

**NUTRITIONAL STATUS AND EATING BEHAVIOR AMONG
ADOLESCENT GIRLS IN DAV PUBLIC SCHOOL, BERHAMPUR,
GANJAM DISTRICT, ODISHA**

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ABSTRACT

This cross-sectional study examines the eating habits and nutritional health status of 65 adolescence girls who study in DAV Public School, Berhampur, Odisha. Adolescence period is very crucial for both physical and cognitive development, it is essential to comprehend the eating patterns and nutritional condition of this group. To provide targeted interventions for encouraging healthier lifestyles, the study uses a mixed-methods approach that combines anthropometric measurements, dietary assessments, and surveys to thoroughly evaluate participants' eating behaviours, nutritional status, and the impact of social media on adolescent girls' food preferences. It was found that the majority of the respondents were overweight and that social media had a significant impact on their dietary preferences and way of life. These results highlight the critical need for focused health treatments and educational initiatives that encourage healthier lifestyles among teenage girls. These efforts will eventually play a pivotal role in supporting the best possible growth, development, and well-being during adolescence and beyond.

KeyWords: *Adolescence, lifestyle, Nutrition, dietary habits, Anthropometric measurements, social media*

INTRODUCTION -

Adolescence, spanning from 10 to 19 years, represents the most pivotal phase in our life cycle. This transitional period is characterized by swift physical, psychological, emotional, and social transformations. It serves as the foundation for future well-being and development. All the changes that happen during adolescence are just one part of a bigger process that begins even before an individual is born. It continues as they grow up, influenced by the environment and the people around them. This process doesn't stop until the individual is fully grown, both physically and sexually mature, have formed their personalities, can take care of themselves financially, and feel like they belong in their social circles. (Eisenstein, et.al.,2000).

During adolescence, the body grows quickly, needing lots of nutrients and energy. It's crucial for teenagers to eat plenty of food that gives them energy and important nutrients. This helps their muscles and brains grow well, makes sure they have enough haemoglobin in their blood, keeps their bones strong with calcium, and helps them grow properly with zinc. To stay healthy, it's important for teenagers to eat fruits, vegetables, whole grains, and dairy products regularly. These foods give them the vitamins and minerals they need to grow and stay strong. So, by eating the right things, teenagers can make sure their bodies and brains develop properly during this important time in their lives. (Naseer et.al.,2018). Due to shifts in lifestyle, there has been a rise in the intake of unhealthy foods among school-age children in India. (Sahoo, K. et.al., 2015) Furthermore, families play a significant role in instilling appropriate dietary habits and promoting physical activity. The support and encouragement provided by parents can greatly influence the adoption of healthy eating patterns and engagement in exercise routines. Conversely, a lack of parental involvement or negative parental modelling may lead to less favourable outcomes in terms of nutrition and physical activity (Menon et.al.,2013).

Moreover, the nutritional well-being of adolescent girls holds particular importance, as it represents an investment in the health of future generations. Enhancing the dietary behaviours of female adolescents is crucial for fostering better health outcomes in subsequent generations. In essence, the familial environment serves as a key determinant in shaping the lifestyle choices and health behaviours of adolescents. By fostering a supportive atmosphere and serving as positive role models, parents can significantly contribute to the establishment of healthy dietary practices and the promotion of regular physical activity among their children. This underscores the critical role of family dynamics in laying the foundation for lifelong health and well-being. (Locks, Pandey et.al., ,2013).

SIGNIFICANCE OF THE STUDY-

The study of adolescents' dietary habits holds significant importance as it directly impacts their transition into adulthood. The quality and quantity of food consumed during adolescence play a pivotal role in their growth, development, and future health. Understanding and addressing these dietary patterns is crucial for ensuring optimal health outcomes and well-being as adolescents progress into adulthood. By examining their nutritional intake, potential areas of concern and implement strategies to promote healthier eating habits can be identified, ultimately shaping the future health of individuals as they mature into adults.

REVIEW OF LITERATURE-

Adolescent girls from larger families (more than five members), those who experienced menarche after the age of 11, and those who didn't engage in regular physical activity were more likely to be thin. Additionally, thinness was prevalent among girls aged 15-19, of Hindu religion, living in joint families, belonging to lower-middle-class socioeconomic status, born prematurely, being the second or later child, and having a birth spacing of more than three years. Girls who hadn't started menstruation were more commonly thin, while among those who had, thinness was associated with longer menstrual bleeding duration and regular menstrual cycles. Thinness was also observed more frequently among girls whose parents were educated and employed. (Rao Guthi et.al., 2022). Adolescents are particularly susceptible to nutritional and mental health issues. Diet plays a significant role in adolescent nutrition, with erratic eating habits often leading to undernutrition due to a lack of nutritional knowledge. This can result in weakened immunity, higher disease rates, stunted growth, and reduced reproductive health. Adolescent girls affected by undernutrition face risks during pregnancy. Health education on balanced nutrition is crucial to prevent these issues. (Dimas & Brigitte,2023)During adolescence, rapid growth necessitates increased nutritional intake, including essential elements like protein, vitamins, and minerals. Adequate calorie provision is vital, alongside nutrients such as vitamin B6, B9, B12, A, and C, crucial for sustaining both nutritional and physical growth during this transformative phase of development. (Doustmohammadian ,2013).An educational initiative focused on promoting healthy nutrition can equip individuals with the necessary knowledge to embrace positive dietary habits and attitudes, fostering their journey towards becoming healthy adolescents. (Fadlalmola,2020).To enhance nutrition through improvement programs, it's crucial to uphold positive dietary practices in line with the government's food diversification initiatives. Simultaneously, efforts should focus on replacing unhealthy eating habits with new approaches to promote the attainment of optimal nutritional health. (Oktavianto et.al., 2023).

OBJECTIVES OF THE STUDY-

1. To study the socio-demographic characteristics of adolescent girls.
2. To evaluate the nutritional status of adolescent girls through anthropometric measurements and dietary surveys.
3. To examine the dietary habits and lifestyle preferences of adolescent girls.
4. To investigate the influence of social media on the food preferences of adolescent girls.

RESEARCH METHODOLOGY-

The research comprised a sample size of 65 adolescent girls aged between 15 to 18, attending DAV public schools in Ganjam District, Odisha. The study particularly targeted students in 11th to 12th grades. Primary data collection involved the utilization of a questionnaire administered through Google Forms, obtained online. Secondary data were gathered through a comprehensive review of literature, case studies, books, articles, magazines, and various websites. A structured questionnaire is designed and administered using social media platforms (e.g., Facebook, Instagram, WhatsApp) to collect information on participants' eating behaviours, including food and beverage consumption pattern, food preferences, watching tv, mobile and the influence of social media on dietary choices. Anthropometric measurements were employed to evaluate the nutritional status of adolescent girls. Anthropometric data are analysed to determine nutritional status indicators such as BMI-for-age by using standard growth chart. Dietary intake data are analysed to assess nutrient adequacy and identify dietary patterns.

RESULTS AND DISCUSSION-**Table-1 Socio Demographic profile of the respondents**

Variable	Frequency	Percentage (%)
Age Group		
15-16	32	49.23
17-18	33	50.76
Educational Level		49.23
11 th Class	32	50.76
12 th Class	33	
Monthly Income of family		
<3000	4	6.15
3001-5000	2	3.07
5001-7000	5	7.69
7001-9000	13	20
>9000	41	63.07

Table 1 shows the demographic distribution of respondents by age group, educational level, and monthly household income. It indicates a very uniform split between the ages of 15 and 16. (49.23%) and 17–18 years (50.76%). The majority of responders (50.76%) were in 12th grade or higher, while 49.23% were in 11th grade. Furthermore, the majority of households (63.07%) had more than Rs.9000 monthly income, showing a better socioeconomic standing among participants.

Table -2: Anthropometric measurements of the respondents.

Anthropometric measurement Age (15-18 yrs.)	Mean \pm SD	Minimum	Maximum	BMI Range (Kg/m ²)	Percentile range	BMI Status
N=14 (21.53%)						
Height(cm)	160.30 \pm 7.42	121	180	23.1	5% to 85%	Normal
Weight(kg.)	59.48 \pm 10.42	35	65			
N=51 (78.46%)						
Height(cm)	165.27 \pm 6.38	132	182	25	>95%	obesity
Weight(kg)	68 \pm 11.21	42	70			

The anthropometric data in Table 2 show significant disparities in height, weight, and BMI status between two groups of teenagers aged 15-18 years. The first group, representing 21.53% of the 14 samples, had a mean height of 160.30 \pm 7.42, mean weight of 59.48 \pm 10.42, and BMI within the normal range.

In comparison, the majority group (78.46%) has much higher values, with a mean height of 165.27cm, a mean weight of 68kg, and a BMI that indicates obesity. These findings reveal differences in physical development as well as prospective patterns in adolescents' weight-related health.

Table-3: Food and beverage consumption of respondents.

Variables	Once or twice a week (%)	Three times or more in a week (%)
Consumption of cereals and grains/week	32(49.23)	23(35.38)
Consumption of vegetables/week	29(44.61)	36(55.38)
Consumption of green salads with meals/week	31(47.69)	34(52.30)

Consumption of fruits	30(46.15)	35(53.84)
Consumption of meat	33(50.76)	32(49.23)
Consumption of dairy product	31(47.69)	34(52.30)
Consumption of desserts/pizza/cake/chocolate	58(89.23)	7(10.76)
Consumption of oils and fats	60(92.30)	5(7.69)

Table 3 shows the food and beverage intake of respondents. It was shown that there was a significant preference for better food choices, with greater percentages indicated for eating vegetables (55.38%), green salads (52.30%), fruits (53.84%), and dairy products (52.30%) three times or more per week. Conversely, the intake of less nutritious alternatives such as sweets, pizza, cake, and chocolate, as well as oils and fats, is much lower among those surveyed indicating a trend toward healthier eating habits in the community.

Table-4: Sedentary behaviour and daily media use by the Respondents

Tool for entertainment	<2 hours	Percentage (%)	≥2 hours	Percentage (%)	Total (%)
Watching TV and videos	13	20.0	52	80.0	65 (100)
Computer games	33	50.76	32	49.23	65 (100)
Watching mobile	11	16.92	54	83.07	65 (100)
Reading books, magazines or comics	45	69.23	20	30.76	65 (100)

Table 4 depicts a sedentary lifestyle and everyday usage of media. Notably, the majority (80%) of respondents spend more than two hours on activities such as watching TV/videos and watching mobile material, although playing computer games (49.23%) and reading books, periodicals, or comics are mostly done for shorter periods (30.76%).

Table-5: Association of behaviours and entertainment with hour spend on watching screen.

Other behaviors and entertainment	How many hours per day spend watching screen (TV/MOBILE/COMPUTER)			
	<2 hours	≥ 2 hours	P value	Significant/ Not significant
How many hours per day do you spend on computer and computers game?				
< 2 hours	39(60%)	26(40%)	P=0.001	Significant Relationship
≥ 2 hours	25(39%)	40(61.53%)		
How many hours per day do you spend in reading books, magazines and comics?				
<2 hours	39(60%)	26(40%)	P=0.65	Not Significant Relationship
≥ 2 hours	24(36.92%)	41(63.07%)		
How many hours per day do you spend on watching Mobile				
<2 hours	13(20.0%)	52(80.0%)	P=0.006	Significant Relationship
≥ 2 hours	55(84.61%)	10(15.38%)		
*p value is significant at <0.05				
<ul style="list-style-type: none"> ➤ There is a significant relationship with the time spent on computer or computer games and the time spent on watching mobile respectively. ➤ But screen time was not significantly related to daily reading time. 				

Table -6: Association between screen exposure and thinking about influences of the TV medium on food choice

Girl's Thought	Participant response	<2 hours	Percentage (%)	≥ 2 hours	Percentage (%)	P-Value	Significant/ Not significant
Do you think that watching TV has any influence on your eating behaviour	No	29	44.61%	27	41.53%	P=0.2	Not Significant
	yes	36	55.38%	38	58.46%		
Do you think that watching TV advertisement have any influence on your eating behaviour	No	32	49.23%	29	44.61%	P=0.04	Significant
	Yes	33	50.76%	36	55.38%		
*p value is significant at <0.05							
<ul style="list-style-type: none"> ➤ There is no significant relationship between screen exposure and thinking about influences of the TV medium on food choice ➤ There is a significant relationship was found between thinking of TV advertisements influences on eating behavior and screen time 							

CONCLUSION-

The study emphasizes the critical period of adolescence, highlighting the significance of both physical and mental health amidst the rapid changes experienced during this developmental stage. Specifically focusing on adolescent girls, the research findings bring attention to alarming rates of obesity and concerning dietary patterns. While many girls in this demographic consume fruits, vegetables, and dairy products regularly, there is a prevalent tendency towards unhealthy food choices such as desserts and high-fat foods. Additionally, sedentary behaviours, particularly excessive screen time, are pervasive among this group.

These findings underscore the urgent need for targeted health interventions and educational programs aimed at promoting healthier lifestyles among adolescent girls, ultimately contributing to their overall well-being. By emphasizing balanced nutrition, regular physical activity, and mindful management of screen time, we can effectively support the holistic health of adolescent girls within our communities. These interventions are crucial in instilling healthier habits that can have lasting positive effects on their lives well beyond adolescence.

In essence, the study emphasizes the importance of addressing the specific health needs of adolescent girls, recognizing the challenges they face in maintaining healthy lifestyles amidst societal pressures and rapid physical and emotional changes. By implementing targeted interventions and education initiatives, we can empower adolescent girls to make informed choices about their health, leading to improved well-being and better long-term health outcomes.

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