

ARE INDIAN ADOLESCENT GIRL STUDENTS MORE CONSCIOUS ABOUT THEIR BODY IMAGE THAN THEIR COLLEAGUE BOYS?

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ABSTRACT

Background: Body weight plays a main role for the Indian adolescent college students for their physical look. Body mass index reflects health status of individual. Body mass index is associated with self esteem of students.

Methodology: A cross section study was conducted on 96 students of 17-19 years of age group. Nutritional status of participants was assessed by Omron HBF-362 body fat analyzer. The body weight, body mass index, resting metabolism, metabolic age, body fat percentage and visceral fat were assessed by this instrument. Dietary questionnaire was taken from the students.

Results: Body mass index ($P < 0.01$), resting metabolism ($P < 0.0001$) and visceral fat ($P < 0.0001$) of Indian adolescent girls were found to be significantly lower than their colleague boys. Girls are not satisfied with their body image and Indian adolescent girls are skipping their meal rather than doing physical exercise.

Conclusion: We may conclude that nutritional status and awareness about nutrition play a main role for individual's body image.

Keywords: Indian adolescents, body mass index, total body fat percentage, body image.

INTRODUCTION:

Body weight plays key role for adolescent students for their physical look and psychological wellbeing. Body weight is associated with body image and health status of students¹. Body weight is one of the parameter which indicates youthfulness. Perfect shape of body is prime importance for the university students. With the onset of puberty newspapers, magazines, TV, movies, music video and internet give message of ideal shape, size, strength, weight, attractiveness and beauty^{2,3}. Students believe ideal body image is sign of attractiveness and status among their groups. Many times Body image is perception of individual's thinking. Perception of body image is change from time to time due to change in physical appearance and mood of individual. Body image is also affected by change in environment and social cultures⁴. Positive body image is directly associated with good mood of individual⁵.

In India, body shape and weight is directly associated with their social life and future marriage life, especially for girls. In urban areas, adolescents are involved in various dietary activities to reduce body weight and they are more conscious for their body image than their rural counterparts. In big cities fashion show and beauty contest is the common trends during college events and during cultural programmes. This makes students more conscious about their look and physical appearance⁶. In rural areas, adolescents are not aware about their diet and lifestyle pattern. Other than ignorance, myths related to dietary play a role in development of malnutrition. Malnutrition, whether underweight or overweight is very stressful to adolescent^{7,8}. Due to over consciousness, students go into depression and anxiety also. Usually it is observed that female Indian adolescents are more conscious to control their weight by restricting diet rather than doing physical exercise⁹.

Today, Indian students are aware about harmful consequences of overweight and obesity. Overweight is associated with so many diseases like hypertension, diabetes mellitus, arthritis, atherosclerosis, coronary heart disease, stroke, impaired sexual function. Obesity is associated with high mortality and morbidity¹⁰. Overweight students are teased by their colleagues and they become victim of so many unwanted situation^{7,8}. Thinness is more accepted than obesity in India. Due to high cultural reforms, Indian adolescents are more conscious for their body weight and body image in urban area.

MATERIAL AND METHOD:

A randomized cross section study was conducted for the subject recruitment procedure. Prior approval of Human Research Ethic Committee (HREC) was taken. 1st MBBS students of 2011-12 academic year of Pramukhswami Medical College, Karamsad were recruited for the study after taking their written consent. Enrollment in the study was on voluntary basis and it included 101 students. Out of 101 students, 5 NRI students were eliminated from the study to avoid ethnic differences. Total 96 students of 17 to 19 years of age group who were free from diseases were selected for the study purpose.

Assessment of Body Composition:

All the students were assessed for their nutritional status, without footwear and with minimal light clothes. The height was measured using standard meter scale without footwear to the nearest 0.1 cm. The body composition was done with the help of Omron HBF-362¹¹. The instrument works on the principle of bioelectrical impedance technique. The body height, age and gender of the subjects were inserted as a prerequisite to measure all body composition parameters. After this, instrument gives weight, body mass index, and metabolic age, resting metabolism, total body fat

percentage and visceral fat of the subject. Subjects were divided into the two groups as per their gender. As per WHO guideline¹², students were categorized into underweight, normal and overweight, obese which was shown in Table no. 2.

Assessment of body image:

A detailed history and questionnaire were taken from the students regarding ideal body image and body image satisfaction and dissatisfaction, proper knowledge of balance diet, meal skipping, physical exercise, which were shown in Table 3.

STATISTICAL ANALYSIS:

Student unpaired t-test was used to determine if any significant differences ($P < 0.05$) existed in the body composition between boys and girls. The prevalence and comparison of malnutrition in boys and girls as per the WHO BMI criteria was studied by assessing the percentage prevalence. The knowledge of participants about Body Image was also analyzed in terms of percentage prevalence.

RESULTS

Table 1: Comparison of body composition parameters between Indian adolescent girls and boys

	Girls (n=49)	Boys (n=47)	P value
Age	18.08 ± 0.44	18.06 ± 0.63	-
Metabolic Age	23.61 ± 6.69	26.47 ± 10.09	0.1
BMI	20.59 ± 3.50	22.69 ± 4.79	0.01
Resting Metabolism	1158 ± 139.4	1863 ± 163.1	0.0001
Total Body Fat%	27.41 ± 3.96	18.91 ± 6.49	0.0001
Visceral Fat	2.65 ± 1.99	5.68 ± 4.62	0.0001

Table 2: Distribution of subjects as per their BMI

	Female (n=49)		Male (n=47)	
	WHO criteria	No. (%)	WHO criteria	No. (%)
Underweight	< 18.5	14 (28.5)	< 19.25	10 (21.2)
Normal	18.5 to 25	31 (63.2)	19.25 to 25	26 (55.3)
Overweight	25 to 29	2 (4.08)	25 to 28.5	7 (14.8)
Obese	>29	2 (4.08)	>28.5	4 (8.5)
Overweight + Obese	>25	4 (8.16)	>25	11 (23.4)

The result of body composition parameters of the adolescent girls and boys are given in Table 1. In Indian adolescent girls students BMI ($P < 0.01$), resting metabolism ($P < 0.0001$), visceral fat ($P < 0.0001$) and metabolic age were reduced significantly.

Table 3: Comparison of body image knowledge between Indian adolescent girls and boys

	Girls	Boy
Know their body weight	100	87.5
Knowledge of ideal weight for good health	98	92.5
Satisfied with their body weight	46	50
Proper knowledge of balanced diet	72	60
Skipping meal	54	37
Doing regular physical exercise	10	27.5
Watching/Reading fashion news	74	50
Health is more important than money	98	85

All figures are in percentage

As per Table 2, only 8% girls are overweight, while 23.4% boys are overweight for their age and height. More number of girls is able to keep their body weight within normal range than their colleague boys. Surprisingly numbers of underweight girls were also more than boys. As per Table 3, almost 100% girls have proper knowledge of weight and more number of girls are skipping their meal rather than doing physical exercise to keep body weight optimum. Though the 63% girls are normal weight but only 46% girls are satisfied with their body image.

DISCUSSION:

The study was done to check the knowledge of body weight, body image and dietary habits of Indian adolescent students. It is found that Indian adolescent female students are more conscious about their body weight and body image than their colleague males. Fashion news and commercial advertisement play a significant role on youngsters mind to keep their body weight perfect⁶. Perfect body shape is more common ideology for females. In our study more number of female students watches fashion news and they read magazines¹³. Though there is no pressure to keep perfect

body shape but subconsciously all this plays a role to keep perfect body image. This is very common in university students, especially in girls.

In our study only 8% girls were overweight while 63.2% were normal weight and 28.5% were underweight. While 23.4% boys were overweight and only 21.2% were underweight. More than 90% girls were able to keep their body weight either normal or less than normal. All most all girls have knowledge of ideal weight for good health in comparison to boys⁹. Though the girls have proper knowledge of diet and weight, they were not doing exercise to keep their body weight perfect but they were skipping their meals^{2,9}. Though the resting metabolism and visceral fats were less in girls, they were not happy with their body shape but they were dissatisfied with their body image than their colleague boys^{6,13}. At the same time meal skipping was uncommon in boys and only few of them were involved in exercise.

Most of the body image research has been done with white youth and minimum literature available of Indian community. Due to increase in awareness and globalizations, Indians also become particular about their body image. Now socialization become very strong in Indian community, which favors adolescents for ideal shape of body⁶. Due to this dietary malpractices are very common among youngsters, especially in young girls and they keep their body image perfect by any way. Over consciousness among girls make them victim of eating disorder and body image dissatisfaction is very common among adolescent girls^{14,15}. Sometimes parents also play a role to keep body image perfect and obese students are teased by their friends and neglected by parents also^{7,8}. Due to avoidance from society malnourished adolescent become patients of depression and anxiety, some of them commit suicide also^{7,8}. Positive body image is associated with good health⁵.

CONCLUSION:

We conclude that body weight plays a main role for physical look of students. Indian adolescent female students are more conscious about their ideal body image. There is need to adopt nutritional and physical activity awareness strategies for adolescents. Today, Indian adolescent students need nutritional

intervention programmed to combat problems of malnutrition.

Limitation & future perspective:

Sample size of study was small and there is gap in study regarding various life style factors. In future, we want to study on more than 500 students of our college with including all life style factors.

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