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A study of eating behaviour among obese and non-obese college women

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Abstract

A sample of 400 college women, were selected to evaluate eating disorder among underweight, normal weight, overweight and obese college women. Age of the subjects was ranged from 18 to 25 years. Body Mass Index of all the subjects was determined by dividing their body weight in kilogram by the height in meter². On the basis of Body Mass Index (BMI), the subjects were divided into four categories:- underweight, normal weight, overweight and obese. Each group consist of 100 subject. Eating Attitude Test (Eat-26) (Garner et.al.1982) was used to measure eating disorder of the subjects. To compare the underweight, normal weight, overweight and obese college women on eating behavior and its subscales namely bulimia, dieting, oral control and binge eating analysis of variance (ANOVA) was employed. Findings revealed that underweight, normal weight, over-weight and obese college women having similar tendency for binge eating and purge. Underweight women show more self-control overeating. Overweight college women were having more eating disorder of dieting. Overweight women were also having more disorder of eating attitude as compare to their counterparts.

Keywords: Eating disorder, Body mass index, obesity

Introduction

At present time one of the important factors for understanding obesity is knowledge of eating behaviors. Eating behaviour such as eating frequency, eating across the day, breakfast skipping, and the frequency of meals, eaten away from home, desire to lose weight, frequently irregular meals, excessive energy intake, together referred to as "eating patterns," may influence body weight. This type of eating habits may lead to nutritional deficiency during adolescence. This may have long term consequences such as eating disorder. Eating disorder has been defined as a serious psychological disturbances related to eating behavior, such as extreme and unhealthy reduction of food intake or severe overeating, as well as are usually accompanied by feelings of extreme concern or distress about body shape or weight (Spearing, 2001) [4]. According to **NIMH** primary types of eating disorders are anorexia nervosa, bulimia nervosa, and binge eating disorder. The college environment has been suggested as a risk factor for the onset or exacerbation of disordered eating. Many factors related to college, such as high levels of stress, achievement orientation, and role and identity changes are also correlates of disordered eating. Since many individuals contain similar behaviors to those with eating disorders, there has also been an increase in interest in whether different weight categories among women are at a risk for eating disorders. Hence, an attempt was made through this study to evaluate eating disorders and BMI among the underweight, Normal Weight, overweight and obese college women.

Procedure

A sample of 400 college women were selected from affiliated colleges of Panjab University Chandigarh. Subjects were investigated to evaluate eating disorder among underweight, normal weight, overweight and obese college women. Age of the subjects was ranged from 18 to 25 years. Body Mass Index of all the subjects was determined by dividing their body weight in kilogram by the height in meter². On the basis of Body Mass Index (BMI) the subjects were divided into four categories as per the ICMR 2009 standards .Underweight (BMI less than 18.5), normal weight (18.5-22.9), overweight (23-24.9) and obese (BMI>25) and Eating Attitude Test (Eat-26) (Garner et.al.1982) was used to measure eating disorder and behavior of the subjects. To compare the underweight, normal weight, overweight and

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obese college women on eating behaviour and its subscales namely bulimia, dieting, oral control and binge eating analysis of variance (ANOVA) was employed. The level of significance was set at .05 level.

Table 1: Analysis of variance (ANOVA) of underweight, normal weight, over weight and obese college women in relation to Bulimia

Bulimia	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.94	3	2.64	.378	.769
Within Groups	2776.75	396	7.01		
Total	2784.69	399			

F_{0.05 (3,396)} = 2.62

Table 1 disclosed that there were no significant mean differences among underweight, normal weight, over-weight, and obese college women on bulimia as the calculated F value of .378 was found to be less than the tabulated value of

Findings

The results of analysis of Variance of scores for college women in relation to bulimia has been presented in the table1.

Table 2: Analysis of Variance (ANOVA) of underweight, normal weight, over weight and obese college women in relation to oral control

Oral Control	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	284.42	3	94.80	8.15*	.000
Within Groups	4601.95	396	11.62		
Total	4886.37	399			

*Significant at 0.05 level F_{0.05 (3,396)} = 2.62

An evaluation of table 2 revealed that there were significant mean differences among underweight, normal weight, over-

2.62 at 0.05 level.

The result of analysis of variance of scores for oral control has been shown in table 2.

weight, and obese college women on oral control. Further the results of post hoc test has been presented in table 3.

Table 3: Significance difference between the paired means of oral control among underweight, normal weight, over weight and obese college women

Variable	Paired Groups		Mean Difference	Std. Error	Sig.
Oral control	Under weight	Normal	2.300*	.482	.000
		Over Weight	1.570*	.482	.015
		Obese	1.620*	.482	.011
	Normal weight	Over Weight	-.730	.482	.515
		Obese	-.680	.482	.575
		Over Weight	.050	.482	1.00

* Significant at .05 level

This may be clearly seen from table 3 that underweight and overweight college women differed significantly in oral control. Similarly, Underweight and obese college women also differ significantly on oral control. However, mean differences among other groups were not found to be

statistically significant at .05 levels through scheffe's post hoc test.

The result of Analysis of Variance of mean scores of college women in relation to their dieting has been depicted in the table 4.

Table 4: Analysis of variance (ANOVA) of underweight, normal weight, over weight and obese subjects in relation to dieting behaviour of college women

Dieting	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1141.68	3	380.56	11.608*	.000
Within Groups	12982.89	396	32.78		
Total	14124.57	399			

*Significant at 0.05 level F_{0.05 (3,396)} = 2.62

It may be gleaned from table 4 that underweight, normal, over-weight, and obese college women differed significantly on dieting behaviour. For further directions Scheffe's Post

Hoc test for Multiple Comparisons was employed which has been given in table 5.

Table 5: Post-hoc Comparison of paired means of underweight, normal weight, over weight and obese subjects in relation to dieting behaviour of college women

Variable	Paired Groups		Mean Difference	Std. Error	Sig.
Dieting	Under weight	Normal	-.620	.809	.900
		Over Weight	-4.230*	.809	.000
		Obese	-2.760*	.809	.009
	Normal weight	Over Weight	-3.610*	.809	.000
		Obese	-2.140	.809	.074
	Over Weight	Obese	1.470	.809	.350

*Significant at 0.05 level

It may be observed from the table 5 that on the subscale of dieting, underweight college women were found to be differed when compared to the overweight and obese college women. Significance difference was also found between the normal weight and overweight women.

The result of analysis of Variance of mean scores for various groups of college women in relation to their eating attitude has been presented in the table 6.

Table 6: Analysis of variance (ANOVA) of underweight, normal weight, over weight and obese subjects in relation to eating attitude of college women

Eating Attitude	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1113.77	3	371.25	5.690*	.001
Within Groups	25839.74	396	65.25		
Total	26953.51	399			

*Significant at 0.05 level F0.05 (3,396) = 2.62

It may be noticed from Table 6 that there were significant mean differences among underweight, normal weight, overweight, and obese college women on Eating Attitude. For further directions Scheffe's post hoc test for multiple Comparisons was employed which has been given in table 7.

Table 7: Scheffe's post-hoc comparison of paired means of Eating Attitude among underweight, normal weight, over weight and obese college women

Variable	Paired Groups		Mean Difference	Std. Error	Sig.
Eating attitude	Under weight	Normal	1.39	1.142	.687
		Over Weight	-3.05	1.142	.070
		Obese	-1.60	1.142	.581
	Normal weight	Over Weight	-4.44*	1.142	.002
		Obese	-2.99	1.142	.079
	Over Weight	Obese	1.45	1.142	.657

Table 7 disclosed that in eating attitude (total score) normal weight and overweight college women differed significantly as their mean difference was -4.44 was found to be statistically significant at .05 levels No significance difference was found between the underweight and normal weight, normal weight and obese, obese and overweight, obese and underweight college women on eating attitude.

Discussion of findings

In our study obese group shows tendencies to binge and purge as measured by subscale bulimia of eating attitude as shown. Desai, 2008 [3]; also found that overweight

participants displayed an increased fear of bingeing, preoccupation with food, desire to be thinner, and engagement in dieting behaviour as compare to normal weight peers. The results also indicate that underweight college women shows oral control that deals with the degree of self-control overeating than their counterparts of normal weight, overweight, and obese college women. In the view of Geliebter & Aversa, 2003 [5]; underweight women take less diet to become thin. In our study Overweight college women were having more eating disorder of dieting and Eating Attitude as compare to the underweight and normal weight college women. It may be because that overweight girls are more concerned about their weight, more dissatisfied with their bodies, and more likely to diet than their normal-weight peers. Desai *et al.* 2008; found disordered eating perceptions and disordered behaviours are associated with increased rates of overweight and obesity.

Conclusions

- All groups of underweight, normal weight, over-weight and obese college women having similar tendency for binge eating and purge.
- Underweight women show more self-control overeating.
- Overweight college women were having more eating disorder of dieting as compare to underweight college women.
- Overweight women were also having more disorder of eating attitude as compare to normal weight college women.

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