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### RESEARCH ARTICLE

#### DIETARY BEHAVIOUR IN SCHOOL GOING ADOLESCENTS IN GUNTUR.

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#### Abstract

**Background:** Awareness of health and nutrition is not just significant in rural masses but also among school children i.e the antecedent adults or the so called adolescents where improper nutrition either over nutrition or under nutrition affects their civic education, physical as well as mental development in addition to a future risk of major health consequences.

##### Aims:

1. To study and Monitor the spectrum of the nutritional status in adolescent population.
2. Provide periodical updates on underweight, overweight/obesity among adult populations.
3. To report the regional estimated number of underweight, overweight and obese adults.
4. To Identify vulnerable population groups (i.e. age, sex, geographical area).
5. To Assess the trends in nutrition transition (i.e. relationship between BMI and dietary patterns).
6. To Raise political awareness and commitment for action.

**Method:** A Cross-sectional Prospective Questionnaire based Survey was conducted in the schools of Guntur. The study period is from January to June 2017. Nutritional and health status was assessed using a questionnaire.

**Results:** A total no of 1515 adolescents of age 11-17years met our inclusion criteria, boys were 839(55.5%) and girls were 676(44.6%). From our data underweight were 87.81% , normal were 93.9% and obese were 11.46%.

**Conclusion:** The present findings add to other results in the literature in suggesting that nutrition knowledge is an important target for health education. In order to promote healthy nutritional behaviours and prevent underweight, overweight and obesity, it is important to target this population with interventions concerning their eating habits and lifestyles. So it was concluded that there should be an immediate action to reduce the incidence through appropriate nutrition intervention programmes involving school children, their parents and school

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authorities. If immediate measures are not taken the condition can lead to serious problems beyond repair.

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### Introduction:-

Dietary behaviors are vital throughout adolescence, as this period is characterized by intense growth. Balanced diet during adolescence promotes optimal health, growth and intellectual development. The WHO pronounced that adolescence is a period for the adoption and consolidation of sound dietary habits, especially since healthy dietary behaviors are acquired during adolescence and track into adulthood.

<sup>1</sup>**Body Mass Index (BMI)** is a simple index of weight-for-height that is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in metres ( $\text{kg/m}^2$ ). For example, an adult who weighs 70kg and whose height is 1.75m will have a BMI of 22.9.  
 $\text{BMI} = 70 \text{ kg} / (1.75 \text{ m}^2) = 70 / 3.06 = 22.9$

### BMI classification according to WHO. The International Classification of adult underweight, overweight and obesity according to BMI.

<b>Underweight</b>	<b>&lt;18.50</b>	<b>&lt;18.50</b>
Severe thinness	<16.00	<16.00
Moderate thinness	16.00 - 16.99	16.00 - 16.99
Mild thinness	17.00 - 18.49	17.00 - 18.49
<b>Normal range</b>	<b>18.50 - 24.99</b>	<b>18.50 - 22.99</b>
		<b>23.00 - 24.99</b>
<b>Overweight</b>	<b>≥25.00</b>	<b>≥25.00</b>
Pre-obese	25.00 - 29.99	25.00 - 27.49
		27.50 - 29.99
<b>Obese</b>	<b>≥30.00</b>	<b>≥30.00</b>
Obese class I	30.00 - 34.99	30.00 - 32.49
		32.50 - 34.99
Obese class II	35.00 - 39.99	35.00 - 37.49
		37.50 - 39.99
Obese class III	≥40.00	≥40.00

Adolescence is a period of rapid growth: up to 45% of skeletal growth takes place and 15 to 25% of adult height is achieved during adolescence (Rees and Christine, 1989). During the growth spurt of adolescence, up to 37% of total bone mass may be accumulated (Key and Key, 1994). Nutrition influences growth and development throughout infancy, childhood and adolescence; it is, however, during the period of adolescence that nutrient needs are the greatest (Lifshitz, Tarim and Smith, 1993). The unique nature and importance of adolescence mandates explicit and specific attention in health policy and programmes.

### Need For The Study:-

Adolescents are in the process of establishing responsibility for their own health-related behaviours, including diet. Adolescents can and should take responsibility for their nutrition and the long-term repercussions on health. This may be quite a challenge, considering that adolescents tend to be little concerned with the future and long-term consequences of their present behaviours, but relevant strategies exist, based on an appropriate knowledge of personal and environmental determinants of food choice in this age group. It is therefore an appropriate time for health promotion programmes based on documented relationships between behaviour in this age group, obesity, cardiovascular and other chronic disease risk factors.

### Plan Of Work:-

The work is planned to carry out as following:

1. To include people satisfying the criteria
2. To design a data collection form and a questionnaire

3. To collect all the data required for the study
4. To create awareness on their dietary behaviour, nutritional habits, risk factors, life style modifications and prevention by circulating leaflets.
5. To assess the nutritional knowledge of their parents.
6. To collect three day diet schedule.

**Materials and Methodology:-**

A Prospective Questionnaire based Survey was conducted from January to June 2017 i.e. for a period 6 months in and around the schools of Guntur, Andhra Pradesh.

**Inclusion Criteria:-**

1. Children of age 11-17 years
2. Both genders are included

**Exclusion Criteria:-**

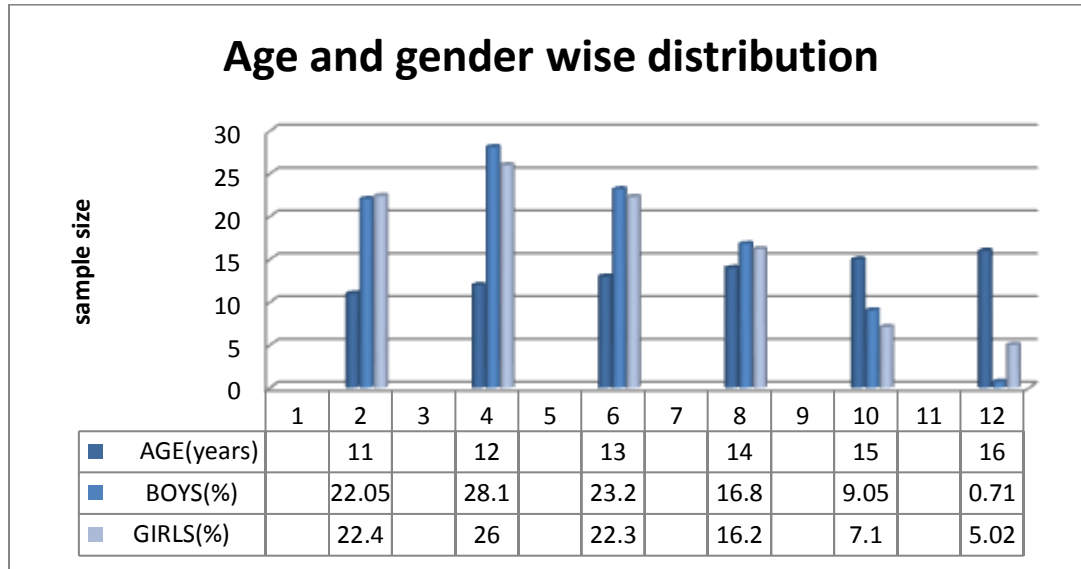
1. Children of age less than 10 years and above 17 years.
2. Children with other co-morbidities.

**Study method:-**

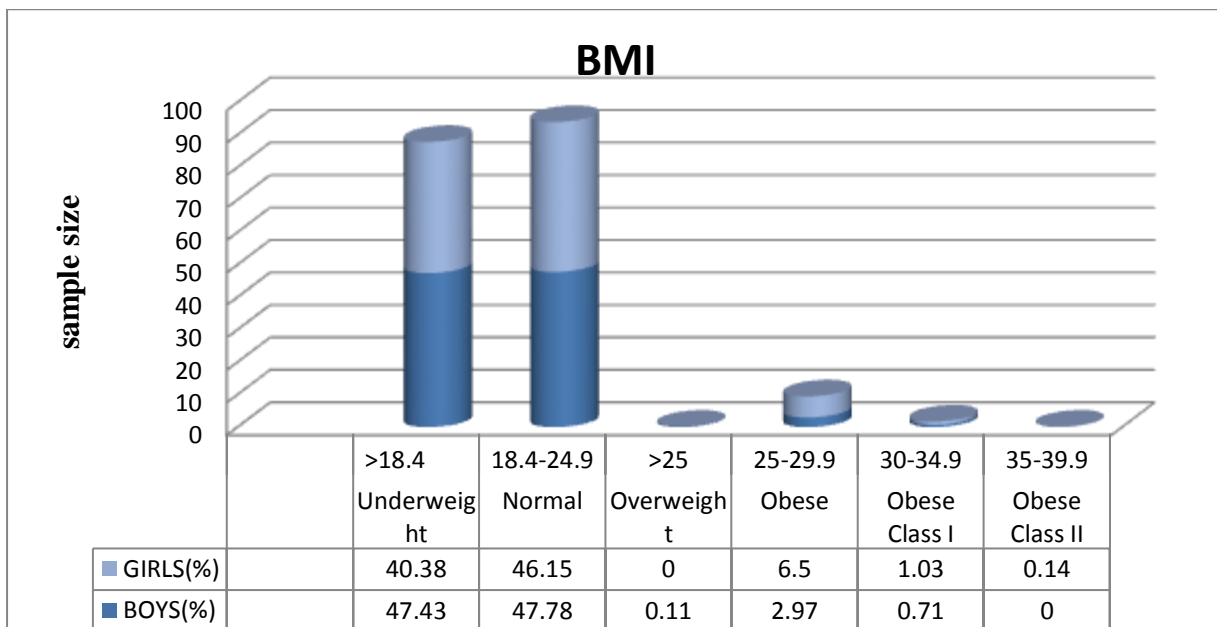
1. Study was conducted in schools of Guntur
2. A pilot study was conducted for the readability and understanding of the questionnaire and patient information leaflet.
3. A data collection form was developed in which all the details of the subjects are noted.
4. Subjects were given adequate knowledge on their dietary habits.
5. Subjects were also provided with help of Information leaflets and videos.
6. A self-administered questionnaire was given to the subjects who have given their willingness to participate in the study.
7. A three day dietary Assessment Questionnaire was distributed to the subjects after assessing the self-administered Questionnaire.
8. Risk assessment to the subjects who were under weight, overweight, and obese.
9. Consent was taken from the school principal and respective student incharges of the particular class.

**Tools To Assess:-**

1. Height chart
2. Weighing machine
3. Questionnaire. (Dietary assessment: Using FoodBase 2000 version 2, computerized food composition tables comprising nutrient compositions)
4. Nutritional charts
5. Measuring tape.

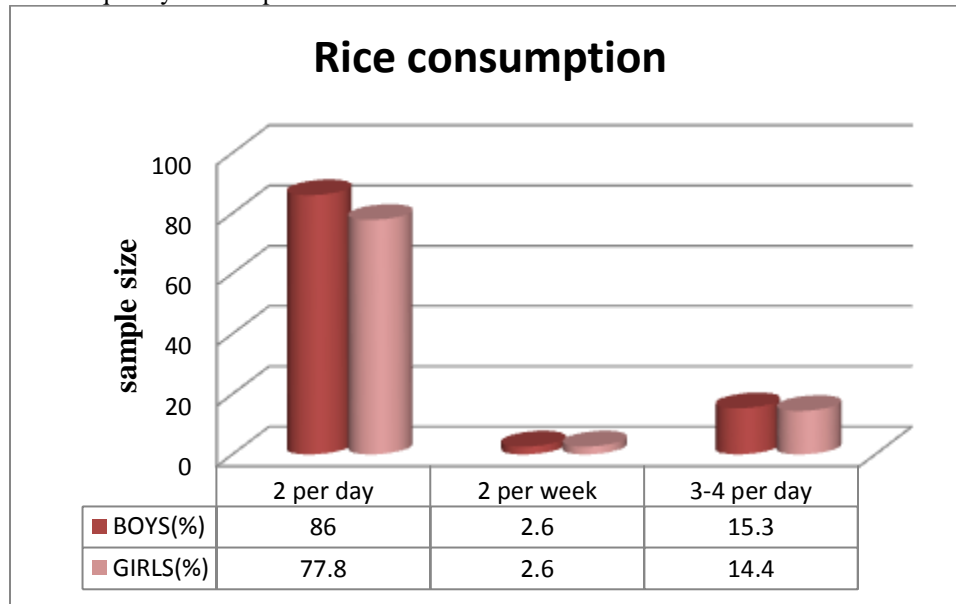
**Results:-**

The above graph shows distribution of children on the basis of age and gender. Males -839 and females- 676.



Majority of boys 398 are underweight i.e about (47.43%), about 47.78% of boys and 46.15% of girls are of normal weight. Overall about 4% of boys are overweight and 8% of girls are obese.

## Food frequency consumption

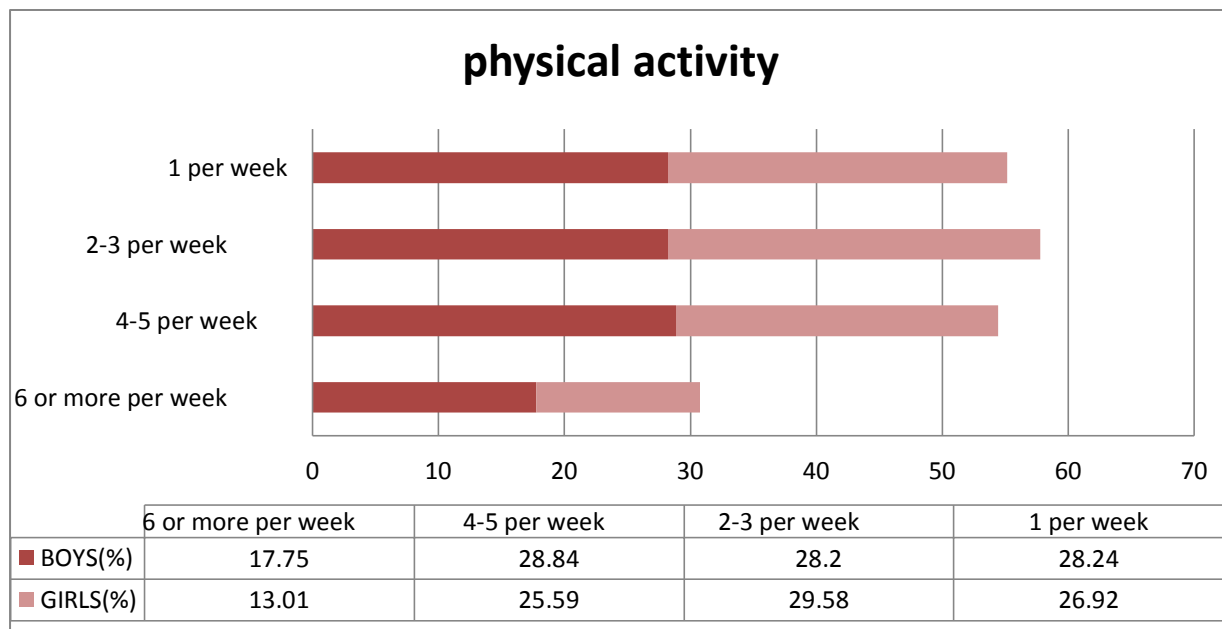


	MEAN	STANDARD DEVIATION	P VALUE
BOYS	36.05	28.31	<0.05
GIRLS	22.25	14.52	<0.05

Frequency of consumption of rice over all is higher in boys when compared to girls. Majority of the population i.e about 83.2 takes rice twice a day out of them 48.1% are boys and 35% are girls.

**Table 4:- Lifestyle And Physical Activity**

17.75% of boys and 13.01% of girls do physical activity for more than 6 days a week, 28.84% of boys and 35.59% of girls do physical activity for 4-5 days per week. 28.20% of boys and 26.92% of girls do physical activity only once a week.



	MEAN	STANDARD DEVIATION	P VALUE
BOYS	22.49	11.62	<0.05
GIRLS	28.14	24.61	<0.05

### Discussion:-

In the present study the associations between nutrition knowledge, food intake, physical activity and some dietary and lifestyle behaviours among 1515 adolescents of age 11-17 years living in a area of Guntur were explored using a statistical method called Fischer exact method, and a negative association was found between nutrition knowledge and healthier nutritional behaviour. Demographic and social factors were also found to be determinants of such outcomes. Although multiple factors influence food consumption and nutritional habits in adolescence, most previous studies assessed only specific aspects (i.e. fruit and vegetable intake or breakfast habits) and only a few have investigated the associations between nutrition knowledge, consumption of several food groups and lifestyle factors simultaneously.

To describe dietary intake and food habits in young people, it is relevant to associate such eating behaviour with knowledge and to understand them with regard to personal and environmental factors in the context of a modern society. Moreover, being younger could be associated with a less nutrition knowledge level and, consequently, poor dietary and lifestyle habits.

Among the other demographic characteristics, our study revealed that BMI was associated with unhealthy food consumption (positively with sweets, snacks, fried foods and sugary drinks; negatively with fruit and vegetables) and lifestyle habits (such as skipping breakfast, frequent snacking and infrequent physical activity).

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### Conclusion:-

The present findings add to other results in the literature in suggesting that nutrition knowledge is an important target for health education and has the potential to improve especially the dietary habits and lifestyle behaviours of adolescents. Age has a central role in this issue, and improving nutrition knowledge in young people may translate into educating them in good dietary habits. In order to promote healthy nutritional behaviours and prevent underweight, overweight and obesity, it is important to target this population with interventions concerning their eating habits and lifestyles. Dietary habits like frequent consumption of deep fat fried foods; fast food consumption and soft drinks consumption play a vital role in increasing the number of obese children and due to poor socioeconomic status underweight is more in adolescents. So it was concluded that the increasing trend of the modern day epidemic of underweight ,overweight and obesity in children calls for immediate action to reduce the incidence through appropriate nutrition intervention programmes involving school children, their parents and school authorities. If immediate measures are not taken the condition can lead to serious problems beyond repair.

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