

Prevalence of Obesity, Weight Perception and Dietary Behaviour of Urban College Going Girls

Priyanka Tiwari and Aarti Sankhala

*Department of Foods and Nutrition, College of Home Science, MPUAT,
Udaipur, Rajasthan, India*

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ABSTRACT The present study was undertaken to assess the prevalence of obesity, weight perception and dietary behavior of urban college going girls of Udaipur (Rajasthan). A sample of one thousand girls (18-24 yrs) were screened for their height, weight and BMI to determine the prevalence of obesity. At second stage, 30 girls were selected from each of the three weight status categories i. e., normal, overweight and obese to study the weight perception and dietary behaviour of the subjects. Prevalence of overweight and obesity in college going girls was 5.6 and 4.4 percent respectively. A sizeable proportion of study population (55 percent) had misconception regarding their actual body weight. Majority of subjects preferred fat and energy dense foods with more frequent inclusion by overweight and obese girls. The frequency of consumption of cheese, butter, jam, jellies and soft drinks was also higher in case of overweight and obese subjects.

INTRODUCTION

Obesity, a disorder of energy balance is characterized by an excess of body fat. It is chronic in nature and is often associated with wide range of psychosocial problems, metabolic abnormalities and degenerative diseases that reduces quality of life, some of which could be life threatening.

In recent years, the occurrence of obesity has increased in developing countries also, and now even replacing more traditional public health concerns, including undernutrition and infectious diseases. Though, it is not a recent phenomenon. However, the prevalence of obesity has never before reached up to such epidemic proportion as today (Krishnaswamy, 2000).

In India, main emphasis has been placed on under nutrition but over nutrition, the other side of the coin has not been investigated specifically at the beginning age of adulthood i.e., after 18 years of age. In this period of young adulthood, a person is fully developed physically, socially and psychologically. This stage of life is of great importance and development of obesity at this period may have adverse effect on their health and personal achievements. Psychological and dietary factors can be either the cause or the effect of obesity. Weight perception is a key determinant

of young adults dietary habits and weight management. It has been reported that college going girls who feel themselves to be overweight are more likely to engaged in unhealthy weight control practices than those who were reported to be normal (Levy and Heaton, 1993).

Dietary behaviour and nutritional status are closely interlinked. Now a days, junk foods replacing the other types of healthy foods results in obesity. Considering all these points, the present research work was undertaken to study the prevalence of obesity, weight perception and dietary behaviour of urban college going girls.

MATERIALS AND METHODS

One thousand, unmarried college girls with in the age range of 18-24 years were selected from a girls college (representing different sections of the society) to find out the prevalence of obesity. Height and weight of the subjects were taken using standard procedures for calculating BMI.

To assess the height of the subjects, anthropometric rod capable of measuring to an accuracy of 0.1 cm. was used. The subject was asked to stand erect, looking straight on a leveled surface without shoes, with heels together and toes apart. The rod was placed behind the subject in the centre of the heels perpendicular to the ground. The investigator stood on the subject's left side and firmly hold the chin of the subject with the left hand and occiput with her right little finger in the Frankfurt horizontal plane (an imaginary line joining the tragus of the ear and

Corresponding Address: Priyanka Tiwari G/9 R.S.E.B. Colony, Power House, Debari, Post Zinc Smelter, Udaipur 313024, Rajasthan, India
Telephone: 0294-2656540
E-mail: priyankafn1681@yahoo.com

eye). The moving headpiece of the sagittal plane over the head of the subject applying a slight pressure to reduce thickness of the hair. The reading was noted to the nearest of 0.1 cm.

A portable weighing machine was used to record the weight of the girls to the accuracy of 0.5 kg. Checking the scale with a known weight was done frequently and adjustment to zero was done every time for accurate recording. The subject was asked to stand on the platform bare feet, with minimum clothing without leaning against or holding anything.

BMI ($\text{Wt.kg}/\text{Ht.m}^2$) of the subjects was compared with the cut off points suggested by WHO (2000) for Asia Pacific inhabitants.

Thirty girls from each of the three weight status categories (normal, overweight and obese) were selected purposively for the assessment of weight perception and dietary behaviour. Besides personal particulars, information regarding overweight and obesity, weight perception and dietary behaviour was collected using a pretested questionnaire.

RESULTS AND DISCUSSION

The results revealed that the prevalence of overweight and obesity was 5.6 and 4.4 percent in urban college going girls respectively (Table 1 and Fig. 1). More than half of study population belonged to normal weight category and slightly more than one third of them were under weight. This shows though gradual, but the trend of increasing obesity among younger generation. Subramanyam et al. (2003) also found prevalence of obesity of similar magnitude among adolescent public school girls of Chennai.

Self perception of the subjects regarding their own current body weight was assessed on the basis of five categories (normal, slightly less than

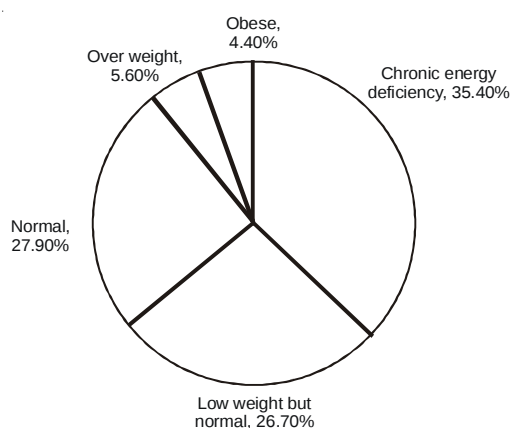


Fig. 1. Percent prevalence of obesity among urban college going girls

normal, much less than normal, slightly higher than normal and much higher than normal) and responses so obtained have been presented in table 2. Information on body image of the subjects and their opinion on desired body weight was also sought. Data given in table 2 suggests that the normal weight subjects had overall mixed perception of having normal or slightly higher than normal body weight. One third of the overweight subjects rightly perceived their body weight. However, 40 percent of them had wrong concept since, they reported themselves as having normal body weight. Greater percentages of obese subjects (60 percent) could correctly perceive that there are having above normal weight. Similarly, a cross sectional survey conducted on males and females adolescents of Bahraini also showed discrepancy between adolescent's perception of body image and their actual BMI. There was a tendency of teenagers to underestimate their weight status. More than half of the girls and about one third of the boys expressed

Table 1: Distribution of subjects on the basis of body mass index

BMI cut-off points * (kg/m^2)	Significance	Prevalence N = 1000
<18.5	Chronic energy deficiency	354 (35.4)
18.5 – 19.9	Low weight but normal	267 (26.7)
20.0 – 22.9	Normal	279 (27.9)
23.0 – 24.9	Over weight	56 (5.6)
>25	Obese	44 (4.4)

Figures in parentheses indicate the percentage.

* WHO (2000)

Table 2: Distribution of subjects according to their weight perception

Weight status	Normal n = 30	Overweight n = 30	Obese n = 30
Normal	12 (40.0)	12 (40.0)	-
Slightly less than normal	4 (13.3)	-	-
Much less than normal	2 (6.7)	-	-
Slightly higher than normal	12 (40.0)	11 (36.7)	12 (40.0)
Much higher than normal	-	7 (23.3)	18 (60.0)

Figures in parentheses indicate the percentage.

discontentment with their body weight (Sendi et al., 2004).

The body image and desired weight of the subjects was exactly in accordance to their weight perception (Table 3). Forty percent of the normal respondents perceived their weight correctly and were satisfied with their current weight. One third of them identified their body image as "fat" and wanted to be little lighter. In overweight subjects, 36.7 percent reported themselves to have "fat" and 'too fat' body image respectively and wanted to bring desirable changes in their body weight. Whereas, forty percent obese had slight misconception about their body image having "fatty" body image instead of 'too fatty' and all the obese subjects desired changes in their body image. Similar were the findings of an earlier study conducted by Augustine and Poojara (2003) on urban college going girls of Ernakulam which showed that more subjects perceived themselves to be overweight and surprisingly, even underweight subjects were also following 'dieting' and other weight control practices.

Table 3: Distribution of subjects according to body image and desired weight

Weight status	Normal n = 30	Overweight n = 30	Obese n = 30
<i>Body Image</i>			
a) Normal	12 (40.0)	12 (40.0)	-
b) Thin	7 (23.3)	-	-
c) Too thin	-	-	-
d) Fat	11 (36.7)	11 (36.7)	12 (40.0)
e) Too fat	-	7 (23.3)	18 (60.6)
<i>Desired Weight</i>			
a) Much heavier	-	-	-
b) Little heavier	7 (23.3)	-	-
c) Little lighter	11 (36.6)	7 (23.0)	13 (43.3)
d) Much lighter	-	11 (36.7)	17 (56.7)

Figures in parentheses indicate the percentage.

Dietary behaviour of the subjects was assessed in terms of meal pattern and food frequency. Results showed that a majority (56.7 percent) of the subjects, with greater proportion of overweight and obese subjects followed four meal pattern. Food containing relatively high fat and energy were frequently consumed by all the

subjects, but it was comparatively higher in case of overweight and obese subjects. Food items such as ghee, fruit juices and tea were consumed daily by majority of college going girls. Weekly consumption of potato, rice, bread, biscuits, syrups, squashes, chocolates, soft drinks, coffee, fast foods and ice creams was also found by the subjects. The consumption of pastries a rich confectionary item was also more frequent by overweight and obese subjects. The frequency of consumption of items like cheese, butter, jams and jellies was less but again relatively higher by those having more than desirable body weight. Krishnaswamy (2000), also reported the higher consumption of refined oils and fast foods among obese individuals and they preferred the high fat and energy containing foods.

CONCLUSION

Overall 10 percent urban college girls were found to be overweight or obese. The college girls are much concerned about their body weight and the misconception about the body weight and body image did exist in the study population. Frequent inclusion of high fat and energy dense foods as observed might be the factor contributing towards their overweight.

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