

## Assessment of Eating Attitude among Private and Government School Going Adolescent Girls (13-16) Years in Chandigarh

Rachita Jain, Poonam Khanna, Rachana Srivastava, Rekha Kaushik

*Department of Community Medicine and School of Public Health, PGIMER, Chandigarh, India*

Correspondence should be addressed to Poonam Khanna, Associate Professor, Department of Community Medicine and School of Public Health, PGIMER, Chandigarh, India

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### **ABSTRACT**

The prevalence of eating disorders, coupled with significant proportions of overweight and obesity is escalating among adolescent girls. Abnormal eating attitude adopting unhealthy weight management measures constitute serious health issues among adolescent girls who could rarely relate today's eating habits to tomorrow's health. The present study was conducted to assess the eating attitude of government and private school going adolescent girls (13-16) years in Chandigarh. A Cross sectional study was conducted using purposive sampling technique selecting 200 adolescent girls from government and private schools in Chandigarh taking 100 from each school. Eating attitude test (EAT-26) was used in finding out the pattern of eating habits among school going adolescent girls. Around 39% and 27% of government students scored high in anorexia nervosa range and self-control for food as compared to 15% of private school students. Father's education was found slightly significant. Government students showed high percentage of eating disorders as compared to private school adolescents thus fulfilling the need to improve knowledge and eating attitude among teens.

### **KEYWORDS**

Adolescent; Eating disorders; Eating habits; Nutrition; School

### **INTRODUCTION**

Adolescence is a crucial period of nutritional care and rapid emotional, physical and mental growth and their carefree attitude might lead to psychological disorders like depression, eating disorders. It is that stage of life which begins at puberty (12-13 years) in girls and (14-15 years) in boys and is a crucial period for developing realistic body image. It is an intense period when nutrient requirements increases and teens generally develop eating disorders contributing to various health problems [1].

Healthy diet is important for teenagers as it helps them to attain optimal growth and development decreasing the risk of chronic diseases like hyperlipidemia, cardiovascular problems, diabetes etc. [2].

Adolescent eating behaviour is a function of individual (psychological and biological) and environmental influences (social like peer pressures etc.) [3]. Irregular eating habits due to these influences is known as eating disorder. Eating Disorder is a complex illness characterized by binge eating, extreme food restrictions, excessive weight

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loss and the fear of being overweight. In order to attain desirable body shape and weight many teenage girls imitate a fashion model which forces the girls to purposely starve themselves and adopt unhealthy attitude to lose or control weight such as fasting, over-exercising, self-induced vomiting etc. [4].

Adolescents suffering from eating disorders show symptoms such as skipping meals at school, throwing away food, seeking out snacks, weight loss, dieting, over-exercising, weight concerns, menstrual irregularities. The physiological consequences of eating disorders are hypotension, growth stunting, osteoporosis, infertility and dental caries [5].

With changing eating habits and lifestyles coupled with heavy marketing of fast foods, the measurement of eating attitude would be useful to recognize the relationship of adolescents with food and their related behavioural choices. Keeping in view the present scenario, study was planned with the objective to assess and compare the eating attitude of government and private school going adolescent girls in the age group [13-16) years in Chandigarh.

## **MATERIALS AND METHODS**

A cross sectional study was conducted in Government and Private Schools in Chandigarh over a period of 2 to 4 months. Non-probability purposive sampling technique was used for sample selection and a sample of 100 each was taken from government and private schools in Chandigarh. The research was original and was not funded by any funding agency or institute.

### ***Data Collection***

A pre-tested and pre-designed questionnaire was used for data collection. The closed ended structured questionnaire was developed in English and the data was collected for socio-

demographic characteristics and eating behaviour among adolescent girls using Eating attitude scale -26 [6].

Data collection was initiated after getting the ethical approval and written permission from District Education Officer, UT Chandigarh. Principal of the schools were approached and permission was taken to conduct the study. A verbal consent was taken from the students to participate in the study. Before the administration of the scale, all the subjects were explained about the purpose of the study and were ensured strict confidentiality. The subjects were given the option of not participating in the study if they did not want to. Scale was distributed personally by the researcher to all subjects and they were requested to fill the scales during school hours.

### ***Statistical analyses***

The data was analyzed through statistical package for social sciences (SPSS Version 20). The data was then tabulated and percentages for frequency distribution and mean and standard deviation for continuous Variables were calculated. The differences for all parameters were assessed by using Chi Square test or T - Test.

## **RESULTS**

The results pertaining to EAT responses of government and private school going adolescents are presented in Table 1.

From the results of Table 1, it was observed that 39% and 27% of government students scored high in anorexia nervosa range and self-control around food always as compared to 15 percent of private school students. 13% of Government students had impulse to vomit post meals against 2% of the private school going adolescents. In addition, 15 % of the total students were preoccupied with the desire to be thinner as compared to 19 % of students where they have undergone binge eating where they may not be able to stop.

No.	Eat Scale	Group	Government (%)	Private (%)	Total (%)	p-value
1	Am terrified about being overweight	Always	39	15	27	.000**
		Usually	1	6	3.5	
		Often	1	6	3.5	
		Some	7	22	14.5	
		Rarely	2	21	11.5	
		Never	50	30	40	
2	Avoid eating when I am hungry	Always	6	0	3	0.102
		Usually	5	4	4.5	
		Often	4	5	4.5	
		Some	7	15	11	
		Rarely	10	9	9.5	
		Never	68	67	67.5	
3	Find myself preoccupied with food	Always	6	3	4.5	.0001**
		Usually	3	4	3.5	
		Often	3	12	7.5	
		Some	6	20	13	
		Rarely	7	27	17	
		Never	75	34	54.5	
4	Have gone on eating binges where I feel that I may not be able to stop	Always	3	2	2.5	.007**
		Usually	4	8	6	
		Often	3	10	6.5	
		Some	15	23	19	
		Rarely	3	10	6.5	
		Never	72	47	59.5	
5	Cut my food into small pieces	Always	29	25	27	.0001**
		Usually	3	30	16.5	
		Often	5	13	9	
		Some	18	14	16	
		Rarely	8	3	5.5	
		Never	37	15	26	
6	Aware of the calorie content of the food that I eat	Always	15	9	12	.0001**
		Usually	5	8	6	
		Often	5	10	7.5	
		Some	11	2	16	
		Rarely	4	2	12.5	
		Never	60	3	45.5	
7	Particularly avoid food with a high carbohydrate content (i.e., bread, rice, potatoes etc)	Always	19	2	10.5	.0001**
		Usually	3	2	2.5	
		Often	3	1	9.5	
		Some	16	30	23	
		Rarely	8	14	11	
		Never	51	3	43.5	
8	Feel that others would prefer if I ate more	Always	17	4	10.5	.001**
		Usually	3	6	4.5	
		Often	2	13	7.5	
		Some	11	19	15	
		Rarely	7	5	6	
		Never	60	53	56.5	
9	Vomit after I have eaten	Always	4	1	2.5	0.415
		Usually	1	0	0.5	
		Often	3	2	2.5	
		Some	4	4	4	
		Rarely	2	6	4	
		Never	86	87	86.5	
10	Feel extremely guilty after eating	Always	6	3	4.5	.003**
		Usually	4	1	2.5	
		Often	3	4	3.5	

		Some	9	13	11	
		Rarely	4	22	13	
		Never	74	57	65.5	
11	Am preoccupied with a desire to be thinner	Always	23	8	15.5	.0001**
		Usually	8	9	8.5	
		Often	4	7	5.5	
		Some	6	25	15.5	
		Rarely	10	15	12.5	
		Never	49	36	42	
12	Think about burning up calories when I exercise	Always	18	12	15.5	.0001**
		Usually	3	11	7	
		Often	7	12	9.5	
		Some	9	21	15	
		Rarely	4	11	7.5	
		Never	59	33	46	
13	Other people think that I am too thin	Always	38	11	24.5	.0001**
		Usually	4	8	6	
		Often	2	4	3	
		Some	4	13	8.5	
		Rarely	3	31	17	
		Never	49	33	41	
14	Am preoccupied with the thought of having fat on my body	Always	14	8	11	.011*
		Usually	4	2	3	
		Often	5	16	10.5	
		Some	7	16	11.5	
		Rarely	8	2	10	
		Never	62	46	54	
15	Take longer than others to eat my meals	Always	30	10	20	.0001**
		Usually	5	8	6.5	
		Often	2	9	5.5	
		Some	9	19	14	
		Rarely	4	22	13	
		Never	50	32	41	
16	Avoid foods with sugar in them	Always	14	5	9.5	.003**
		Usually	6	4	5	
		Often	2	10	6	
		Some	7	14	10.5	
		Rarely	7	17	12	
		Never	64	50	57	
17	Eat diet foods	Always	11	3	7	.0001**
		Usually	3	6	4.5	
		Often	1	11	6	
		Some	9	26		
		Rarely	9	23	16	
		Never	67	31	49	
18	Feel that food controls my life	Always	16	13	14.5	.0001**
		Usually	3	5	4	
		Often	2	13	7.5	
		Some	3	15	9	
		Rarely	8	16	12	
		Never	68	38	53	
19	Display self-control around food	Always	27	15	21	.0001**
		Usually	2	11	6.5	
		Often	3	8	5.5	
		Some	8	10	9	
		Rarely	5	18	11.5	
		Never	55	38	46.5	
20	Feel that others pressure me to eat	Always	21	6	13.5	.001**
		Usually	7	7	7	

		Often	2	18	10	
		Some	8	10	9	
		Rarely	6	7	6.5	
		Never	56	52	54	
21	Give too much time and thought to food	Always	7	5	6	.0001**
		Usually	4	4	4	
		Often	4	9	6.5	
		Some	6	15	10.5	
		Rarely	3	22	12.5	
		Never	76	45	60.5	
22	Feel uncomfortable after eating sweets	Always	18	4	11	.019*
		Usually	1	2	1.5	
		Often	4	10	7	
		Some	10	11	10.5	
		Rarely	5	10	7.5	
		Never	62	63	62.5	
23	Engage in dieting behaviour	Always	6	4	5	.0001**
		Usually	1	5	3	
		Often	3	9	6	
		Some	5	16	10.5	
		Rarely	4	17	10.5	
		Never	81	49	65	
24	Like my stomach to be empty	Always	10	4	7	.0001**
		Usually	4	4	4	
		Often	1	13	7	
		Some	6	8	7	
		Rarely	5	20	12.5	
		Never	74	51	62.5	
25	Have the impulse to vomit after meals	Always	13	2	15	.002**
		Usually	2	1	1.5	
		Often	2	5	3.5	
		Some	12	5	8.5	
		Rarely	5	17	11	
		Never	66	70	68	
26	Enjoy trying new rich foods	Always	60	31	45.5	.0001**
		Usually	6	15	10.5	
		Often	2	14	8	
		Some	5	18	11.5	
		Rarely	7	9	8	
		Never	20	13	16.5	

**Table1:** EAT Responses of Government and Private School Going Adolescents.

From Table 2, it has been observed that the education of father was a significant variable in determining eating disorder among adolescents. Adolescent girls whose father qualification was postgraduate and above scored greater than 20 on the scale as compared to any other qualification.

The results from Table 3 showed that 59% of government students had greater Eating Attitude Score > 20 as compared to private schools where the percentage was 36%.

## **DISCUSSION**

Eating disorder was found more than 50% among government school going adolescents as compared to 36% among private school going adolescents. As the prevalence of eating disorders and unhealthy weight-control behaviours in teenage population is rising, with psycho-social factors contributing to their vulnerability. Out of 120 teenage girls (age: 13-17 years) from Crosthwaite Girl’s College Allahabad, U.P, 26.67 % had abnormal eating attitudes and behaviours [7]. Majority of adolescents express a feeling of discontentment with their

physical appearance, perceiving themselves as fat even when they are not leading to eating disorders [8].

		Eating Attitude Score		Chi-Square	p-value
		<20	≥20		
Age	<13	76.6%	23.4%	1.974	.160
	≥16	67.7%	32.3%		
Occupation of Head	None	100.0%	0.0%	3.898	0.42
	Laborer	85.0%	15.0%		
	Business	68.1%	31.9%		
	Individual Profession	66.7%	33.3%		
	Service	75.3%	24.7%		
Education of Father	Illiterate	91.7%	8.3%	11.639	.040*
	8th Pass	95.0%	5.0%		
	10th Pass	67.2%	32.8%		
	12th Pass	65.9%	34.1%		
	Graduate	77.3%	22.7%		
Education of Mother	Post graduate & Above	57.9%	42.1%	1.526	.910
	Illiterate	69.6%	30.4%		
	8th Pass	80.0%	20.0%		
	10th Pass	70.0%	30.0%		
	12th Pass	75.0%	25.0%		
	Graduate	68.6%	31.4%		
Family Type	Post graduate & Above	70.8%	29.2%	3.262	.196
	Single	72.6%	27.4%		
	Joint	74.7%	25.3%		
	Extended	42.9%	57.1%		
Family Income	<4000`	75.0%	25.0%	.558	.906
	4000-8000	76.3%	23.7%		
	8000-12000	72.3%	27.7%		
	>12000	70.1%	29.9%		
	Total	72.5%	27.5%		

**Table 2:** Impact of socio demographic variables on eating attitude score.

		Eating Attitude Score		Total	Chi square	P value
		<20	≥20			
Group	Government	41.00%	59.00%	100.00%	10.61%	.001**
	Private	64.00%	36.00%	100.00%		
	Total	52.50%	47.50%	100.00%		

**Table 3:** Eating Attitude among government and private schools.

Correlation between occupation of head and the eating disorder showed that head of the family involved in individual profession had higher EAT-26 scores which contradict the study conducted among high school students in Israel where there was a trend for higher EAT-26 scores among those whose father was unemployed [9].

A study conducted among university students in Wuhu, China aged 16-24 years explained the relationship between abnormal eating attitudes and family education by finding out

that girls are more vulnerable to have eating disorders if their parents have more education [10] which supports the present study where the students whose father’s education is postgraduate and above have greater eating disorders. Parents are first teachers for children, our eating habits are mostly laid in childhood. More educated parents can help their children in validating their nutrition related knowledge as well as healthy body perception and how they can achieve it.

To assess the eating attitude and eating disorder the EAT Scale results showed that binge eating with associated loss of

control was sometimes reported by 19% of participants , self-induced vomiting always by 2.5% and 15% always think about burning up calories during exercise which is quite similar to the findings of the studies conducted among 1887 high school Iranian girls [11] and school based population in Ontario [12]. Self-induced vomiting and binge eating depict adolescents' concerns with respect to body size, many studies have reported that adolescents with misperception of their weight have unhealthy eating behaviours.

The present study highlighted that more than half of the total students reported eating diet foods very often to control their weight and majority of girls didn't know about the calorie content of the food they were eating. 39% and 27% of government students scored high in anorexia nervosa range and self-control around food always as compared to 15 percent of private school students. It was observed that 13% of Government students had impulse to vomit post meals regularly against 2% of private students. With the variety of foodstuffs available in the market, 60% of Government students always try new rich foods as compared to private where the percentage is 31%.

On comparing the results of both Government and private schools it was found that 59% of government students were suffering from eating disorders whereas percentage in private schools was 36%. This indicated that parents of government schools need to be advised to look after their children to ensure proper dietary intake. They should be guided regarding identifying eating disorders among their children and then help them through correct nutrition information and healthy eating. Recruitment of school nutrition advisors can also be a key step as they can counsel students as well as help them in reshaping the healthy weight perception and support them to achieve it through a healthy lifestyle.

This study identifies that eating disorder is spreading its roots very rapidly among adolescent girls. Adolescence is a very

crucial stage where both physical and mental development take place and lifestyle behaviours are cultivated. But due to the modernization and craziness to remain slim, the today's adolescent girls are indulging in different wrong activities like skipping meal, self-starvation which results into eating disorder. These unhealthy dietary intakes and behaviour may increase the risk of nutrient inadequacy and weight gain among nutritionally vulnerable Indian adolescents leading to various health issues. A sad but true fact is that trying to look perfect, young girl depends on the reflection she sees in the mirror or the readings she gets on the weighing scale.

### **CONCLUSION**

The present research shows that the eating disorder in adolescent girls is increasing and there is a need to take care of them as they are the backbone of the society. Poor eating attitude with many health compromising behaviours can increase the risk of nutrient inadequacy. Awareness regarding healthy food habits and life styles can help in improving overall health and nutritional status of adolescents. School and college should include healthy eating and healthy lifestyle as a part of their curriculum. In addition, family and community level efforts are the need of hour for building healthy communities and nation because they will be future parent and care giver thereafter.

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### **CONFLICT OF INTEREST**

Authors have no conflict of interest for publishing the research.

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