

## Prevalence and Perceptions Regarding Obesity, Body Image and Weight Reducing Practices among College Girls of Mumbai, India

Chavada V.K<sup>1\*</sup>, Rajeshkumar K<sup>2</sup>, Panigrahi K.C<sup>3</sup>, Sankarnarayanan S<sup>4</sup>

<sup>1</sup>Department of Community Medicine, Indira Gandhi Medical College and Research Institute Pondicherry, India. <sup>2</sup>Department of Community Medicine P.E.S Institute of Medical Sciences and Research, Dr. N.T.R University of Health Sciences India. <sup>3</sup>Department of Community Medicine, Indira Gandhi Medical College and Research Institute Pondicherry, India. <sup>4</sup> Department of Preventive and Social Medicine, T N Medical College, Nair Hospital, Mumbai, India

\*Corresponding Author: Professor Chavada VK. Email: drvchavada2000@gmail.com

### ABSTRACT

**Background:** To assess the perceptions of young college going girls regarding obesity, body image and weight reducing practices in Mumbai. **Objective:** To study the prevalence of obesity by anthropometry and to obtain an insight on weight perceptions and compare it with actual weight. **Subjects and Methods:** Cross-sectional Settings and participants: 708 Urban college going girls, age between 17-20 years residing in Mumbai were selected on their willingness to cooperate for the study. **Results:** Prevalence of overweight by standard weight for height and BMI (>23) was 13.6% and that of obese was 15.3%. There was a distinct difference between actual and perceived weight status. **Conclusion:** Strange weight control practices adopted by the girls, is an alarming sign which needs further action.

**Key words:** *College Girls, Obesity, Weight Perceptions, Weight Control Practices.*

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### INTRODUCTION

Adolescence, intermediary phase from childhood to adulthood, is a delicate phase of life. It is estimated that there are about 69.7 million adolescent girls representing about 7.0% of the entire world's population (1). Adolescents are becoming over conscious of their body image is no longer a myth but a harsh reality. Majority of adolescent school-going girls in order to lose some weight have been tending to skip their meals and "Go thin" is

the fashion among adolescent girls (2). For socio-cultural and psychological reasons considerable emphasis is being placed on weight and appearance leading to unhealthy dietary and weight controlling practices. Obesity is also on the rise with excessive consumption of processed foods and fat diets.

The never-ending sequence of physical and psychological adaptations of adolescents has a remarkable influence on the social and behavioral aspects of their lives (3,4). The standardized model of beauty in our society that prefers and emphasizes just particular physical aspects such as slimness and thinness influences adolescents' beliefs of physical growth (5). To assess the perceptions of young college girls regarding obesity, body image and weight reducing practices in Mumbai. So the main objectives of the study were, to study the prevalence of obesity by anthropometry, to obtain an insight on weight perceptions and compare it with actual weight and to find out different habitual and perceptive factors affecting their weight and body image.

## SUBJECTS AND METHODS

The study was conducted among 17-19 year girls residing in Mumbai. 708 girls were selected on their willingness to cooperate with the study. Height and weight were measured using the standard procedures suggested by Jelliffe (6). Semi-structured Questionnaire was used during interviews of the subjects to collect the data, including identification data, food habits, perceptions about body image and weight control practices. Sample size was estimated based on prevalence of obesity among the college going girls of south Indian college which was found to be 9.5% (7). With a relative precision of 25% and  $\alpha$  error of 5%, the sample size was estimated as follows: The sample size is calculated by taking the prevalence rate of obesity among college girls as 9.5% at 5% significance level and 25% allowable error as:  $N = 4pq/L^2$  where  $p=9.5\%$ ;  $q=90.5\%$  (100-p);  $L=25\%$  of  $p$  ( $=2.375$ ) =  $4*9.5*90.5 / (2.375)^2 = 610$ . Keeping in mind that it is a study among the students and considering the time available for data collection and considering a non-response rate of 10%, we planned the sample size to be 708. Prior official permission was taken before conducting the interviews.

## RESULTS

A total of 708 college going girls were screened for the study. Overall 29% (28.9) subjects had greater than 10% standard weight which could be considered as overweight (table 1). Table 2 shows a highly significant difference in prevalence of overweight and obesity. \* <90% standard weight for height, \*\* 90-110% standard weight for height, \*\*\* 110-130% standard weight for height, \*\*\*\* >130% standard weight for height. In a report of WHO, a BMI cut-off of >23 has suggested as indicative of overweight for Asia pacific inhabitants due to their greater fat deposits (8). The prevalence of overweight was found to be 13.6% while the same for obese was around 15.3%. The data showed that the more subjects (40%) perceived themselves to be overweight (table 4). This is indicative of a general trend among college going girls to be slimmer. Almost 20% girls are thinking

themselves to be fat or too fat. Table 5 shows that in all 50% girls want to belittle more lighter or lot lighter in future viz. 48 (6.8), 300(42.2) and 12 (1.7). Girls responded in multiple ways, most preferred way to maintain weight was exercise. Other harsh practices like skipping meals (28.8%), snacks (35.6%) and not eating between meals (37.3%) were also very common were an alarming signal.

## **DISCUSSION**

Under nutrition and infections had been the major causes of morbidity and mortality in developing countries like India. But today's scenario suggests the emergence of degenerative diseases, the root cause being over nutrition or obesity. WHO (9) had reported that the prevalence of obesity is increasing worldwide including developing countries. Present study also agreed that the prevalence of overweight was 13.6% while the same for obese was around 15.3% as per BMI and weight for height standards. Kapil et al (10), had also reported a 7.4% prevalence of obesity in affluent school children in Delhi. Studies conducted by Kapur and Sethi, also emphasized the emergence of obesity as an epidemic among the adolescents of India (11).

Faulty body images were observed among girls, 40% girls perceived themselves as fat while only 28.9 i.e. 30% were actually overweight. Study by Levy and Heaton reported that the prevalence of faulty body images among college girls (12). Half of the girls (50%) irrespective of weight category desired weight loss. Another study reported that 75% of girls perceived themselves to be overweight and desired to weight loss (13). Current study also showed that almost one third of girls were practicing very harsh weight control practices like skipping of meals, snacks and not eating between meals. It shows girls do not exhibit proper knowledge regarding weight control practices. The high popularity of junk foods among college girls precipitate obesity, being less dense in nutrients and contributing high towards calories. Ravi and Truman have also reported a high consumption of junk food among adolescents (14).

## **CONCLUSIONS**

Weight control practices adopted by the girls in this study, is an alarming sign which needs further action. There is the need of time to give proper & thorough Nutrition & Health Education (NHE) for college girls on obesity and healthy food habits, which will give a great impact on improving the overall health and nutritional status of the college girls.

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**Table 1: Prevalence of Overweight among Study Subjects by Standard Weight for Height**

Age (Years)	Number (N)	Weight (kg) Mean $\pm$ SD	Underweight		Normal		Overweight	
			N	(%)	N	(%)	N	(%)
17	308	51 $\pm$ 7.34	55 (45.8)		170 (18.2)		83 (40.7)	
18	220	50 $\pm$ 7.12	49 (40.8)		115 (30)		56 (27.5)	
19	180	52 $\pm$ 6.70	16 (13.4)		99 (25.8)		65 (3.8)	
Total	708	50 $\pm$ 7.05	120 (16.9)		384 (54.2)		204 (28.9)	

**Table 2: Prevalence of Overweight among Study Subjects by Body Mass Index**

BMI	Category	Sample Size	
		N	(%)
< 18.5	Underweight	120	(16.9)
18.5 to 19.9	Normal	144	(20.3)
20 to 22.9	Normal	240	(33.9)
23 to 24.9	Overweight	96	(13.6)
>25	Obese	108	(15.3)

**Table 3: Distribution of Study Subjects Actual Weight versus Perceived Weight**

Category	Actual Weight		Perceived Weight	
	N	(%)	N	(%)
Underweight	120	(16.9)	78	(11)
Normal	384	(54.2)	347	(49)
Overweight	204	(28.9)	283	(40)
Total	708	(100)	708	(100)

**Table 4: Weight Perceptions of Study Subjects**

Body image	Sample Distribution	
	N	(%)
Thin	84	(11.9)
Normal/Average	480	(67.8)
Fat	120	(16.9)
Too Fat	24	(3.4)
Total	708	(100)

**Table 5: Distribution of Study Subjects according to Desired Weight Status**

Desired Weight	Sample Distribution	
	N	(%)
Lot lighter	48	(6.8)
Little lighter	300	(42.4)
Present or little lighter	12	(1.7)
Present weight	192	(27.1)
Little heavier weight	156	(22)
Total	708	(100)

**Table 6: Type of Weight Control Practices Adopted by Study Subjects**

Type of Weight Control Practices	Sample Distribution	
	N	(%)
Exercise	420	(59.3)
Not eating between meals	264	(37.3)
Skipping of snacks	252	(35.6)
Skipping of meal	204	(28.8)
Binge eating	180	(25.4)
Starving once in a week	132	(18.6)
Starvation	48	(6.8)
Medicinal pills	24	(3.4)
Total	708	(100)