

# Perceived Determinants of Obesity among Primary School Pupils in Eti Osa Local Government Area of Lagos State, Nigeria

B. O. Diyaolu, E. A. Okebanjo

**Abstract**—Children in today's world need attention and care even with their physique as obesity is also at the increased. Several factors can be responsible for obesity in children and adequate attention is paramount in other not to accommodate it into adolescent period. This study investigated perceived determinants of obesity among primary school pupils in Eti Osa Local Government area of Lagos State. Descriptive survey research design was used and population was all obese pupils in Eti Osa Local Government Area of Lagos State. 92 pupils were selected from randomly picked 12 primary schools while purposive sampling technique was used to pick primary 4-6 pupils. With the aid of body mass index (BMI) and age percentile chart the obese pupils were selected. The instrument for the study was a self-developed and structured questionnaire on perceived determinant of obesity. The questionnaire was divided into three sections. The Cronbach's Alpha reliability coefficient of 0.74 was obtained. The hypotheses were tested at 0.05 significant levels. The completed questionnaire was collated coded and analyzed using descriptive statistics of frequency counts and percentage and inferential statistics of chi-square ( $X^2$ ). Findings of this study revealed that physical activities and parental influences were determinant of obesity. Physical activity is essential in reducing the rate of obesity in Eti Osa Local Government Area both at home and within the school environment. Primary schools need to create more playing ground for pupils to exercise themselves. Parents need to cater for their children diet ensuring not just the quantity but the quality as well.

**Keywords**—Feeding pattern, obese pupils, parental influence, physical activities.

## I. INTRODUCTION

CHILDREN today have varieties of food at their disposal and with a little consideration to the impact it has on their health. In the world today, unhealthy eating habit has been linked with numerous acute and chronic health problems; obesity is one of the non-communicable diseases arising from excess food intake. Obesity has been linked to increasing energy in take or reducing training regimens or both. The most prevalence of obesity is caused by over eating food high in fat without increasing the caloric expenditure. More than two third of young people do not meet the sufficient recommendation for physical activity of 60 minutes per day, 5 or more days in a week [1]. This mainly results in excessive fat that accumulates in the body tissues.

Today, obesity is increasing among children due to weight gain from excess food intake and inadequate physical activity.

Babajide Diyaolu is with the Afe Babalola University, Nigeria (e-mail: diyaolub@abuad.edu.ng).

Children are expected to engage in physical activity both at homes and within the school environment. Childhood obesity has been observed in developed countries; however, it has increased in developing countries like Nigeria. Some families now live on what is available within their environment rather than preparing a quality diet.

Feeding patterns combined with a decline in energy expenditure have been associated with a sedentary lifestyles and an increased rate of obesity among children [2]. With the rise of child obesity, and the increase in the sedentary and convenient lifestyles among children, primary schools are supposed to provide quality physical education classes due to fact that it might be the only opportunity for some children to engage in moderate to vigorous physical activity. A lot of the children living in Eti Osa Local Government area are exposed to excessive food intake that are always available and cheap without enough physical activities since some of their schools does not have adequate playing ground. Pupils of Eti Osa Local Government are not that opportune as well.

Many families rely on the school system to provide children with their primary source of physical activity. Unfortunately due to various constraints many schools fall short in meeting the parents' expectations. The issue of school playing ground is not been addressed by some of our pre-primary and primary schools in Nigeria, who make use of small buildings with very limited space for classrooms and no consideration is given to an adequate school playing ground.

It has been observed that most pupils in primary schools consume highly carbohydrate packed meals and drinks that leads to increase in body weight. Some of the school pupils bring food from home to school while others feed on any available food which sometimes is empty calories. Mostly, within the school environment, malnourish foods and junks are sold.

Parents as well have a direct influence on their children's free time and structured activity level and can create an active environment at home. Just like some schools without adequate playing ground, some homes are also within a confined environment where playing is restricted. Children are kept within the four walls of their living room, at times when they try to engage in physical activity at home, they are being restricted by their parents or guardian.

Numerous studies have demonstrated strong social influence on physical activity and many studies have indicated a variety of physical environment factors influencing physical activity [3], [4]. Parents as well have a direct influence on

their children's free time and structured activity level and can create an active environment at home. Even though physical activity has been associated with obesity, it is also possible that the combination of physical activity and parental influence could serve as a more effective intervention measure. This study evaluated the determinant of obesity among primary schools in Eti Osa Local Government Area of Lagos State.

#### Hypotheses

1. Physical activities will not significantly influence obesity among primary school pupils in Eti Osa Local Government Area of Lagos State.
2. Parental influences will not significantly influence obesity among primary school pupils in Eti Osa Local Government Area of Lagos State.

#### II. METHODOLOGY

The descriptive survey research design was adopted for the study. The population comprises of all obese pupils in Eti Osa Local Government Area. 92 two respondents were selected using multi-stage sampling technique.

At first, simple random sampling technique (fish bowl without replacement) was used to select 12 primary schools from all the private and public primary schools in Eti Osa Local Government Area, in order to give each school equal chance of being picked. The selected schools include; Grande Oak Bridge Montessori School, Victoria Island Primary school, School Masters Academy, Pentagon Primary School, Federal Housing Primary School, New Hall School, Attwool Primary School, Trioka Montessori School, Linsy Primary School, Gravity primary School, Dobal Primary School and Jamaittul Islamiyat Nursery and Primary School. Secondly, purposive sampling technique was used to pick primary 4-6 pupils. This is to allow only respondents who can understand and fill the questionnaire to be selected. Purposive sampling technique was also used again to select obese pupils from each class using BMI and age percentile chart.

#### Instrument

A self-developed questionnaire was used to provide the desired information needed for the study. The questionnaire was divided into three sections. A total of 16 items was used to extract responses from the pupils. The questions were simple to understand putting into consideration the level of intelligent of the respondents.

#### Procedure

92 copies of the questionnaire were administered to the respondents for the study at their various schools. The researcher distributed the copies of the questionnaire with the aid of research assistants to the respondents and retrieved it immediately after its being filled.

#### Data Analysis

Collected data were collated and screened. The descriptive statistics of frequency counts and percentage was used to analyse the demographic data while inferential statistics of

chi-square ( $X^2$ ) was used to test the stated hypotheses at 0.05 level of significant. Out of the collected 92 questionnaires only 74 were adequate for analysis.

#### III. PRESENTATION OF RESULT

This study was designed to examine the determinants of Obesity among Primary School Pupils in Eti Osa Local Government Area of Lagos State, Nigeria.



Fig. 1 Measuring of weight of a respondent during field work

#### Demographic Characteristics of Respondents

TABLE I  
DISTRIBUTION OF RESPONDENTS BY AGE

Age Range	Frequency	Percent
6 - 8 Years	11	14.87
9 - 10 Years	49	66.22
11 and above	14	18.92
<b>Total</b>	<b>74</b>	<b>100.0</b>

Findings as shown in Table I revealed that respondents within the age bracket of 9-10 years accounted for the largest proportion of the respondents at a frequency of 49 which made up 66.22%. Respondents within the age bracket of 6-8 years accounted for the least proportion at a frequency of 11 which represent only 14.87% of the total respondents.

TABLE II  
DISTRIBUTION OF RESPONDENTS BY GENDER

Gender	Frequency	Percent
Male	16	21.62
Female	58	78.38
<b>Total</b>	<b>74</b>	<b>100.0</b>

Findings as shown in Table II indicated that female respondents accounted for the largest proportion at 78.38% with their male counterparts making up the remaining 21.62%.

Findings shown in Table III revealed that respondents in primary 6 accounted for the largest proportion of the respondents at a frequency of 46 which made up 62.16% while primary 4 accounted for the least proportion at a frequency of 10 which represent only 13.51% of the total

respondents.

TABLE III  
DISTRIBUTION OF RESPONDENTS BY CLASS

Class	Frequency	Percent
Pry. 4	10	13.51
Pry. 5	18	24.32
Pry. 6	46	62.16
<b>Total</b>	<b>74</b>	<b>100.0</b>

#### Hypothesis 1

Physical activities will not significantly influence obesity among pupils in Eti Osa Local Government Area of Lagos State.

TABLE IV  
INFLUENCE OF PHYSICAL ACTIVITIES CHI-SQUARE RESULT

Variable	Yes	No	Total	X <sup>2</sup> (Cal)	X <sup>2</sup> (Tab)	df	Remarks
Q1	54	20	74	131.40	14.07	7	Sig
Q2	36	38	74				
Q3	32	42	74				
Q4	55	19	74				
Q5	34	40	74				
Q6	61	13	74				
Q7	33	41	74				
Q8	26	48	74				
Total	331	261	592				

Table IV shows that X<sup>2</sup> calculated value of 131.40 is greater than the table value of 14.07 at df of 7, at 0.05 level of significance. Since the X<sup>2</sup> calculated value is greater than the table value, the hypothesis is thereby rejected thus showing a significant influence of physical activities on obesity. This therefore leads to the conclusion that physical activities have significance influence on obesity among pupils in Eti Osa Local Government Area, Lagos State.

#### Hypothesis 2

Parental influence will not significantly influence obesity among pupils in Eti Osa Local Government Area of Lagos State.

TABLE V  
INFLUENCE OF PARENT CHI-SQUARE RESULT

Variable	Yes	No	Total	X <sup>2</sup> (Cal)	X <sup>2</sup> (Tab)	df	Remarks
Q1	62	12	74	115.83	14.07	7	Sig
Q2	51	23	74				
Q3	39	35	74				
Q4	45	29	74				
Q5	32	42	74				
Q6	36	38	74				
Q7	42	32	74				
Q8	34	40	74				
Total	341	251	592				

Table V shows that X<sup>2</sup> calculated value of 115.83 is greater than the table value of 14.07 at df of 7, at 0.05 level of significance. Since the X<sup>2</sup> calculated value is greater than the table value, the hypothesis is thereby rejected thus showing a significant parental influence on obesity. This therefore leads to the conclusion that parental influences have significance

influence on obesity among pupils in Eti Osa Local Government Area, Lagos State

### III. DISCUSSIONS

The result of hypothesis one shown above indicated that physical activities have significant influence on obesity. This is in line with [3]; they discovered that regular physical activity enhances healthy living and also helps in reducing exposure to heart attack, stroke and diabetes. Being physically active is vital in the primary prevention of cardiovascular disease, and its benefits have been shown to attenuate or reverse the disease process for patients with established cardiovascular disease and obesity [5], [3].

The result of hypothesis two shown above indicated that that parental influences have significant influence on obesity. This is in agreement with [6]; they reported that parents influence children's diet quality and eating patterns through the foods provided at home, eating behaviors, children feeding practices and family meal patterns. Children learn to accept and prefer versions of food to which they are exposed to. More recently, it was also discovered that parents who consumed more fruits and vegetables had daughters who consumed more fruits and vegetables. Such research suggests that parental modeling of eating behaviors and attitudes could influence children's eating style and weight outcome [7].

### IV. CONCLUSION AND RECOMMENDATION

Findings of this study revealed that physical activity is a determinant factor of obesity. Also parental influences were observed as determinant of the level of obesity among primary school pupils in Eti Osa Local Government Area. The finding of this study created awareness on the nature of nutritional diet that is adequate for school pupils. This study also created awareness among pupils, of the dangers eating fast foods and unhealthy meal. When there is more energy consumed than expended, a positive balance is created and weight gain occurs. It also enlightened the pupils on how to say no to consumption of junks by improving their knowledge on obesity. The pupils, parents and teachers were health educated on how to improve the quality of diet intake to prevent obesity. Physical activities must be promoted both at home and in schools.

There is the need to transform limited cemented area used as playground into naturally equipped and wide space for children to exhibit their potentials. This makes the school playground an extension of the classroom where experimental learning through discovery and hands of experience with nature can take place both during and outside of classroom time. However socio economic class, faulty and dietary habits, sedentary life, low level of physical activity and positive family history of overweight and obesity were significant attributes associated with obesity. Obese individual is stigmatized in today's western world. Parent level of education is one of the determinants of the prevalence of obesity.

Parents have a direct influence on a child's amount of free

time and structured activity level and should create an active culture in house hold. Parent needs to be educated in the need for children to exercise themselves even at homes so as to have a balance in the food intake and energy expenditure. They must not be too idle or left to spend most of their time at home sitting down or watching television. This leads to accumulation of fats over the years as well as building a wrong attitude towards physical activities. Parental influence and physical activities is important for a successful weight management in children.

Parents should influence children's diet quality and eating patterns through the foods made available at home, role modeling of eating behaviors, their child feeding practices, and family meal patterns. Schools should be aware of the quality of food sold to their pupils during school break time. The school health services were generally poor in public and private primary schools although the situation is better in private schools. The programme carried out in the schools is essential to promote and protect the school children in Nigeria, these programmes are missing in almost all schools. There is no adequate school meal in our various schools. These foods are processed and refined foods mostly with empty calories. Without adequate nutrients excessive intake of fatty food and excessive carbohydrate have a doses effect on school children without adequate development of intelligent quotient. Social interaction can become a source of humiliation and result in a withdrawal from social settings. With severe obesity, pupils may have image disturbance and low self-esteem and lack of self-control. Obesity is associated with a high mortality rate of diabetes, cancers, stroke and hypertension. The impact on endocrine disease is seen in pancreatic alteration, abnormal menstruation, sleep disturbance and restrict peripheral circulation to lower extremities.

#### V. SUGGESTION FOR FURTHER STUDIES

Further research could be on comparison between obesity prevalence in private and public primary schools. Determinant factors of obesity among secondary schools pupils can also be studied. Further more experimental study can also be assigned on this study area.

#### REFERENCES

- [1] World Health Organization, Physical activity and young people 2019. Retrieved on 24/11/18 from [https://www.who.int/dietphysicalactivity/factsheet\\_young\\_people/en/](https://www.who.int/dietphysicalactivity/factsheet_young_people/en/)
- [2] W. B. Strong, R. M. Malina and C. J. Blimkie, Evidence based physical activity for school-age youth. *Journal of Pediatrics* 2005. Vol. 146, Pg. 732-737.
- [3] D. E. Warburton, C. W. Nicol and S. S. Bredin, Health benefits of physical activity: The evidence. *CMAJ* 2006. Vol. 174 No.6, Pg. 801-809.
- [4] B.O. Diyaolu, and B.O. Asagba, Promoting Physical activity in children through school playground. *Journal of Nigeria Association of Sports Science and Medicine* 2013. Vol. 15, Pg. 185-190.
- [5] J. F. Sallis, J. J. Prochaska and W. C. Taylor, A review of correlates of physical activity of children and adolescents. *Medicine and Science in Sports and Exercise* 2000. Vol. 32, No. 5, Pg. 963-975.
- [6] H. Patrick and T. Nicklas, A review of family and social determinants of children's eating patterns and diet quality. *The American College of*

*Nutrition* 2005. Vol. 24, Pg. 83-92.

- [7] J. Fisher and L. Birch, Eating in the absence of hunger and overweight in girls from 5 to 7 y of age. *Am J Clin Nutr.*2002. Pg. 226-231.