

**KNOWLEDGE AND ATTITUDE REGARDING DIETARY HABITS AMONG SECONDARY SCHOOL CHILDREN IN KHAMMAM TOWN**Swati M. Patki<sup>1</sup>, P. Madhavi<sup>2</sup>, B. Chandrasekhar Reddy<sup>3</sup>, K. V. Phani Madhavi<sup>4</sup>**HOW TO CITE THIS ARTICLE:**

Swati M. Patki, P. Madhavi, B. Chandrasekhar Reddy, K. V. Phani Madhavi. "Knowledge and Attitude Regarding Dietary Habits among Secondary School Children in Khammam Town". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 13, March 31; Page: 3468-3475, DOI: 10.14260/jemds/2014/2307

**ABSTRACT: INTRODUCTION:** Obesity has reached epidemic proportions globally and there is an alarming trend in the rise in childhood obesity. In the majority it is caused by an unhealthy diet and lack of exercise in children. With more fast-food restaurants appearing on every street corner it gives children an easy way to eat more unhealthy food. Children are also happier when they sit for hours in front of television or play on their play station. Studies show that in India, nearly 15 to 20% of children are overweight and 30% are in the risk of falling in this category. Although much importance has been given to under-nutrition in our country, obesity is slowly emerging as the future-killer. Hence this study is a small endeavour to know the knowledge and attitude of school children studying in government and private schools in Khammam regarding dietary habits. **MATERIALS & METHODS:** A cross-sectional study was carried out to study the Knowledge, attitude and dietary practices of secondary school students in Khammam town over a period of two months. List of schools was obtained from Secondary Education Board. Among the total available schools 128 (includes 38 Government, 90 Private schools), 12 schools were included in the study (6 schools from Government & 6 schools from Private strata were selected conveniently). Pre tested, pre designed questionnaire was given to Students that included questions on their eating habits and physical activity and their body mass index (BMI) was calculated using Quetelets index. Body mass index (BMI) was used to assess students' weight status. Statistical analysis was performed using the Statistical Package for Social Sciences software (SPSS version 21.0). **OBJECTIVES:** To assess the prevalence of overweight and obesity in a randomly selected government and private urban schools in Khammam. To assess the Knowledge, attitude regarding dietary practices of secondary school students of Khammam town. **RESULTS:** Among total number of students selected for study (847) 55.85% were male and 44.15% were female. Majority (96.58%) of the children belong to 13-16 years of age. Almost 50.06% are from government and 49.94% are from private school. The overall prevalence of overweight was 1.77% and obesity was 1.18%.

**KEYWORDS:** knowledge, attitude, obesity, secondary school children.

**INTRODUCTION:** Childhood obesity was considered problem of affluent societies. Today the problem has started appearing even in developing countries. Studies conducted in Chennai and Delhi have shown that the prevalence was 6.2% and 7.4% respectively.<sup>1,2</sup>

50-80% of obese will continue as obese adults<sup>3</sup> and falls into risk group of diabetes, hypertension, coronary heart disease and many more obesity related diseases. Complications of adult obesity are made worse if the obesity begins in childhood. Obesity is harder to treat in adults than children. Effective prevention of adult obesity will require the prevention and management of childhood obesity.<sup>4</sup>

## ORIGINAL ARTICLE

---

WHO has also emphasized on urgent need of understanding the prevalence trend, factors contributing and developing strategies for effective intervention. With this background the present study was undertaken.

### OBJECTIVES:

- To assess the prevalence of overweight and obesity in a randomly selected government and private urban schools in Khammam.
- To assess the Knowledge, attitude and dietary practices of secondary school students of Khammam town.

**MATERIALS AND METHODS:** A cross-sectional study was carried out to study the Knowledge, attitude and dietary practices of secondary school students of Khammam town. List of schools was obtained from Secondary Education Board. Among the total available schools 128 (includes 38 government, 90 private schools) 12 schools were selected by convenience sampling technique. Thus so as to have equal representation 6 Private and 6 Government schools were recruited. The heads of the selected schools were briefed on the purpose of the study and permission was taken. Children were sensitized regarding the purpose of study, a day before the examination. Informed consent was taken from student's parents, respective class teacher and head of the institute. Students were asked to fill out a self-reported questionnaire that included questions on their eating habits and physical activity.

Weight and Height of the student were recorded using weighing machine and height measuring stand in inches. Body mass index (BMI) was calculated using Quetelets index. Body mass index (BMI) was used to assess students' weight status. Statistical analyses was performed using the Statistical Package for Social Sciences software (version 21.0) to determine overweight and obesity among students and to categorize eating habits. Out of total 913 students, 847 participated in the study. Students who attended the school on the day of examination and who gave consent were included in the study group and those who are absent were excluded from the study. Data was collected using pretested structured questionnaire followed by recording anthropometric measurements, during two month's study period. Institutional ethical committee approval was taken to conduct the study.

### RESULTS:

- Among total number of students(847) selected for study 55.85% were male and 44.15% were female
- Majority (96.58%) of the children belong to 13-16 years of age.
- Almost 50.06% of the study participants are from government and 49.94% are from private school.
- The overall prevalence of overweight was 1.77% and obesity was 1.18%.
- However it was seen that private school students had 11% more knowledge regarding healthy foods as compared with Government school students.
- Private school students had relatively healthy life style when compared with government school students.

## ORIGINAL ARTICLE

- There was no significant difference in the obesity levels between government and private school students.
- Significant relationship exists between physical activity and obesity.

AGE	GOVT	PVT	TOTAL
11 - 12	9 (64.3%)	5 (35.7 %)	14(100%)
13-14	258 (53.8%)	222 (46.2 %)	480(100%)
15-16	151 (44.7%)	187 (55.3%)	338(100%)
17-18	4 (33.3%)	8 (66.7%)	12(100%)
19-20	1(33.3%)	2 (66.7%)	3(100%)
<b>Total</b>	<b>423(49.94%)</b>	<b>424(50.06%)</b>	<b>847(100%)</b>

Table 1: Distribution of Study participants based on their age group, type of school

Majority (96.6%) of the children belong to 13-16 years of age.

Almost 50.06% are from private and 49.94% are from government school.

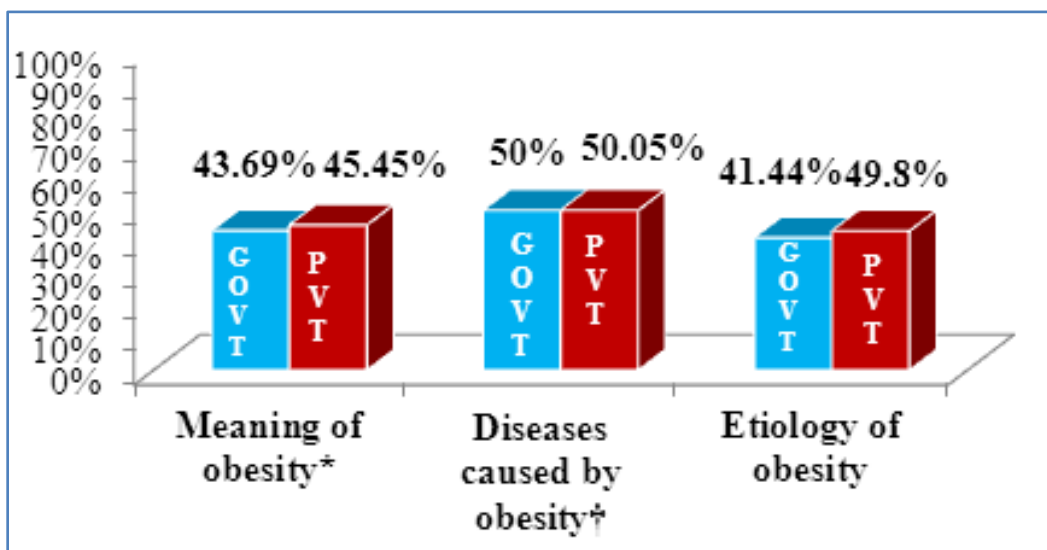
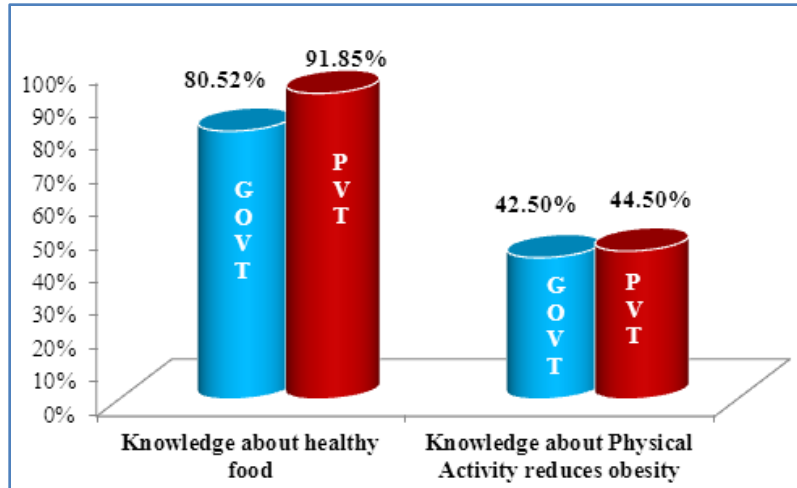


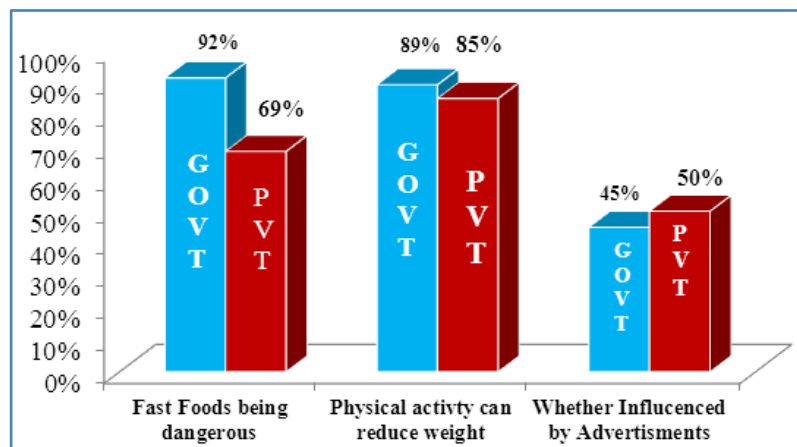
Fig. 1: Knowledge of Study participants on various aspects of Obesity

- **Meaning of obesity\***: For the present study operational definition of obesity is framed as presence of excess body mass or overweight
- **Diseases caused by obesity†**- include Type 2 Diabetes, Hypertension, CHD, Dyslipidaemia, gall bladder disease, breathlessness, sleep apnoea

## ORIGINAL ARTICLE

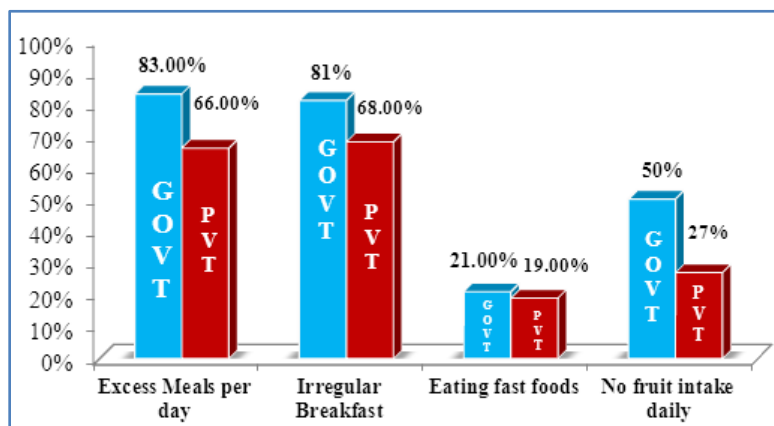


**Fig. 2: Knowledge of Study participants on various aspects of Obesity**



**Fig. 3: Attitude of the study participants regarding obesity**

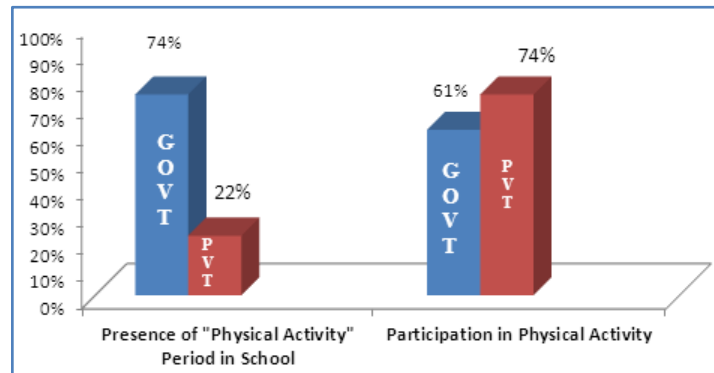
Government school students had positive attitude compared to private school students.



**Fig. 4: Distribution of students according to their dietary Practices**

Government school students are having healthy dietary practices compared to private.

## ORIGINAL ARTICLE



**Fig. 5: Distribution of students regarding their Physical Activity Practices**

Time catered to physical activity was more in government school but participation was seen mostly in private school.

<b>BMI Body Mass Index (Kg/m<sup>2</sup>)</b>	<b>Government School</b>	<b>Private School</b>	<b>Total</b>
Lean (<20)	296(53.14%)	261(46.86%)	557(100%)
Normal (20-25)	120(45.28%)	145(54.72%)	265(100%)
Overweight (25-30)	4(26.6%)	11(73.4%)	15(100%)
Obese (>30)	4(40%)	6(60%)	10(100%)
<b>Total</b>	<b>424(50.06%)</b>	<b>423(49.94%)</b>	<b>847(100%)</b>

**Table 2: Distribution of students according to Body Mass Index**

The overall prevalence of overweight was 1.77% and obesity was 1.18%.

	<b>OVER WT.</b>	<b>NON OBESE</b>	<b>TOTAL</b>
<b>GOVT</b>	8(1.9%)	416(98.1%)	424(100%)
<b>PVT</b>	17(4%)	406(96%)	423(100%)
<b>TOTAL</b>	<b>25(3%)</b>	<b>822(97%)</b>	<b>847(100%)</b>

**Table 3 Distribution of students according to obesity**

Chi square value =2.65 df =1

There is no significant difference in the obesity levels between government and private school students.

<b>PHYSICAL ACTIVITY</b>	<b>OBESE</b>	<b>NON OBESE</b>	<b>TOTAL</b>
Present	9 (1.4%)	627 (98.6%)	636(100%)
Absent	16 (7.6%)	195 (92.4%)	211(100%)
<b>Total</b>	<b>25 (3%)</b>	<b>822 (97%)</b>	<b>847(100%)</b>

**Table 4: Distribution of students according to physical activity**

Chi square value =18.94 df =1 Significant

## ORIGINAL ARTICLE

---

**DISCUSSION:** In the present study as far as their attitude concerning obesity, it was observed that majority of the students (92%) opine that fast foods are dangerous and physical activity reduces weight where as in a study done by Brook. U and Tepper I in Holon<sup>5</sup> 31% of the students regarded obesity as a handicap.

In the present study the prevalence of overweight and obesity were 1.77% and 1.18% respectively. Our study findings are contrary to those of a study done by Rozane Márcia Triches and Elsa Regina Justo Giugliani<sup>6</sup> where prevalence of overweight and obesity were 16% and 7.5% respectively.

The prevalence of overweight and obesity were 8.2% and 2.2% in a study done by Munguti and Cyrus Mutinda<sup>7</sup>, whereas it was 23% and 15% respectively, in a study done by Anjum Hashmi, Jamil Ahmed Soomro & Khalid Saleem,<sup>8</sup> and 17.8% and 3.2%, respectively in a study done by Phuong Van Ngoc Nguyen et al.<sup>9</sup>

We know that lack of physical activity is associated with obesity in children, but significant physical activity was observed among study participants. Although “Khammam Town” has modern touch due to rapid urbanization but has preserved its rural essence and is able to promote outdoor physical activity among schools.

The present study findings are consistent with that of Warraich HJ et al.<sup>10</sup>

Majority, 636(75%) of the students participated in indoor sports & extracurricular activities at school.

It was observed that, the time and type of activities to burn calories was considerably good. Only 25% of them were involved in sedentary activities. Current overweight and obesity status was observed in the study participants who had sedentary activities.

### CONCLUSIONS:

- Among total number of students selected for study 55.85% were male and 44.15% were female.
- Majority (96.6%) of the children belong to 13-16 years of age.
- Almost 50.06% are from private and 49.94% are from government school.
- However it was seen that private school students had 11% better knowledge regarding healthy foods as compared with Government school students.
- Private school students relatively had healthy lifestyle.
- The overall prevalence of overweight was 1.77% and obesity was 1.18%.
- There is no significant difference in the obesity levels between government and private school students.
- Significant relationship exists between physical activity and obesity.

### RECOMMENDATIONS:

- As the burden of studies increase with higher class there is reduction of physical activity, students should be educated regarding the importance of physical activity to be continued in order to stay healthy whether school settings are Government or Private.
- Over the years we have known the importance of intake of Fibers (Vegetables & Fruits) regularly in adequate/recommended quantity; schools and parents need to encourage students to consume the same.

## ORIGINAL ARTICLE

---

- Urbanisation has led to increased access to junk/fast food, which is reportedly having harmful fatty oils, thus students should be educated regarding the importance of consumption of healthy foods made at community kitchen & home-made food.
- Further studies are required to understand the rural milieu and factors associated with it, in keeping overweight & obesity under control.

### REFERENCES:

1. Vedavathi S, Jayashree R, Rafi M. Prevalence of Overweight and Obesity in Affluent adolescent school girls in Chennai in 1981. *Indian Pediatrics*: 40:775-779, 2003.
2. Kapil U, Singh P, Pathak P, Dwivedi SN, Bhasin S. Prevalence of Obesity among Affluent adolescent school children in Delhi. *Indian Pediatrics*; Vol 39: 449-452, 2002
3. Styne DM. Childhood and Adolescent Obesity. *PCNA* 2001; 48:823-847.
4. WHO-TRS 894. Obesity: Preventing and managing the global epidemic; Report of a WHO Consultation, Geneva: WHO 2000.
5. Brook. U, Tepper I. High school students' attitudes and knowledge of food consumption and body image: implications for school based education. *Patient Educ Couns.*1997 Mar; 30(3): 283-8.
6. Rozane Márcia Triches, Elsa Regina Justo Giugliani. Obesity, eating habits and nutritional knowledge among school children. *Rev Saude Publica* 2005;39(4).[www.fsp.usp.br/rsp](http://www.fsp.usp.br/rsp).
7. Munguti, Cyrus Mutinda. Prevalence of overweight and obesity among high school students attending public schools in Nairobi. University of Nairobi Jomo Kenyatta Memorial Library in 2011 for M.Med dissertation, Submitted by KIPS on Mon, 11/04/2013-19:16 .
8. Anjum Hashmi, Jamil Ahmed Soomro, Khalid Saleem. Prevalence of Obesity and Factors Leading to Obesity among High School Students of Pakistan. *Journal of Medicine* Vol 14, No 1 (2013).
9. Phuong Van Ngoc Nguyen, Tang Kim Hong, Truong Hoang, Dung The N guyen and Annie R Robert. High prevalence of overweight among adolescents in Ho Chi Minh City, Vietnam. *BMC Public Health* 2013, 13:141. (<http://www.biomedcentral.com/1471-2458/13/141>)
10. Warraich HJ, Javed F, Faraz-ul-Haq M, Khawaja FB, Saleem S (2009). Prevalence of Obesity in School-Going Children of Karachi. *PLoS ONE* 4(3): e4816. doi:10.1371/journal.pone.0004816

**AUTHORS:**

1. Swati M. Patki
2. P. Madhavi
3. B. Chandrasekhar Reddy
4. K. V. Phani Madhavi

**PARTICULARS OF CONTRIBUTORS:**

1. Professor, Department of Community Medicine, Sree Narayana Institute of Medical Sciences, Chalakka.
2. Associate Professor, Department of Community Medicine, Siddhartha Medical College, Vijayawada.
3. Assistant Professor, Department of Community Medicine, Ashram Medical College, Elluru, Andhra Pradesh.

4. Assistant Professor, Department of Community Medicine, Mamata Medical College, Khammam.

**NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:**

Dr. Swati M. Patki,  
Professor,  
Sree Narayana Institute of Medical Sciences,  
Chalakka North Kuthiyathodu Post Office,  
Ernakulam District,  
Kerala – 683594, India.  
E-mail: drpatkism@yahoo.com

Date of Submission: 20/03/2014.

Date of Peer Review: 21/03/2014.

Date of Acceptance: 24/03/2014.

Date of Publishing: 28/03/2014.