, Osun festival, Sango festival imole festival) | 205<br>(1025) | 1211<br>(4844) | 2<br>(6)  | 110<br>(220) | 92<br>(92)    | 3.82 | R             |
| 6. My parent kill a cock for me when I perform brilliantly in my academic pursuit (when I pass in my 1 <sup>st</sup> position).            | 232<br>(1165) | 1311<br>(5444) | 4<br>(12) | 21<br>(42)   | 52<br>(52)    | 4.02 | R             |
| 7. The favorite soup of the family is bean soup (gbegiri, or alapa, ekoto)   | 232<br>(1335) | 1277<br>(5108) | 1<br>(3)  | 14<br>(28)   | 595<br>(595)  | 4.36 | R             |
| Total average weighted responses = $27.29+7=3.90$  |               |                |           |              |               |      |               |

HO1 = A=Accepted;= 3.90

Table 1 above showed the analysis of students perception of frequency of protein consumption in secondary schools in Kogi State and Kwara State. The calculated Total Award value =3.90; while the critical TAWR value= 3.61 The calculated TAWR value > cri. TAWR value (3.90>3.61). Therefore, the stated hypothesis was rejected implying that students perceived that source of protein in their family was the favourite beans soup (gbegiri, alapa or efeko). This result supported the finding Adejumobi, Adeniyi, Olajide and Oyinbo (1994) which asserted that 2<sup>nd</sup> class protein tends to be the most chemical source of protein consumption.

These people make beans to moinmoin, rice & beans, ekuru, .agidi (beans guinea corn). The parents of the students, also killed cock or hen for them when they passed with 1<sup>st</sup> position in class as incentive for performance in the future. This method of motivation of students to study had been with the native Yoruba; such students' zeal for academic excellence is spied.

**Research Hypothesis 2:-** There will be no significant influence of students perception of the type of protein consumed at secondary school level in Kogi and Kwara State.

**Table 2: Students' Perception of types of protein consumed**

| STATEMENTS  | SA           | A              | N         | D          | SD        | AWR  | HYPOT<br>P>3.61 |
|---|--------------|----------------|-----------|------------|-----------|------|-----------------|
|   | 5            | 4              | 3         | 2          | 1         |      |                 |
| 1. My parent use bush meat only to prepare soup.  | 162<br>(810) | 1432<br>(5728) | 2<br>(6)  | 15<br>(30) | 9<br>(9)  | 4.06 | R               |
| 2. My parent use goat, sheep and cow meat asamegun (cow bones with little meat ) to prepare soup.         | 165<br>(825) | 1426<br>(5704) | 5<br>(10) | 16<br>(32) | 8<br>(8)  | 4.06 | R               |
| 3. My parents use fowl, hen cock to prepare soup.   | 159<br>(795) | 1441<br>(7205) | 2<br>(6)  | 11<br>(27) | 7<br>(7)  | 4.08 | R               |
| 4. My parent use small birds and snail to prepare soup.   | 179<br>(895) | 1422<br>(5688) | 1<br>(3)  | 9<br>(18)  | 9<br>(9)  | 4.08 | R               |
| 5. My parent use snakes, crocodile, alligator to prepare soup.  | 162<br>(810) | 1440<br>(5760) | 6<br>(6)  | 8<br>(16)  | 8<br>(18) | 4.07 | R               |
| 6. My parent use moinmoin (edible maggot) ogogo (tree maggot)and esunsun. (termite mouth to prepare soup. | 163<br>(815) | 1435<br>(5740) | 5<br>(15) | 10<br>(20) | 7<br>(7)  | 4.07 | R               |
| 7. The parent depend on beans and legumes for soup preparation.   | 164<br>(820) | 1433<br>(5732) | 6<br>(18) | 11<br>(22) | 6<br>(6)  | 4.07 | R               |
| 8. My parent use cha, ponmo to prepare soup   | 171<br>(855) | 1431<br>(5724) | 7<br>(3)  | 12<br>(12) | 5<br>(5)  | 4.08 |                 |
| 9. My parent use esunsun (Mushroom) to prepare soup.  | 107<br>(535) | 1488<br>(5952) | 8<br>(24) | 15<br>(30) | 2<br>(2)  | 4.04 |                 |
| 10. My parent use iru (pete/woro) (cancellous)biscuit bone  | 188<br>(940) | 1413<br>(5652) | 2<br>(6)  | 16<br>(32) | 1<br>(1)  | 4.09 |                 |
| Total average weighted response= $41.58+10=4.16$  |              |                |           |            |           |      |                 |

A=Accepted: R=Rejected.

Table 2 showed data analysis on students. Perception of types of protein

consumed in secondary school in Kogi State of Nigeria. The calculated TAWR

values was 4.16; while the critical TAWR value was 3.61.

The cal. TAWR value > crit. TAWR value (i.e. 4.16 is > than 3.61) implying that students perceived the types of protein that they consumed most frequently. As indicated the parents used, fowl, hen, cock to prepare soup, probably when they had strangers. Also, the students were used to eating eha, ponmo, snail, small birds iru (pete/woro, biscuit (cancellous) bone.

Owojaiye (2001) earlier found that adequate priority was not placed on

adequate protein in dietary consumption. Animal protein was too expensive to purchase, animals are dear to the natives, they are hardly killed. However, since the parent diet dictates the students diets then these students realized the value of protein to their health status that could influence their academic performance.

**Research hypothesis 3:** There will be no significant influence of students perception of contribution of protein consumption to their health state.

**Table 3: Students' perception of contribution of protein consumption to health**

| S/N | STATEMENT   | SA<br>5       | A<br>4         | N<br>3     | D<br>2     | SD<br>1    | AWR  | HYPO<br>P>3.61 |
|-----|---|---------------|----------------|------------|------------|------------|------|----------------|
| 1   | I realize that protein contain all the nutrient that the body required to stay healthy (repair worn out tissues and build muscles and growth development) | 571<br>(2855) | 1011<br>(4044) | 10<br>(30) | 15<br>(30) | 13<br>(13) | 4.30 | R              |
| 2   | I perceived that lack of protein in the child's body can cause kwashiorkor  | 270<br>(1350) | 1297<br>(5188) | 11<br>(33) | 25<br>(50) | 17<br>(17) | 4.10 | R              |
| 3   | I know that lack of protein in the diet can cause night blindness thereby students vision may blur.   | 269<br>(1345) | 1297<br>(5188) | 18<br>(54) | 16<br>(32) | 18<br>(18) | 4.10 | R              |
| 4   | I perceived that protein in the diet can cure diabetes in the disease that make adults or young person to urinate.  | 268<br>(1340) | 1304<br>(5216) | 9<br>(27)  | 18<br>(36) | 21<br>(21) | 4.10 | R              |
| 5   | Protein can be converted to fat; so that when the child is hungry, this fat can be turned to carbohydrate.  | 106<br>(530)  | 1464<br>(5856) | 8<br>(24)  | 19<br>(23) | 3.99       | R    |                |
| 6   | I perceive that eating of goat meat and goat milk is good as complete nutrient for the infant and adult and is the most delicious                         | 136<br>(680)  | 1431<br>(5724) | 7<br>(21)  | 21<br>(42) | 25<br>(25) | 4.01 | R              |

Total average weighted Response =  $246+6 = 4.10$ .

A = Accepted; R = Rejected.

Table 3 above reveals students responses to their perception contribution of protein consumption to their health and academic performance. The calculated TAWR was 4.10; while the critical TAWR was 3.61. The cal. TAWR. value ( $4.10 > 3.61$ ). Therefore, the stated null hypothesis consumption to their health and academic performance. The students perceived that protein had nutrients that repair and build the body. Also, it could be converted to fat (glycogen) and turned into carbohydrate (glucose) during the period

of starvation. This result supported Adejumobi, Adeniyi, Olajide and Oyinbo (1994) finding which asserted that it was poverty and illiteracy that plagued the people of Kabba land which debarred them from eating protein constantly; it was not non-recognition of the values of protein.

**Research Hypothesis 4:** There will be no significant influence of students' perception of protein intake academic performance.

**Table 4: Students' perceive of influence of protein intake on academic performance**

| S/N | STATEMENT  | SA<br>5         | A<br>4        | N<br>3      | D<br>2       | SD<br>1      | AWR        | HYPO<br>$P > 3.61$ |
|-----|--|-----------------|---------------|-------------|--------------|--------------|------------|--------------------|
| 1   | Protein consumption aid general body development including the brain.                                  | 620<br>(3100)   | 800<br>(3200) | 20<br>(60)  | 110<br>(220) | 70<br>(70)   | 3.64       |                    |
| 2   | Student that take more protein from milk, fish, meat sources etc perform better in academic challenges | 1,119<br>(5595) | 300<br>(1200) | 5<br>(15)   | 28<br>(56)   | 168<br>(168) | 3.54       |                    |
| 3   | Lack of protein causes diseases that may lead to poor academic performance                             | 1,000<br>(6050) | 520<br>(2080) | 4<br>(12)   | 50<br>(100)  | 46<br>(46)   | 3.87       |                    |
| 4   | More of protein should be taken right from childhood   | 1,410<br>(6050) | 110<br>(440)  | 20<br>(60)  | 65<br>(130)  | 15<br>(30)   | 15<br>(15) |                    |
| 5   | Excess protein intake from childhood is bad and may affect academic performance                        | 1,210<br>(6750) | 305<br>(1220) | 80<br>(240) | 15<br>(30)   | 20<br>(20)   | 3.49       |                    |
| 6   | Protein is a body builder and an energy source   | 1350<br>(6750)  | 150<br>(600)  | 15<br>(45)  | 80<br>(160)  | 25<br>(25)   | 3.66       |                    |

Total average weighted Response =  $22.17 + 6 = 2.81$

HO4 = A = Accepted

Table 4 above showed the analysis of student' perception of protein on academic performance in secondary schools in Kogi and Kwara States. The calculated TAWR was 2.81 while the critical TAWR value was 3.61. The cal. TAWR of 2.81 is less than the critical TAWR value of value of 3.61 (i.e.  $2.81 < 3.61$ ). Therefore the stated hypothesis was accepted. Implying that protein intake does

not have influence on academic performance. The result of this study disagreed with the findings of most authors including smith and Ojofeitimi (1995), Frances et al (1999) and Ogundele (2003) who claimed that protein is needed by infants for growth, repair of the body after illness, and to develop the brain of the fetus in pregnant women and for body building of the baby in the womb. The

reason for the difference in the result of this study and that of other might be as result of the fact that other authors were treating general function of protein to man and not treating its influence on academic performance as it is so for this study.

## CONCLUSION AND RECOMMENDATIONS

Based on the results of the study and the discussions, it could be concluded that (i) students perceived that their parents kill animals for them to eat during festivities, (ii) That plant protein (iru, beans besike and moinmoin, esunsun ) formed the natively accepted protein (iii) Students also understood the fact that animal protein in particular could repair their eye sight and prevent kwashiorkor that.

The study recommended that:

- i. The Ministry of Agriculture should establish growth of mushroom, mahogany trees and soya beans plants to provide enough plant protein for people in Kogi and Kwara states
- ii. The home economic section of the local government areas should recommend protein based diet for all secondary schools to be served during lunch.
- iii. Ministry of Agriculture should assist secondary schools in animal husbandry to produce enough animal protein for the parents of these students at a very cheap prices.
- iv. Moinmoin, (the decayed tree maggot ) cultivation should be researched and made into animal husbandry.
- v. Fish ponds should be established at ward levels and the councellors for agriculture be made to supervise its development and the fishes be sold to the public at a very cheap price.

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