

## Nutritional Health Problems of Boarding House Students in Idemili North Local Government Area of Anambra State Nigeria

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### Abstract

*This study investigated Nutritional Health problems of boarding house students in Idemili North Local Government Area of Anambra State Nigeria. The study adopted descriptive survey research design. The population of the study consists of 1499 boarding house students. The sample consisted of 200 boarding house students. The data for the study was collected using questionnaire. The statistical analysis used was frequency and percentages for the data. The finding revealed that greater percentage of the student experienced nutritional health problems. Female boarding house students experience lots of nutritional problems more than male boarding students. A greater percentage of the students between the age of 10 – 14 years suffer nutritional problems. The study recommended that health education on the nutritional health problems of boarding house students and ways of preventing them should be given to teachers, parents and students. Those nutritional health problems should be taken care of.*

**Keywords:** Nutrition, Health Problems, Boarding House Students.

### Introduction

Nigeria is the most populous country in the sub-Saharan Africa. It has a very young population and the majority is between the ages of 10-19 years (Cortez, Saadat & Oluwole, 2015). Over 30 million Nigerians between the ages of 10 to 19 years are mainly adolescents and secondary school students. Adolescent is a particular unique period in life because it is a time of intense physical, psychological and cognitive development (Shahid, Siddiquery, Bhatti, Ahmed & Khan, 2009). This group of the population is growing adolescents who are the young generation of the country and their health is a priority to every country. World Health Organization (1948) defined health as a state of complete physical, mental and social well-being of an individual and not merely the absence of disease and infirmity. Some of this health issues could be imbedded on nutrition.

Human nutrition refers to the provision of essential nutrient necessary to support human life and health (Jukes, Drake & Bundy, 2018). Nutritional intake during adolescence is of critical importance because this is characterized by an exceptional rapid rate of growth. A healthy diet during adolescent age reduces the risk of related health problems of primary concerns of school children. According to Akinyemi and Ibraheem (2016), in every 100 adolescents in Nigeria who are school children especially those in the secondary schools, five out of them are in boarding schools. A boarding school provides education for the students who live on the school premises as opposed to a day school. Students are to stay at school for the length of the term and only go home to their parents at the end of the term. Being separated from their convenience, boarding house students face a lot of nutritional health challenges and

getting sick, underweight, develop skin changes, may suffer lots of vitamin and mineral deficiencies and develop ailment all due to the fact that some of them may have developed eating disorder and malnutrition from poor meals and diets. Most times they are not provided with balanced meals and the nutritional value of the food provided to them may not be sufficient (Jukes, Drake & Bundy, 2018). This has led to various nutritional health problems among boarding house students.

Nutritional health problems are defined as complications that arise as a result of poor dietary intakes (Akinyemi & Ibraheem, 2016). Nutritional health problems also connote the issues that cause sickness and disease from the intake of wrong and poor nutrition (Monarrez-Espino, Martinez, Martinez & Greiner, 2014).

This height of poor dietary condition among boarding house students may affect their growth and development as well as their academic outcome. Therefore, the purpose of the study is to determine the nutritional health problems of boarding house students in Idemili North Local Government Area of Anambra State. Also, some factors considered in the study include; the student's gender whether male or female and also their age.

## **Method**

A descriptive survey research design was adopted for the study. The area of the study was Idemili North Local Government Area of Anambra State. The population of this study consisted of 1499 boarding house students in the four public boarding schools in Idemili North Local Government Area of Anambra State. Simple random sampling without replacement was used to select two schools from the four boarding schools in Idemili North L.G.A. A proportionate stratified random sampling technique was used to select 200 students used for the study. The instrument for data collection was a structured questionnaire on nutritional health problems of boarding house students, and was validated by three experts in the field of Health education and measurement and evaluation. The reliability coefficient was established using Kuder Richardson and gave the value of 0.68. The instrument was administered by the researcher and with the help of two trained health education teachers in the school.

The data was analyzed using frequency and percentage.

## **Research questions**

- 1) What are the major nutritional health problems of boarding house students?
- 2) What are the major nutritional health problems of boarding house students based on their gender?
- 3) What are the major nutritional health problems of boarding house students based on their age?

## **Results**

On the basis of the major nutritional health problems of boarding house students in Idemili North Local Government Area of Anambra State it was observed that a greater percentage of the respondents affirmed that they have experienced more of these nutritional health problems as boarders in public boarding schools: malnutrition, acne (pimples), visual impairment, heart burn, diarrhea, flatulent (bloated stomach), constipation, weight loss, decreased appetite. On the other hand, they marked against obesity, anemia, peptic ulcer, loss of appetite, nausea, thin and sparse hair, dry skin.

This study reveals that boarding house students in Idemili North Local Government Area do not get adequate diet for nutrient from the food provided for them thereby causing them to be malnourished and underweight. It also reveals that they experience a number of stomach and gastric problems and have reduced appetite.

On the bases of the nutritional health problems of boarding house students in Idemili North Local Government Area of Anambra State based on their gender, it is observed that the percentage of female's affirmation on the 20 listed nutritional health is much greater than that of the male.

The study reveals that female boarding house students experience lots of nutritional problems more than male boarding students. This could be due some reasons that female shed blood periodically every month and of such do not get proper nutrition to replenish the loss of the months.

Furthermore, on the basis of the nutritional health problems of boarding house students in Idemili North Local Government Area of

Anambra State based on their age, the study reveals that a greater percentage of boarding house students between the age of 10 – 14 years affirmed to have experienced these nutritional problems: obesity, dry skin, thin and sparse hair, heart burn, diarrhea, flatulent, nausea, weight loss; while boarding house students between the age 15 – 19 years affirmed more to these nutritional problems: tooth ache, malnutrition, dry lips, acne (pimples), thin and sparse hair, visual impairment, peptic ulcer, sore mouth, constipation.

## Discussion

The study focused on the nutritional health problems of boarding house students in Idemili North Local Government Area of Anambra State, Nigeria. The results generated from the respondents (boarding secondary school students) on the items listed in table 2 reveal the percentage of students that have experienced the listed nutritional health problems based on their gender and age.

### **Boarding Secondary School Students' Responds on the Nutritional Health Problems of Boarding House Students Revealed that**

Only (4%) of boarding house students in Idemili North Local Government Area of Anambra State are obese while 64% are underweight, this is in line with the study Kolawole, Agofure and Edeta (2017) on the nutritional status of day and boarding female adolescents secondary schools in Warri South Local Government Area, Delta State which showed that (11.20%) of the boarding students are underweight as compared to (9.40%) of the day students and (4.20%) of the day students were overweight as compared to (1.50%) of the boarding students, (5.70%) of the day students were obese as compare to none among the boarding students. (21%) of boarding house students in Idemili North Local Government have or have had dental caries which is in agreement with the study conducted by Asghaar, Gupta, Srivastava, Srivastava and Zaidi (2017) on health status of primary school children from a rural health block of Lucknow which indicated that dental caries was the most common infirmity observed in 63 (37.05%) with boys (29.27%) and girls (44.31%). This study also revealed that (55%) of the boarding house students in Idemili North Local Government are

malnourished, (22%) and (26.5%) experience dry skin and dry lips respectively, (59%) experience acne, (11%) are or have been anemic, (61.5%) have visual impairment, (60%) experience heart burn, (51.5%) and (56.5%) experience diarrhea and flatulent respectively, (75.5%) experience constipation, (64%) are underweight and (81%) have decreased appetite.

### **Boarding Secondary School Students' Responds on the Nutritional Health Problems of Boarding House Students Based on Their Gender Revealed that**

Female boarding students experience nutritional health problems more than the male boarding students. (44.5%) of the female boarding students are underweight as compared to (39%) of the male boarding students. The percentage of anemia is same in both gender (5.5%), which is not in line with the study done by Nilesh, Aparajita, Bala, Mayur and Rakesh (2014) on the health status of children of primary and secondary boarding schools in Gandhinagar district, India which revealed that (46.7%) of girls were suffering from anemia as compared to (37.3%) of boys. This study also reveals that (36%) of female boarding house students in Idemili North Local Government suffer from different kinds of visual impairment compare to (25.5%) of male, (31.5%) of the female boarding students are malnourished compare to (23.5%) of male boarding students.

### **Boarding Secondary School Students' Responds on the Nutritional Health Problems of Boarding House Students Based on Their Gender Revealed that**

(3%) of boarding house students in Idemili North Local Government Area between the age 10 – 14 year are obese compare to (1%) of the students between the age 15 – 19 years. The older boarding students suffer dental caries and visual impairment at (26%) and (34.5%) respectively than the younger students who has (8%) and (27%) respectively. As against the study that was carried out in 5 developing countries including Ghana, stunting and underweight among boarding house students of 10 – 13 years ranged between (48-56%), (29.5%) of boarding house students in Idemili North Local Government Area between the age 10 – 14 years as compared to (34.5%) of the boarding students between the age 15 – 19

years. Greater percentages of the younger students suffer stomach and gastric problems like diarrhea, flatulent, peptic ulcer more than the older students. Decreased appetite is same in both younger and older students.

## Conclusion

Based on the findings of this study, the following conclusions are drawn:

Boarding house students in Idemili North Local Government Area of Anambra State suffer nutritional health problems like malnutrition, weight loss dental caries stomach problems like diarrhea and flatulent, different forms of visual impairments. These nutritional health problems can be due to deficiencies of nutrients, improperly prepared meal, imbalanced diet, skipping of meal and students being selective, food contamination, etc.

Female boarding students suffer most of the nutritional health problems which include anemia, decreased appetite, nausea, weight loss, acne, flatulent. They may be more vulnerable to most of the nutritional health problem because of the periodic shed of menstrual blood monthly. Attention should be given to female boarding students, food rich in iron and vitamin should be given to them always in order to replenish for the loss of blood they experience monthly.

The quality and quantity of food intake by students determines the degree of nourishment and likewise their weight, therefore adequate nutrition, balanced diet, properly prepared food should be provided for boarding house students in Idemili North Local Government Area of Anambra State in order to reduce and prevent the occurrence of these nutritional health problems that students experience.

Concisely, the prevention of these nutritional health problems should be the responsibility of government, school management and parents of the students. These nutritional health problems can only be prevented when identified and suitable solutions derived.

## Recommendation

In view of the findings, the following recommendations are made:

1. Health education of nutritional health problems of boarding house students and ways of preventing them should be given to teachers, parents and students.

2. The nutritional problems of every boarding house student and their root cause should be identified and put into consideration.
3. The dietary intakes of the boarding house students should be well nourished and efforts should be made by all stakeholders in the education ministry (Government, School Authorities and Parents) to improve the meal of the students residing in the hostels in secondary schools nationwide.
4. There is need to introduce nutritional gardens in school especially where there is vast mass of land.
5. Addressing the root causes of malnutrition in boarding schools (such as food insecurity, population growth and socio-economic instability) is imperative for achieving sustained reductions in malnutrition and other nutritional health problem.
6. Special mention should be given to the dietary intake of female boarding students in order to enhance their physical work capacity, reproductive and pregnancy outcomes and birth weight.
7. It is important that the nutritional health needs of younger students are considered first, but that should be done without neglecting the needs of the older boarding students.
8. Provision should be made to take care of students with special nutritional needs.
9. There should always be an option in the food menu of boarding student to take care of student who may be selective with food.

## References

- [1]. Adedokun J.O. and Gabrielfavour Eke (2019). Nigeria's pollution explosion and its under development imperatives. American journal of humanities, arts and social sciences.1(2); ISSN 2643-0061.
- [2]. Akinyemi, O. and Ibraheem, G. (2016). 'Assessment of nutritional status of Queens College students of Lagos State, Nigeria', Pakistan Journal of Nutrition, 8(7), 937-939, retrieve august 25, 2019 from <http://www.pjbs.org/pjnonline/fin1192.pdf>
- [3]. Asghar, S.A., Gupta, P., Srivastava, M.R., Srivastava, J.P., and Zaidi, Z.H. (2017). Health status of primary school children: study from a rural health block of Lucknow. International Journal of Community Medicine and Public Health, 4(7): 2498-2501. Retrieved from <http://www.ijcmph.com> 14 November 2019.

- [4]. Cortez, R., Saadat, S., Edmore, M., and Oluwale, O. (2015). Adolescent and Reproductive Health in Nigeria. Retrieved October 21, 2019 from <https://www.definitions.net/definition/boarding+school>
- [5]. Kolawole, S.E., Agofure, O., and Edeta, R. (2017). Nutritional status of day and boarding female adolescent secondary school students in Warri South Local Government Area of Delta State. *Journal of Food and Nutrition Sciences*. 5(3) 131-139. Doi 10.11648/jfns.20170503.20.
- [6]. Monarrez-Espino, J., Martinez, H., Martinez, V., and Greiner, T. (2014). Nutritional status of indigenous children at boarding schools in northern Mexico. *European Journal of Clinical Nutrition*. 58,532 – 548. Retrieved from <http://www.global-breastfeeding.org/pdf/monarrez.EJCN.pdf>, 05 September, 2019.
- [7]. Nilesh, T., Aparajita, S., Bala, D.V., Mayur, V., and Rakesh, N. (2014). Health status of children of primary and secondary boarding schools of Gandhinagar district. *International Journal of Medical Science and Public Health*, 3(7).
- [8]. Shahid, A., Siddiqui, F.R., Bhatti, M.A., Ahmed, M., and Khan, M.W. (2009). Assessment of nutritional status of Adolescent College Girls at Rawalpindi. *Annals* 15(1): 11-16.
- [9]. Sunday E.K. (2017). Nutritional status of day and boarding female adolescent secondary school students in warri south L.G.A. of Delta state. *Journal of food and nutrition science*. 5(3), 131 DOI: 10.116481j.jfns.20170503.20
- [10]. World Health Organisation (1948). Definition of Health. Retrieved from [http://www.euro.who.int/--data/assets/pdf\\_file/0003/152184/RD\\_Dastein\\_speech\\_wellbeing\\_07oct.pdf](http://www.euro.who.int/--data/assets/pdf_file/0003/152184/RD_Dastein_speech_wellbeing_07oct.pdf).

## Tables

**Research Question 1:** What are the major nutritional health problems of boarding house students in Idemili North Local Government Area of Anambra State?

**Table 1.** Responses of Public Boarding House Students in Idemili North Local Government on the Major Nutritional Problems of Boarding House Students

S/N	Which of these nutritional health problems have you ever experienced as a boarding student?	YES	(%)	NO	(%)
1	Obesity	8	(4)	192	(96)
2	Dental caries	42	(21)	158	(79)
3	Malnutrition	110	(55)	90	(45)
4	Dry skin	44	(22)	156	(78)
5	Dry lips	53	(26.5)	147	(73.5)
6	Acne	119	(59.5)	81	(40.5)
7	Thin and sparse hair (poor hair growth, loose hair especially on the hair line)	61	(30.5)	139	(69.5)
8	Anemia (lack of blood)	22	(11)	178	(89)
9	Visual impairment (any form of eye problem)	123	(61.5)	77	(38.5)
10	Peptic ulcer	31	(15.5)	169	(84.5)
11	Heart burn	120	(60)	80	(40)
12	Diarrhea	103	(51.5)	97	(48.5)
13	Flatulent (bloated stomach)	113	(56.5)	87	(43.5)
14	Sore mouth	38	(19)	162	(81)
15	Constipation	151	(75.5)	49	(24.5)
16	Swallowing problem	36	(18)	162	(81)
17	Nausea (feeling like vomiting)	88	(44)	112	(56)
18	Weight lose	128	(64)	72	(36)
19	Lack of appetite (not having appetite at all)	46	(23)	154	(77)
20	Decreased appetite (having a reduced appetite)	162	(81)	38	(19)

From Table 1 above the listed nutritional problems: malnutrition, acne, visual impairment,

heart burn, diarrhea, flatulent, constipation, weight loss and decreased appetite has high

percentage of positive response on the nutritional health problems of boarding house students in Idemili North Local Government Area while obesity, dental caries, dry skin and

lips, thin and sparse hair, anemia, peptic ulcer, sore mouth, swallowing problem and nausea has lower percentage because they are below the average of 100%.

**Research Question 2:** What are the major nutritional health problems of boarding house students in Idemili North Local Government Area of Anambra State based on their gender?

**Table 2.** Responses of Public Boarding House Students in Idemili North Local Government on the Major Nutritional Problems of Boarding House Students Based on Their Gender

S/N	Which of these nutritional health problems have you ever experienced as a boarding student?	BOYS		GIRLS	
		YES (%)	NO (%)	YES (%)	NO (%)
1	Obesity	3 (1.5)	77 (38.5)	5 (2.5)	115 (57.5)
2	Dental caries	15 (7.5)	65 (32.5)	27 (13.5)	93 (46.5)
3	Malnutrition	33 (16.5)	33 (16.5)	63 (31.5)	59 (29.5)
4	Dry skin	17 (8.5)	63 (31.5)	27 (13.5)	93 (46.5)
5	Dry lips	20 (10)	60 (30)	33 (16.5)	87 (43.5)
6	Acne	45 (22.5)	35 (17.5)	74 (37)	46 (23)
7	Thin and sparse hair (poor hair growth, loose hair especially on the hair line)	19 (9.5)	61 (30.5)	42 (21)	78 (39)
8	Anemia (lack of blood)	11 (5.5)	109 (54.5)	11 (5.5)	109 (54.5)
9	Visual impairment (any form of eye problem)	51 (25.5)	29 (14.5)	72 (36)	48 (24)
10	Peptic ulcer	12 (6)	68 (34)	19 (9.5)	101 (50.5)
11	Heart burn	48 (24)	32 (16)	72 (36)	48 (24)
12	Diarrhea	27 (13.5)	53 (26.5)	76 (38)	44 (22)
13	Flatulent (bloated stomach)	62 (31)	19 (9)	69 (34.5)	51 (25.5)
14	Sore mouth	57 (28.5)	23 (11.5)	105 (52.5)	15 (7.5)
15	Constipation	58 (29)	22 (11)	93 (46.5)	27 (13.5)
16	Swallowing problem	16 (8)	64 (32)	20 (10)	100 (50)
17	Nausea (feeling like vomiting)	32 (16)	48 (24)	56 (28)	64 (32)
18	Weight lose	39 (19.5)	41 (20.5)	89 (44.5)	31 (15.5)
19	Lack of appetite (not having appetite at all)	24 (12)	56 (28)	22 (11)	88 (44)
20	Decreased appetite (having a reduced appetite)	54 (27)	26 (13)	108 (54)	12 (6)

From Table 2 above it is observed that female students responded positively to most of the nutritional health problems than the males. Item 1 is shown to have the least affirmation percentage among both gender, item 20 has the

highest affirmation percentage among the female boarding students, while item 15 has the highest affirmation percentage among the male boarding student in Idemili North Local Government Area of Anambra State.

**Research Question 3:** What are the major nutritional health problems of boarding house students in Idemili North Local Government Area of Anambra State based on their age?

**Table 3.** Responses of Public Boarding House Students in Idemili North Local Government on the Major Nutritional Problems of Boarding House Students Based on their Age

S/N	Which of these nutritional health problems have you ever experienced as a boarding student?	10 – 14 YEARS		15 – 19 YEARS	
		YES (%)	NO (%)	YES (%)	NO (%)
1	Obesity	6 (3)	87 (43.5)	2 (1)	105 (52.5)
2	Dental caries	16 (8)	77 (38.5)	26 (13)	81 (40.5)
3	Malnutrition	38 (19)	55 (27.5)	72 (36)	35 (17.5)
4	Dry skin	23 (11.5)	70 (35)	28 (14)	79 (39.5)
5	Dry lips	25 (12.5)	68 (34)	28 (14)	79 (39.5)
6	Acne	52 (20)	41 (20.5)	67 (33.5)	40 (20)
7	Thin and sparse hair (poor hair growth, loose hair especially on the hair line)	35 (17.5)	58 (29)	26 (13)	81 (20.5)
8	Anemia (lack of blood)	9 (4.5)	84 (42)	13 (6.5)	94 (47)
9	Visual impairment (any form of eye problem)	54 (27)	39 (19.5)	69 (34.5)	38 (19)
10	Peptic ulcer	15 (7.5)	78 (39)	16 (8)	91 (45.5)
11	Heart burn	41 (20.5)	52 (26)	79 (39.5)	28 (14)
12	Diarrhea	53 (26.5)	40 (20)	50 (25)	57 (28.5)
13	Flatulent (bloated stomach)	68 (34)	25 (12.5)	66 (33)	41 (20.5)
14	Sore mouth	13 (6.5)	80 (40)	25 (12.5)	82 (41)
15	Constipation	62 (31)	31 (15.5)	89 (44.5)	18 (19)
16	Swallowing problem	13 (6.5)	80 (40)	23 (11.5)	84 (42)
17	Nausea (feeling like vomiting)	51 (25.5)	42 (21)	37 (12.5)	70 (35)
18	Weight lose	59 (29.5)	34 (17)	69 (34.5)	38 (19)
19	Lack of appetite (not having appetite at all)	21 (10.5)	67 (33.5)	87 (43.5)	25 (12.5)
20	Decreased appetite (having a reduced appetite)	81 (40.5)	12 (6)	81 (40.5)	12 (6)

From Table 3 above, the outlined nutritional problems of boarding house students in Idemili North Local Government of Anambra State based on their age indicates that items 1, 4, 7, 11, 12, 13, 17 and 18 has more percentage of

affirmation among students of age 10 – 14 years while items 2, 3, 5, 6, 8, 9, 10, 14, and 15 has higher percentage of affirmation among boarding house students between the age 15 – 19 years.