A COMPARATIVE STUDY TO ASSESS EATING BEHAVIOUR AMONG OBESE AND NON OBESE SCHOOL CHILDREN IN SELECTED SCHOOLS, ERNAKULAM

[1] **Mrs Julice Varughese**

Associate Professor, **Department of Child Health Nursing**, **College of Nursing Science, Dayananda Sagar University, Harohalli, Karnataka, India.**

Abstract: Background of the study: Obesity is one of the most crucial condition where there is increased body weight caused by excessive accumulation of fat. It is most crucial part which is very much attached to surrounding environment , social culture and also behavioral context. Large intake of food which are rich in energy and fat, low in physical activity and more inactivity level are the major part for increase in obesity. With this other factors are the dietary factors which act as a major role in causes of obesity.
Objectives:
1. To compare the eating behaviour among obese and non obese school children
2. To associate the eating behaviour with selected factors among obese and non obese school children.
Method: Comparative research design was used for the study. The setting of the study was selected schools at Ernakulam. The sample size of the study was 200 school children that include 30 obese male and 70 obese female and 70 non obese male and 30 non obese female school children were selected by purposive quota sampling technique. A proforma for collection of baseline data and semi structured questionnaire was used to collect information regarding eating behaviour among obese and non obese school children.
Results: The study findings showed that food preference, food items eating pattern made significant difference in obese and non obese school children . (p<0.05). There was association between eating behaviour with selected factors of obese children in regards to education of father, play regularly, play kinds (p<0.05). There was no association between eating behaviour with selected factors of obese and non obese school children in regard to age, sex, education of mother, drug , obese siblings, going to sleep, watching TV , Snacks eaten while watching TV (p>0.05). There was no association between eating behaviour with selected factors of non obese children in regard to education of father , play regularly , play kinds (p>0.05)

Index Terms - Eating behaviour, obese, non obese.

I. INTRODUCTION

Eating is that food especially in relation to its quality and taste or cut of consuming food. Eating behaviour is a behavioral responses of sequences associated with eating including modes of feeding, rhythmic pattern of eating and time interval. Sound eating habit plays important role in prevention of obesity and various other diseases. Major proportion of energy is due to the intake of fat and surgery foods rather than nutritious food .

The prevalence rates of overweight and obesity in United States children and adolescents aged 6-11 and 12-19 years were 15.3 and 15.5% during the year 1999- 2000. It is commonly said that today's healthy child is the basic foundation for a future life. For this the most essential thing in life is a good health.Therefore, infants and children need extra food which are nutritious , proper physical work and exercises for a proper growth and a good family set up also. For the proper formation of bones during infancy and childhood good dietary pattern is very important.

Another reason for not being active is depending on cars instead of walking to few places. Because of

modern technology reduces the need to burn calories and lack of physical education lasses in school children causes inactive life style which leads to various health problems.

For most people obesity is caused by not having right energy balance. Weight is balanced by the amount of energy or calorie got from food and drinks. Obesity often happens by the intake of more calorie.

The modern eating environment has great effect on obesity as how the child eats. The fast food outlets are now a days easily available which promotes consumption of energy dense foods that is high in fat and sugar. The normal foods with micro nutrients are being replaced by high dense food with low micro nutrients like snacks which includes pizza and cold drinks etc.

Due to the competition in the school for better academic performance , children are rarely seen in the playground. School should develop changes in the increase of physical activity and encourage the children for physical activity. For this parent teacher association should be called through which it will help to educate parents about the dangers of children.s obesity . Introduction of nutrition and physical education as a part of curriculum as a compulsory or a scoring subject are very important in schools. It is very necessary that parents should be a role model to the children because they look at parents activities and will do the same.

MATERIALS & METHODS
A. Study Design: The research design used in this study was comparative in nature.
B. Variables:
   Independent Variables- Obese and non obese children
   Dependent Variables- Eating behaviour
   Associative Variables - The background factors of family and children

Settings of the study:
The study was conducted in selected schools at Ernakulam namely St. Peter's School, Vishwa Jyothi Public School , Luke's Public School.

Sample size: In this study, the sample size were 200 school children

Sample technique: Sampling technique is the process of selecting a portion of the population. Purposive quota sampling technique was used. Obese and non obese school children were selected by Purposive sampling and age sex were determined by quota sampling.

Inclusion criteria:
1. The body mass index more than 0.24 (obese) and 0.14-0.16(Non obese)
2. In the age between 11-14 years.
3. Both male and female.
4. Who are available in schools.
5. Who understands English.
6. Children who were willing to participate in the study

Exclusion criteria:
1. Whose body mass index is less than 0.14.
2. School children who are physically ill at the time of data collection.
3. Who had suffered from illness for the past one month.

Instruments used in the study:
Tools consist of
1. Demographical variables
2. Semi Structured Questionnaire

Analysis:
• Descriptive and
• Inferential statistical analysis

Method of data collection:

• The researchers have obtained the formal approval from the Principals of schools for the conduction of study.

• 200 school children were selected by purposive quota sampling technique. Screening of obesity and non obesity was done for school children by use of height measurement, weight measurement by electronic weighing machine and Body mass index and was calculated based on height and weight by the Quetlet Index formula. The children were selected on quota basis.The investigators gave a self-introduction and explained the purpose of the study.

• Children were assured about the anonymity and confidentiality of the information provided by them.

• Semi Structured questionnaire on information related to eating behaviour were given to children.

Data analysis plan:

Steps taken to analyse data

• Organize the data in a master sheet.

• Calculate the frequencies and percentage to show the distribution of background data of obese and non obese school children

• Calculate Mean, Standard deviation, range, Mean difference and "t" value regarding eating behaviuor between obese and non obese school children

• To find out the association between eating behaviour with selected factors among obese and non obese school children.

RESULTS

SECTION 1: DATA ON BACKGROUND DATA AMONG OBESE AND NON OBESE CHILDREN

TABLE - 1

Frequency and percentage distribution of background data of obese and non obese school children

Background factors	Obese Children n=100		Non obese children n=100	
	Frequency	Percentage	Frequency	Percentage
Age group				
11 Years	15	15	27	27
12 Years	19	19	36	36
13 Years	36	36	22	22
14 Years	30	30	15	15
Gender				
Male	30	30	70	70
Female	70	70	30	30
Order of child				
First	44	44	53	53
Second	45	45	38	38
Third	8	8	7	7
Above	3	3	2	2
Education of Father				
Illiterate	2	2	4	4
Literate	98	98	96	96
Education of Mother				
Illiterate	3	3	8	8
Literate	97	97	92	92
Pocket money/month				
>Rs 300	65	65	92	92
<Rs 300	35	35	8	8
Obese siblings				
Yes	14	14	6	6

No	74	74	83	83
Not applicable	12	12	11	11
Play Regularly				
Yes	75	75	93	93
No	25	25	7	7
Kinds of play				
Indoor	3	3	5	5
Outdoor	12	12	20	20
Both	60	60	68	68
None	25	25	7	7
Going to school				
By walk	7	7	10	10
By car	29	29	20	20
By auto	11	11	6	6
By cycle	2	2	11	11
By bus	51	51	53	53
Sleeping hours				
6-8 hours	77	77	81	81
9-10 hours	23	23	19	19
Hours watching T.V				
>1 hour	62	62	59	59
< 1 hour	37	37	33	33
Not applicable	1	1	8	8
Snacks eaten while watching T.V				
Yes	70	70	62	62
No	30	30	38	38

In this study, majority of obese children 36(36%) respondents were 13 years of age group and in non obese majority 36(36%) were 12 years of age „ 70(70%) respondents in obese children were females and 70(70%) respondents in non obese males. Maximum 45(45%) respondents of obese children were second order and in non obese 53(53%) were first order, 76(76%) respondents in obese were taking long term medication in obese children and in non obese 92(92%) were not taking long term medication, Majority of the non obese children's fathers and mothers were educated 96(96%) 92(92%) respectively; took less than rs 300 as pocket money 92(92%) ; had no obese siblings83(83%); played regularly 93(93%);played both indoor and out door 68(68%);were going by school bus 53(53%); slept for 6-8 hours 81(81%); were watching television less than 1 hour/day 59(59%); were eating snacks while watching television 62(62%).Majority of the obese children's fathers and mothers were educated 98(98%) 97(97%) respectively; took less than Rs 300 as pocket money 65(65%) ; had no obese siblings74(74%); played regularly 75(75%);played both indoor and out door60(60%);were going by school bus 51(51%); slept for 6-8 hours 77(77%); were watching television less than 1 hour/day 62(62%); were eating snacks while watching television 70(70%) .

SECTION – 2: DATA ON EATING BEHAVIOUR AMONG OBESE AND NON OBESE SCHOOL CHILDREN

TABLE - 2

Mean, SD , range, MD & "t" value regarding eating behaviour between obese and non obese school children.

*S=

Eating behaviour	Maximum Score	Obese Children (n=100)			Non obese children (n=100)			Mean difference	"t" value
		Mean	SD	Range	Mean	SD	Range		
Food preference	15	7.71	1.39	6	6.96	1.46	7	.75	-14.04 p<0.01(S)
Food items	25	9.43	2.38	2	.62	.37	13	.81	-7.6 P<0.01(S)
Eating Pattern	10	3.95	1.16	4	.25	.23	4	.30	-7.1 P<0.01(S)

Significant

In this study the obese school children reported a higher mean eating behaviour regarding food preference 7.71(SD = 1.39) ; Food items 9.94(2.38) than the non obese school children. The obtained t value was significantly different in eating behaviour among obese and non obese school children; food preference t=14.04(p<0.05); food items t= 7.6(p<0.05). However eating pattern was significantly poor among non obese children t=7.1(p<0.05).

SECTION3: DATA ON ASSOCIATION BETWEEN EATING BEHAVIOUR WITH SELECTED FACTORS AMONG OBESE AND NON OBESE SCHOOL CHILDREN

TABLE – 3

Linear regression on eating behaviour with selected factor among obese and non obese school children

Background data	Obese children			Non obese children		
	B	t value	p value	B	t value	p value
Age	0.84	0.769	0.444(NS)	0.024	0.193	0.848(NS)
Sex	-0.11	-1.085	0.281(NS)	-0.162	-1.295	0.198(NS)
Order	-0.02	-0.259	0.796(NS)	-0.102	-0.916	0.362(NS)
Education of father	-0.23	-2.133	0.036(S)	-0.072	-0.607	0.545(NS)
Education of mother	0.018	0.176	0.861(NS)	-0.093	-0.827	0.410(NS)
Pocket money	-0.12	-1.226	0.223(NS)	-0.064	-0.557	0.579(NS)
Drug	-0.11	-1.093	0.277(NS)	0.012	0.113	0.910(NS)
Obese siblings	0.035	0.347	0.729(NS)	-0.065	-0.579	0.564(NS)
Play regularly	-0.31	-3.000	0.003(S)	0.093	0.879	0.382(NS)
Kinds of play	-0,26	-2.603	0.011(S)	0.188	1.856	0.067(NS)
Going to school	-0.05	-0.520	0.604(NS)	0.098	0.953	0.343(NS)
Sleep hours	0.01	0.128	0.898(NS)	-0.068	-0.671	0.504(NS)
Hours watching TV	0.11	1.037	0.303(NS)	-0.070	-0.695	0.489(NS)
Snacks eaten while watching TV	-0.085	-0.783	0.438	-0.023	-0.220	0.826(NS)

*Significant at 5% Level,   NS : Non-significant

In this study, there was a significant association between the eating behaviour of obese children like education of father; play regularly and play kinds (p<0.05).

None of the selected factors of obese school children like age, sex, order.education of mother, pocket money, drugs, obese siblings, going to school, sleep hours, hours watching television, snacks eaten while watching television were significantly associated with eating behaviour (p>0.05) .

None of the selected factors of non obese children like age , sex order, education of father , education of mother, pocket money ,drugs, obese siblings, play regularly , play kinds, going to school, sleep hours, hours watching television, snacks eaten while watching television were significantly associated with eating behaviour (p>0.05).

DISCUSSION

OBJECTIVES 1:To compare the eating behaviour among obese and non obese school children

There was a significant difference between eating behaviour among obese and non obese school children regards food preference t= -14.04 (p<0.05); food items t= -7.6(p<0.05); eating pattern t= -7.1 (p<0.05).

OBJECTIVE 2:To associate the eating behaviour with selected factors among obese and non obese school children.

There was no association between eating behaviour with selected factors among obese and non obese school children like age; sex; education of mothers; pocket money; obese siblings; drugs;going to school; sleeping hours; hours watching television; snacks eating while watching TV (p>0.05).

NURSING IMPLICATION

Nursing Practice

●School children had food preferences and gave importance in choosing the food items and their eating pattern were poor

●Pediatric nurses should encourage healthy food items for children.

●Its very important that the community nurse must teach the parents and the teachers about the importance of healthy eating behaviour and thereby improve the children's eating habit.

●Encourage parents to be role model for their children by good food preferences, selection of good food items and maintaining good eating pattern and encouraging their children also .

Nursing Education

●Nursing educator should emphasis more on preparing students to impact healthinformation to the public regarding healthy eating behaviour.

●The Nursing personnel needs to be equipped with adequate knowledge regarding education to the children about healthy eating habits

●The curriculum of nursing education should enable student nurse to equip themselves within the knowledge healthy eating behaviour of the children .

Nursing Administration

●Nurse administrator should take limitation in formulating policies and protocols for short-term and long-term health teaching.

●The nursing administration should motivate the subordinates for participating in various educational programme and improve their knowledge on eating pattern.

●The administrator serves as a resource person for young nursing students,parents and school teachers for proving guidance and counselling for children .

●The nurse administrator has the power to formulate pamphlet and flashcards for the awareness of healthy eating behaviour among the children .

●AV Aids about eating behaviour of children can made available to nurse educator in nursing education institution.

Nursing Research

●There is a good scope for nurse to conduct research in this area, to find out the knowledge of primary school teachers regarding healthy eating behaviour for the effectiveness of teaching programs to educate children.

●The result of the study motivates those who are interested in conducting similar kind of studies with interventions. The study serves as a valuable reference material for future investigations .

ACKNOWLEDGMENT

REFERENCES

1. Achar's , Textbook of pediatrics. J (3rd edition) Madras Orient Longoman Limited.

2. Anderson. Obesity Aetiology Assessment Treatment and Prevention (1st Edition) Human Kinetics, Australia

3. A Parthasarathy IAP Textbook of Pediatrics (1st editon) Jaypee publication.

4. World health organization article on geographical expansion of cases of fever march(2023). https://www.who.int/emergencies/disease-outbreak-news/item/2023-DO N448

5. Sanjana thota, Nida Ladiwala, Pawan kumar Sharma. Fever awareness, managementpractice and there correlates among parents or under five children in urban India. HHSPublic Assess Manuscript. 2018 Jul-Aug;Available from ; https://www.ncbi.nlm.nih.gov/pmc/articles.

6. Mohammed M. ALAteeq, Bader O. Albader etc, Parents knowledge and practice inhome management of fever in their children in Riyadh, Saudi Arabia, National instituteof health 2018 Sep –Oct ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6259540/

7. Kollam Thomas, Allana John, Alan Mary Pascal, Alphonsa, Amala 2020 the study toassess the knowledge regarding home remedies of viral fever Asian journal of Nursingeducation and research https://www.proquest.com/openview/3e6b659e9b08e1623053cbe32ed46122/1?pq-origsite=gscholar&cbl=1096447

8. Achinta K.R Mallick, Shalu S kumar, Janki Bangari Sep-Oct 2019Knowledge,attitude and practice of fever and febrile illness among parents of under five children. https://www.ijpediatrics.com/index.php/ijcp/article/view/2636

9. Ayse Gobekli, Rabiye Guney. Experiences and practices of mothers with children 0-5 age group on fever management. journal of clinical nursing , / volume 32 2022. https://doi.org/10.1111/jocn.16593