

Weight-related concerns and diet behaviors among urban young females: A cross-sectional study

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ABSTRACT

Background: Females are more likely than males to perceive themselves as too heavy, this has been explained in terms of the equation of “female beauty with extreme thinness.” Therefore, females are in general prone to develop unhealthy behaviors for weight management. Wrong weight control behaviors have significant health consequences. **Objectives:** To investigate the body weight concerns, body satisfaction, and weight control behaviors among young females and their association with age and socioeconomic status (SES). **Materials and Methods:** A cross-sectional study conducted in urban areas from a major city in South India. About 650 healthy unmarried females aged 15–25 years formed the study population. Self-reporting questionnaires were used to obtain relevant data. The categorical data were analyzed using Chi-square, correlation, and regression analyses by SPSS version 16. **Results:** Most overweight and obese subjects perceived themselves as overweight. Adolescents were more likely to report themselves as overweight. The perceived weight, body satisfaction, and weight control behaviors are influenced by weight status and age of the subjects. However, SES of the participants did not exhibit effect of others’ opinion about their weight and body satisfaction as well as weight management behaviors. **Conclusion:** The high prevalence of weight-related concerns suggests that all females should be reached with appropriate information and interventions. Healthy weight control practices need to be explicitly promoted and unhealthy practices discouraged. Young females need special attention toward weight management.

Keywords: Behaviors, females, overweight, weight concerns, weight management

Introduction

In recent times, adolescents and adults have become more conscious about body weight. Body dissatisfaction and weight control behaviors are the major concerns not only among overweight but also those who have normal weights.^[1,2]

Frequent occurrence of obesity in populations and health consequences made obesity a public health priority. The quality of life worsens due to its occurrence among young

people.^[3-5] Furthermore, young people are concerned about their body shape and size because of the social pressures, therefore, conforms to maintain low body weight.^[6-10] Females, as compared with males, have a greater discrepancy between their perceived body size and their ideal body size.^[11] Therefore, among adults, women are more likely than men to perceive themselves as too heavy for their height, the gender discrepancy is reported to be greatest among those within the “normal” weight range.^[12,13] Overestimation of body size is a widespread phenomenon among women. This finding has been explained in terms of the equation of female beauty with extreme thinness.^[13]

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Obesity in youths is important not only because of health risks but also because of potential emotional consequences of practices such as eating disorders and unhealthy behaviors. As a consequence, many young people cycle on and off diets and engage themselves in unhealthy weight control behaviors.^[14]

Further, dieting behaviors have been found to associate with inadequate intakes of essential nutrients especially the micronutrients. It causes fatigue and mental symptoms such as anxiety and depression.^[15,16] Therefore, it is of great importance to understand how weight concerns change in different categories of ages, socioeconomic status (SES), and their body weight status. Our aim was to investigate whether perceived weight and body satisfaction was associated with weight status, SES, and age among young females. Further, we aimed to investigate the prevalence of unhealthy weight control behaviors and associated factors.

Materials and Methods

This study was a cross-sectional design conducted in urban areas from a major city in South India. About 650 healthy young female students aged 15–25 years formed the study population. They were expected to complete an anonymous questionnaire provided to them. The aim of the study and contents of the questionnaire was explained to each subject, and voluntary participation was requested. The questionnaire included data regarding demographic features such as chronological age, family details relating to family size and type, and parent's education and occupation. Information about the family possession of expensive goods such as vehicles, computer, TV, DVD, refrigerator as well as house type, parents' education and occupation was obtained and considered for SES classification. Each of these variables was designated a score, and the sum of total score was equally distributed into three divisions, the lowest to highest divisions were labeled as low, middle, and high SES.

All the participants were measured for linear height and body weight. Height-measuring scale was used to measure height to the nearest of 0.1 cm. Body weight was measured using a battery operated digital balance (Glan Electronic Scale), the balance was checked for its accuracy each time before use, measurements were made to the nearest 0.1 kg. This information was used to compute BMI using the formula: $BMI = \text{weight (kg)} / \text{height (m}^2\text{)}$. We considered <18.5 (underweight), 18.5–24.99 (normal weight), 25–29.99 (overweight), 30 and above as obese. Modified Multidimensional Body Self-relations Questionnaire was used for assessing weight-related concerns and weight control behaviors.^[17] The weight-related concerns included perceived weight status and body satisfaction; weight control behaviors were assessed according to their practices such as fasting, dieting, and skipping meals.

A written consent was obtained from each subject for her willingness and interest to be in the study.

The research protocol was approved by the Ethical Committee from University of Mysore.

The data were analyzed using SPSS Inc. Released 2007. SPSS for windows, Version 16. (SPSS Inc., Chicago, IL). Descriptive statistics was used to determine mean and percentages. The categorical data were analyzed using Chi-square, correlation, and regression analyses.

Results

Subjective information is presented in Table 1; the mean age of participants was 20.11 ± 2.2 years and varied between 15 and 25 years. Majority of subjects practiced Hinduism (89.8%). More than 85% were from nuclear families with family members <5. A higher proportion of the participants belonged to middle SES (57.6%), and only 12.7% were from high SES. More than 50% (53.2%) of females mentioned to practice the mixed type of diets.

Majority of the selected population were in the normal weight category (59.0%), whereas 30.2% were underweight and 10.7% were overweight and obese.

Subjects were asked about their perceived weight status, Table 2 provides the data. In the study, 24.2%, 58.1%, and 17.7% of the

Table 1: Frequency of demographic variables in selected subjects

Variables	Frequency, n (%)
Age (years)	
Adolescence (15-19)	240 (37.0)
Adult (19-5)	408 (63.0)
Religion	
Hindu	579 (89.8)
Muslim	44 (6.8)
Christian	19 (2.9)
Education	
High school	122 (18.9)
Pre-University course	330 (51.0)
Graduation	195 (30.1)
Family size	
≤4	358 (55.2)
5-8	274 (42.3)
>8	16 (2.5)
Type of family	
Nuclear	550 (85.5)
Joint	60 (9.3)
Extended	33 (5.1)
SES	
Low	193 (29.8)
Middle	373 (57.6)
high	82 (12.7)
Type of diet	
Vegetarian	239 (36.9)
Mixed	408 (63.1)

SES: Socioeconomic status

Table 2: Differences in weight-related concerns and weight control behaviors, according to subject weight status among selected subjects (n=648)

Variables	Weight status	
	Overweight and obese	Underweight and normal weight
Weight-related concerns		
Perceived weight status		
Underweight (<18.5)	1 (1.5)	113 (19.6)
Normal weight (18.5-24.99)	7 (10.3)	368 (63.8)
Overweight (≥30)	60 (88.2)	96 (16.6)
χ^2	170.2***	
Perception of others' opinion about their weight status		
Underweight	3 (4.3)	165 (28.7)
Normal weight	17 (24.6)	331 (57.7)
Overweight	49 (71)	78 (13.6)
χ^2	129.3***	
Perceived body satisfaction		
Low	23 (34.3)	80 (14.2)
Moderate	37 (55.2)	351 (62.2)
High	7 (10.4)	133 (23.6)
χ^2	20.022***	
Weight control behaviors		
Skipping meals	39 (56.5)	365 (64.0)
χ^2	3.346 ^{NS}	
Fasting	20 (28.9)	47 (8.1)
χ^2	39.651***	
Dieting	22 (32.8)	127 (22.1)
χ^2	4.920 ^{NS}	

***= $P < 0.0001$, ^{NS}Not significant

participants considered themselves as overweight, normal weight, and underweight, respectively, although only 11% of the subjects were overweight and obese. It is evident therefore that 18.4% of normal weight subjects considered themselves to be obese. It was encouraging to note that 75% of the subjects from normal weight had the right perception about their body weights.

Interestingly, Table 2 also exhibits that 16.6% of normal and underweight subjects consider themselves as overweight and obese. The highest percentage of overweight and obese girls had perceived correctly. Among all overweight and obese subjects, 11.8% perceived themselves as underweight and normal weight. In underweight and normal weight group, highest percentage believed as normal weight. Similar observation was made with the others' opinion about body weights of the study subjects.

One-third of the overweight or obese subjects and less than one-fifth of the normal weight had low body satisfaction [Table 2].

Healthy behavior toward weight management was found in a small percentage of the participants. As we found crash diet for weight control was popular in the study population, higher percentage of overweight and obese subjects practiced fasting as a weight control measure which is unhealthy. Difference in the attitude about body weight concept among adolescents and

adults was elicited by neutralizing weight status. This was felt important to eliminate the effect of actual body weights. The results in Table 3 suggest that adults underestimated their body weight significantly higher than compared to adolescents. About 78.8% of adults ranked themselves as normal to overweight, whereas 88.3% of adolescents considered themselves as normal to overweight. It was also evident that adult women had higher body satisfaction than that seen in adolescents. That is women of higher ages ranked their body weights within the normal range and were more satisfied with their body weight (86.8% vs. 78.5%). This was evident from the significant association found between age and weight perception, and that perceived from others' opinion about their weight.

The variables included underweight-related concerns as compared to the SES influence. It is obvious from Table 4 that SES had a mild association with the perceived weight status and dieting practices. The other variables did not exhibit statistically significant association.

Discussion

A healthy body is a prerequisite for healthy mind; this statement is true only when people conceive rightly the ideal body size and shape. It is often reported that every individual perceives herself or himself as perfect or imperfect; however, the knowledge about the scientific definition about the ideal body size may help them to have a right approach to manage themselves and remain psychologically healthy. A variety of factors influence this behavior; it is imperative to identify why some people consciously work out to maintain ideal body weights and some do not. This study was an attempt to investigate the perceptions, weight management behaviors, and lifestyle factors as well as the influence of SES and BMI of young females. Age is an important associated factor to such behaviors.

The overall occurrence of overweight and obesity was 10.6% in the study population; however, when classified under SES categories prevalence of overweight and obesity was more than two times higher in higher SES than lower SES (18.5% vs. 8.3%, $P < 0.001$), these observations are consistent with studies reported by others.^[18]

Obesity in general is considered a global epidemic drawing serious concerns from national and international agencies for effective management. This has led to a colossal accumulation of literature covering various aspects of health and related aspects. The most important part of this releases the psychological effects that alter social behaviors. Since nutrition, overweight, obesity, and weight management are directly related to the psychological wellness, it is imperative to understand the behaviors of obese, overweight, and underweight individuals toward their body weight perception and weight satisfaction. Social rejection of obese and disfigured females induces weight concerns and adapts erratic weight reduction activities. The concept about the ideal weight and shape is under the influence of social; therefore tends

Table 3: Differences in weight-related concerns and weight control behaviors among adolescent and adults females (neutralized for body mass index) among selected subjects (n=648)

Variables	Groups	
	Adolescence (n=240)	Adults (n=408)
Weight-related concerns		
Perceived weight status		
Underweight	28 (11.7)	86 (21.2)
Normal weight	151 (62.9)	224 (55.3)
Overweight	61 (25.4)	95 (23.5)
χ^2	9.545**	
Perception of others' opinion about my weight status		
Underweight	44 (18.5)	124 (30.6)
Normal weight	143 (60.1)	205 (50.6)
Overweight	51 (21.4)	76 (18.8)
χ^2	11.462**	
Body satisfaction		
Low	50 (21.6)	53 (13.3)
Moderate	128 (55.2)	260 (65.2)
High	54 (23.3)	86 (21.6)
χ^2	8.722*	
Weight control behaviors		
Skipping meals		
	138 (59.3)	266 (65.5)
χ^2	2.533 ^{NS}	
Fasting		
	21 (8.7)	46 (10.3)
χ^2	4.936 ^{NS}	
Dieting		
	55 (23.1)	94 (23.4)
χ^2	5.666 ^{NS}	

*= $P < 0.05$, **= $P < 0.001$, ^{NS}Not significant

Table 4: Differences in weight-related concerns and weight control behaviors, according to socioeconomic status among selected subjects (n=648)

Variables	SES (n (%))		
	Low (n=195)	Middle (n=374)	High (n=82)
Weight-related concerns			
Perceived weight status			
Underweight	37 (19.4)	66 (17.7)	11 (13.4)
Normal weight	119 (62.3)	215 (57.8)	41 (50.0)
Overweight	35 (18.3)	91 (24.5)	30 (36.6)
χ^2	10.603*		
Perception of others' opinion about my weight status			
Underweight	53 (27.9)	95 (25.6)	20 (24.4)
Normal weight	104 (54.7)	204 (55)	40 (48.8)
Overweight	33 (17.4)	72 (19.4)	22 (26.8)
χ^2	3.506 ^{NS}		
Perceived body satisfaction			
Low	29 (15.6)	58 (16.0)	16 (19.5)
Moderate	115 (61.8)	226 (62.3)	47 (57.3)
High	42 (22.6)	79 (21.8)	19 (23.2)
χ^2	0.974 ^{NS}		
Weight control behaviors			
Skipping meals			
	113 (59.5)	238 (64.7)	53 (65.4)
χ^2	1.652 ^{NS}		
Fasting			
	20 (10.4)	38 (10.2)	9 (11.0)
χ^2	7.301 ^{NS}		
Dieting			
	53 (28.0)	80 (21.5)	16 (19.7)
χ^2	17.022*		

*= $P < 0.05$, ^{NS}Not significant; SES: Socio-economic status

to vary across cultures. Extreme thinness is attempted by girls for social acceptance in most cultures, whereas relaxed attitude is also reported from other cultural groups. These concepts and perceptions are important for their body satisfaction. Reports from India also revealed that half of the overweight or obese and one-fourth of nonoverweight youth have low body satisfaction.^[19]

Our study indicated a positive influence of weight status on perceived body weight and majority of the participants from higher weight categories, normal and underweight categories assessed themselves rightly. This suggests that there is a common awareness among the young females about the scientific definition of the weight categories. Among the age range of the participants, adolescents were more concerned about thinness as compared to the older females; probably, relaxed attitude toward body weight accompanies aging.

Unhealthy weight control behaviors have often been reported from affluent countries.^[14,20,21] Skipping meals, fasting, and dieting are common means of weight control which add to the risk of weight cycling. Literature documents the metabolic derangement associated to such behaviors.^[14] Therefore, there is a serious concern to promote healthy weight control programs, especially among the young females. Our results indicated that

22.1% of normal and underweight females practiced dieting and majority of adolescents skipped meals for weight control. Other reports also have indicated that normal weight women who have misconception about body weight adapt dieting and meal skipping.^[21,22] Overweight and obese females also were found to do similar activities for weight control. Our study has also confirmed that overweight and obese girls take up unhealthy weight control behaviors in higher proportion. A general consensus prevails regarding the association of SES to perceived body weight satisfaction and weight management behaviors. Few studies have exhibited a linear association with SES; however, our study did not exhibit a significant association between SES and various weight-related behaviors.^[23] It is obvious from the literature that people from higher SES are more concerned with weight status and likely to take active steps in weight control, this observation holds good for developed countries and defers enormously from developing countries.^[23] We found that participants belonging to high SES exhibited the least concern about their body status and did not participate in weight-reducing activities. Nevertheless, our results contributed in understanding the behaviors of young females. There was awareness about body image, right concept about overweight, obesity, and a proportion of females participated in weight-reducing activities.

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Conflicts of interest

There are no conflicts of interest.

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