

# **EFFECT OF OVERWEIGHT AND OBESITY ON LIFE STYLE OF URBAN ADOLESCENT SCHOOL CHILDREN OF SOUTHERN STATE OF INDIA**

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## **ABSTRACT:**

The foundation towards a better adult life is established by the well-being of adolescents, which makes it an essential aspect of the health of the community. Among the most populated countries in the entire globe, India has a sizable youthful population. Teenagers in India encounter an array of intricate health problems, with dietary habits and way of life constituting significant factors.

Adolescence generally an essential phase in human growth which is marked by broad transformations within the body, mind, and feelings. Individuals experience an intense period of physical growth, alterations in hormones, and reproductive potential all through this time. Adolescents is an important stage for ensuring that health outcomes are optimal because of these modifications, as well as the ongoing process of development of the brain and psychological maturation. In an effort to enhance health care tailored to the specific needs of adolescents, the present piece examines and evaluates the impact of dietary and lifestyle choices on adolescent health in Andhra Pradesh, India. It also proposes feasible enhancement approaches. For this research study adolescents in the age group of 13 to 17 were selected from different schools in Vijayawada. Total 175, out of which 54.3% were boys and 45.7% were girls. The results represent that 68% decides their menu by themselves, majority not doing regular physical activity, and taking only one serving of vegetables, almost eating outside food daily, though 29% of the participants were in the overweight grade 44% were able to maintain the healthy weight but experiencing Anxiety and headaches frequently.

**Keywords:** Adolescence, Eating Habits, life style , physical activity, Health and Nutrition

**Introduction:**

The crucial period of human life of development is adolescence. It is obvious that there are a number of concerns that require attention as well as evaluation of the current health status of the adolescents in the entire globe. Youth are dealing with a wide range of health problems that are hindering their general wellbeing. There are many attributes for the present condition mainly from sedentary lives to poor eating patterns. The inclining tendency towards fast food culture is the primary cause for teens declining health.

In this period there is a marked physical, cognitive, and emotional developmental changes happen. Every individual experience a intense growth and maturation in terms of their physical appearance, hormonal changes, and reproductive capacity(

Adolescence is a crucial period of development marked by significant physical, cognitive, and emotional changes. During this time, individuals experience rapid growth and maturation (Oliveira et al., 2023). These changes makes adolescence critical period for optimal health outcomes. Nevertheless, it is very much important to note that this is the time if not managed well adolescents may prone to several health problems which may become chronic in the later stages. The major impact of unhealthy lifestyle are often rooted in urbanization and modernization (Sahoo, Krushnapriya, et al.2018)

The primary culprit for the health issues in the adolescence are unhealthy eating habits and sedentary lifestyle. The lifestyle disorders may contribute long – term consequences on health especially leading to the development of chronic diseases such as obesity, diabetes, and cardiovascular diseases.

**Impact of unhealthy eating habits on Adolescent health:**

The improper dietary habits mainly the consumption of high dense calorie processed foods and sweet beverages, insufficient intake of fruits and vegetables and excessive intake of fatty foods can have harmful effects on adolescent health. (Voráčová et al., 2015). These diet regime may lead to nutrient deficiencies, weight gain and risk of chronic diseases. Moreover these unhealthy eating habits may lead to have a negative impact on mental health and cognitive function in adolescents. The research indicates that the most urban adolescents in Andhra Pradesh state consume nutritionally deficient diets, with less focus on fruits and

vegetables and overconsumption of high – calorie dense foods which are poor in micronutrients. (Rathi et al., 2018).

### **Current state of adolescent health in Andhra Pradesh**

The major havoc behind the health of adolescents is the rapid increase of fast-food addition. The streets and every nook and corner of Andhra Pradesh are lined with tempting junk food options. These foods are luring younger ones into a never-ending cycle of unhealthy food choices and consumption. Schools and college canteens are flooded with unhealthy foods and sugary drinks.

Another major setback is lack of physical activity, and increasing sedentary life. (Shuvo & Biswas, 2023). The technological advancements has led students to adopt sedentary life style, screen time has increased drastically leading to prolonged sitting, these behaviours will contribute to the rising rates of obesity and chronic diseases among adolescents. Along with the obesity micronutrient deficiencies leading to Anaemia in young adolescents. Hormonal imbalances increasing PCOS and infertility rates as well.

### **Rationale of the Study:**

Teens health is a key determinant of nations future well – being, and youth face a unique health challenge that demands immediate need and attention. The prevalence of non – communicable diseases among the teens is on the way to rise due to the shift in the dietary patterns and lifestyle changes, along with that social and cultural factor influencing the adolescent's health behaviours call for an in-depth examination of the determinants and of their choices.

The present research will address the gaps in the current literature by providing evidence – based insights into the relationship between diet and lifestyle in the Indian context. By clear cut understanding of these associations, health and policy makers can develop targeted interventions to improve the health and wellness services offered to the youth, ensuring better health outcomes and healthier future for the nation.

In order to improve the adolescent health in Andhra Pradesh is necessary to conduct a comprehensive clinical analysis of diet and lifestyle factors which are the primary contributors to these issues.

**Aims of the study:**

The present study aims to analyze the specific unhealthy eating habits and sedentary behaviour patterns among adolescents in Andhra Pradesh as well as any underlying factors that contribute to the problem.

**Materials and Methods****Literature Review:**

A systematic research search was conducted in relevant databases such as PubMed, Google Scholar, and Indian academic repositories, by using appropriate keywords related to the adolescent health, lifestyle, physical activity, eating habits in India. The studies published between 2010 and the present were included and data extraction was performed to synthesize the key findings.

**Quantitative Analysis:**

The structured questionnaire consisting of sixteen questions was designed based on validated instruments used in similar studies. The data was collected through face – to – face interviews, to all the participants the purpose of the study was explained consent was taken from the school management and students and parents.

The entire questionnaire was divided into 4 sections

1. Demographic information
2. Diet and Nutrition
3. Physical activity
4. Influencing Factors

Statistical analysis was done by using SPSS to identify the association between diet, lifestyle and health outcomes.

**Results and Discussion:**

There are many factors which will influence the health of teenagers. The major factors include diet, physical activity, sleep patterns, mental health, and social media usage. The major role in teens health is diet. A well balanced and nutritious diet provides essential nutrients that supports the growth and development, boost immunity and maintain optimal body weight. And also the regular physical activity is another important factor in maintaining good health in teenagers. Engaging in regular physical activity will lead to improved cardiovascular health, and maintains a healthy weight, bones and muscles and also enhance the mental well – being. (Sampasa-Kanyinga et al., 2021)

The present study results explore the facts check of health and wellness status of the teens participated.

GENDER	13	14	15	16	17	Grand Total	PERCENTAGE
BOYS	9	32	27	27	0	95	54.3
GIRLS	6	29	22	16	7	80	45.7
<b>Grand Total</b>	<b>15</b>	<b>61</b>	<b>49</b>	<b>43</b>	<b>7</b>	<b>175</b>	

**Table no 1: Age and gender wise distribution of the participants**

The number of enrolled participants include 54.3% boys, and 45.7% were girls. In the age group of 13 total 15 participants, in the age group of 14 61 participants, 49 participants were in the age group of 15, and 43 participants, and 7 were in the age group of 16 and 17 were consequently.

**Table no 2 : Questionnaire**

Concerned about eating habits	Frequency	%
Yes	110	62.86%
No	65	37.14%
Who decides Menu		
My self	119	68%
Family members	56	32%
Will you take breakfast regularly		
No	111	63.43%
Yes	64	36.57%
Carry lunch box		
Yes	116	66.29%
No	59	33.71%
What will you take during Snack time		
Chips	48	27.43%
Samosa	37	21.14%

Juice	35	20%
Chips, samosa	26	14.86%
Milk shake	11	6.29%
Biscuits	9	5.14%
Cool drinki	5	2.86%
Chips, Cool drink	4	2.29%
<b>Nutritional status</b>		
Good	72	41.14%
No Idea	67	38.29%
Poor	36	20.57%
<b>Frequency of eating outside food</b>		
Almost daily	81	46.29%
Twice in a week	52	29.71%
Once in a week	41	23.43%
Very rare	1	0.57%
<b>What you eat outside</b>		
Biryani	46	26.29%
Burger	41	23.43%
Pizza, Burger	39	22.29%
Pizza	21	12%
Samosa	15	8.57%
Roti, curry	13	7.43%
<b>Regularly physical activity</b>		
No	113	64.57%
Yes	62	35.43%
<b>Servings of vegg/green</b>		
2	77	44%
1	76	43.43%
3	22	12.57%
<b>Consume daily fruits</b>		

No	101	57.71%
Yes	74	42.29%
<b>Do you pay attention healthy food choices</b>		
Sometime	66	37.71%
No	59	33.71%
Yes	50	28.57%
<b>Do you have any of the following</b>		
Headache, Anxiety	67	38.29%
weakness	43	24.57%
Irritability, exam fear	38	21.71%
no problem	18	10.29%
Stress	9	5.14%
<b>BMI Grade</b>		
Healthy weight	77	44%
overweight	51	29.14%
underweight	36	20.57%
Obesity	11	6.29%
<b>What factors do you think influence your dietary choices</b>		
Peer influence	72	41.14%
Media and advertising	50	28.57%
Family preference	24	13.71%
Cultural practices	15	8.57%
Availability of healthy food options	14	8%
factors influencing physical activity		
School workload	49	28%
Lack of interest/motivation, school workload	34	19.43%
Lack of time, school workload	33	18.86%
all of the above	26	14.86%
Access to sports	25	14.29%
Lack of time	5	2.86%

Lack of interest/motivation	2	1.14%
lack of interest/motivation	1	0.57%

Table No: 3 Gender vs Age and influence of dietary choices

Null hypotheses	Alternative hypotheses
There is no significant difference between the groups of the independent variable GENDER in relation to the dependent variable AGE.	There is a significant difference between the groups of the independent variable GENDER in relation to the dependent variable AGE.
There is no significant difference between the groups of the independent variable What factors do you think influence your dietary choices in relation to the dependent variable AGE.	There is a significant difference between the groups of the independent variable What factors do you think influence your dietary choices in relation to the dependent variable AGE.
There is no significant interaction between the two variables GENDER and What factors do you think influence your dietary choices in relation to the dependent variable AGE.	There is a significant interaction between the two variables GENDER and What factors do you think influence your dietary choices in relation to the dependent variable AGE.

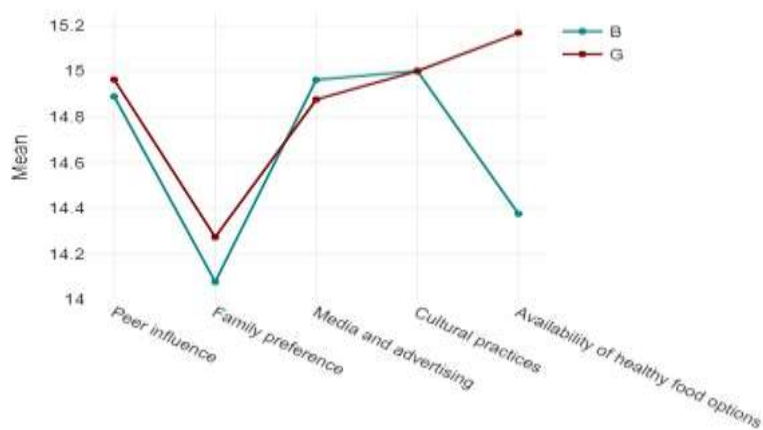
Table No: 4 Mean and Standard Deviation of the Results

GENDER	What factors do you think influence your dietary choices	n	Mean	Std. Deviation
B	Peer influence	45	14.89	0.93
	Family preference	13	14.08	1.04
	Media and advertising	26	14.96	0.92
	Cultural practices	3	15	1
	Availability of healthy food options	8	14.38	0.92



GENDER	What factors do you think influence your dietary choices	n	Mean	Std. Deviation
G	Peer influence	27	14.96	0.94
	Family preference	11	14.27	0.9
	Media and advertising	24	14.88	1.08
	Cultural practices	12	15	1.35
	Availability of healthy food options	6	15.17	1.6

	Type III Sum of Squares	df	Mean Squares	F	p	Eta <sub>p</sub> <sup>2</sup>
GENDER	0.48	1	0.48	0.46	.499	0
What factors do you think influence your dietary choices	12.02	4	3.01	2.9	.023	0.07
GENDER x What factors do you think influence your dietary choices	2.09	4	0.52	0.5	.733	0.01
Error	170.81	165	1.04			

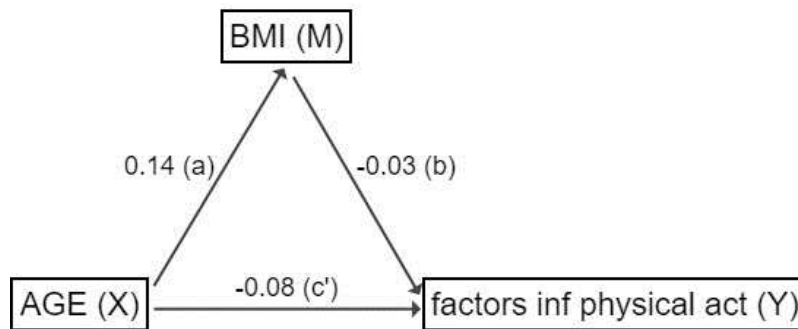


The mediation analysis was conducted to identify the relationship between the factors influencing physical activity, Age and BMI

Independent variable = Age

Dependent variable = BMI

Moderator = Factors influencing physical activity



Total effect of X on Y

Effect	SE	t	p
-0.09	0.13	-0.66	.508

Direct effect of X on Y

Effect	SE	t	p
-0.08	0.13	-0.63	.53

Indirect effect of X on Y

Effect	SE	t	p
0	0.02	-0.3	.234

Meals per day and servings of veggies and green leafy vegetables

Null hypothesis	Alternative hypothesis
There is no difference between the 3	There is a difference between the 3

Null hypothesis	Alternative hypothesis
categories of the independent variable servings of vegg/green with respect to the dependent variable MEALS PER DAY.	categories of the independent variable servings of vegg/green with respect to the dependent variable MEALS PER DAY.

### *Analysis of variance*

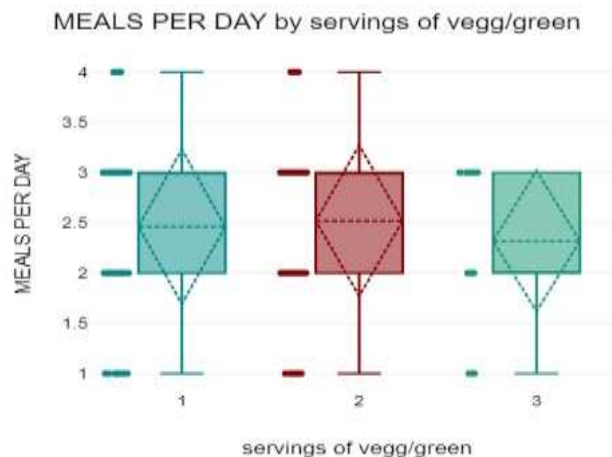
A one-factor analysis of variance has shown that there is no significant difference between the categorical variable servings of vegg/green and the variable MEALS PER DAY  $F = 0.61, p = .544$  Thus, with the available data, the null hypothesis is not rejected.

### *Effect size*

$\eta^2$	$\eta_p^2$	Cohen's $f^2$
0.01	0.01	0.01

f	Classification according to Cohen (1988)
0.2	weak effect
0.15	moderate effect
0.35	strong effect

	Sum of Squares	df	Mean Squares	F	p
servings of vegg/green	0.7	2	0.35	0.61	.544
Residual	98.88	172	0.57		
Total	99.58	174			



We must first focus on educating the young about making healthy choices. Promoting awareness and providing necessary information about nutrition is crucial. Additionally, creating an environment that offers easy access to nutritious food is essential. It's time to transform gaming couches into sports fields and motivate the youth to get active. Harnessing the power of positive peer pressure can work wonders too! If we cultivate an atmosphere where friends influence each other to make healthier choices, the impact could be significant. Furthermore, creating safe spaces for open discussions and offering support and encouragement can help break down barriers and facilitate positive change. Finally, mental health is a topic that cannot be ignored. By destigmatizing mental health issues and providing counseling and therapy services, we can ensure that our young population feels supported and receives the necessary care they deserve. In conclusion, it's evident that a comprehensive analysis of diet and lifestyle is crucial for enhancing adolescent health in Andhra Pradesh. By addressing these key areas and implementing effective strategies, we can optimize youth health services and pave the way for a healthier future. So, let's embark on this journey together and make a difference in the lives of these young individuals.

Adolescence is a time of growth, and exploration this phase is marked by confusion, peer pressure, lack of awareness and at the same time desire to fit in. But by eating endless junk food and fast foods one cannot think of fitness. The greasy burger chips, Biryani may give promising instant satisfaction to full belly and satisfy taste buds the later impact on the health is huge from increasing the risk of obesity to diabetes and heart problems.

In the present study the major set backs to health noticed were too much junk food consumption, sedentary life, undergoing anxiety and deciding menu by themselves not listening to the family members. The other major concern is not taking good amounts of

vegetables in standard manner , less consumption of fruits, which are the primary cause of micronutrient deficiency.

Though youth are conscious about their health peer pressure, media and advertisement influence , lack of interest and motivation on the physical activity making the teens prone to Obesity and other related health disorders.

### **Suggestions:**

There is a need to revolutionize health and wellness services for youth. Providing counselling and awareness sessions on the health and wellness is needed. By educating healthier community building is possible Support from the community level Banning all junk foods in the college and Scholl premises.

Encouraging regular physical activity Periodical health check ups to find out Obesity, Anaemia Access to healthy and nutritious food

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