



Meal Patterns And Eating Disorder Profile Of Underweight Adolescent Girls In Chennai

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Abstract:

Adequate nutrient intake during adolescence is impertinent as it is a time of intense physical, psychological and cognitive development. Achievement of optimum growth during this period is of utmost importance in maintaining good health thereafter. Practicing healthy eating behavior is one of the essential factors to meet the nutritional needs of adolescents. Eating disorders are psychological disturbances characterized by abnormalities in cognition and behaviors regarding food intake and body image. They are often associated with poor self-esteem and feeling of shame. 150 underweight adolescent girls in the age group of 13-17 years whose body mass index was below 18.5 were selected for the study. A structured questionnaire was designed to assess their meal patterns, improper dietary practices, eating disorders and activity patterns of adolescents. The results revealed that 54.7 percent of the subjects were non-vegetarians and 68.7 percent of them were consuming less than 3 meals per day. Skipping of meals was followed by 84 percent of the adolescents. Anorexia nervosa and bulimia nervosa were found to be present among the underweight adolescents with attributes like weight conscious behavior, eating to escape from worries, habit of induced vomiting predominated their inclination towards the maintenance of body weight. Physical activity patterns showed that 53.3 percent neglected walking and 76 percent did not have the habit of cycling.

Key words: Adolescence, eating pattern, eating disorders.

1.Introduction

Adolescence is the transition period between childhood and adulthood, a window of opportunity for the improvement of nutritional status and correcting poor nutritional practices. Adolescence is characterized by growth spurt, a period in which growth is very fast. During this time , physical changes affect the body' s nutritional needs, while changes in one's lifestyle may affect eating habits and food choices(Ghosh,2011). It is also a period of emotional and psychological changes during which there is a tendency to reject conventional dietary habits. Certain behaviors that may be adopted during the adolescent years, such as poor eating patterns and physical inactivity are associated with adult morbidity and mortality. Adolescent nutritional problems are common throughout the country. They have to encounter a series of serious nutritional challenges not only affecting their growth and development but also their livelihood as adults. Yet adolescents remain a largely neglected and hard to reach population especially girls. Thus it is not surprising that adolescent girl population who are “mothers to be” is considered as the most important section on which the future of nation depends (Kochar G.K., 2009).

Poor nutritional status during adolescence is an important determinant of health outcomes. Short stature in adolescents resulting from chronic under-nutrition is associated with reduced lean body mass and deficiencies in muscular strength and working capacity. In adolescent girls short stature that persists into adulthood is associated with increased risk of adverse reproductive outcomes (Deshmukh PR, 2006). The recent increase in both childhood obesity and adolescent anorexia nervosa, in developed countries has underlined the important consequences that these trends may have on public health, as there is an increased risk that these conditions may become chronic diseases in adulthood (LazzeriG.e'tal, 2008). The objectives of the study included:

- To assess the meal pattern of the underweight adolescent girls (13-17 years) using a Questionnaire.
- To study the faulty dietary patterns among adolescent girls.
- To elicit information regarding eating disorders prevalent among adolescent girls aged 13-17 years..
- To analyse the physical activity patterns of the subjects using a structured Questionnaire.

2.Methodology

The study was undertaken to study the meal pattern and prevalence of eating disorders among underweight adolescent girls (13-17 years). The study design employed for the study encompassed a descriptive design. The samples were selected based on purposive sampling. Overall 400 adolescent girls (13-17 years) were screened for underweight. 150 underweight adolescent girls willing to participate were chosen for the study whose Body Mass Index fell below 18. The study was conducted at Mohammed Shathak Matriculation Higher Secondary School, Arumbakkam, Chennai. A questionnaire was administered to elicit data regarding the meal pattern, faulty dietary practices, eating disorders and activity pattern of the studied subjects.

Percentage was used to compute distribution of the subjects based on meal pattern, faulty eating habits, eating disorders and physical activity patterns..

3.Results And Discussion

Hundred and fifty adolescent girls aged between 13 to 17 years were selected to study the meal pattern, faulty dietary habits, eating disorders and activity patterns.

S.No		Dietary Pattern			
		Vegetarian	Non-Vegetarian	Ova Vegetarian	Lacto Vegetarian
1	Type of Meal Pattern				
2	No. of subjects (n=150)	34	82	20	14
3	Per cent	22.7	54.7	13.3	9.3

Table 1: Percentage Distribution Of Subjects With Regard To Mean Pattern

Table 1 reveals that 54.7% of the subjects were non-vegetarian, 22.7%, 13.3% and 9.3% belonged to vegetarian, ova vegetarian and lacto vegetarian groups.

S.NO		ATTRIBUTES		
1	Number of Meals per day	< 3 Meals	3 Meals	>3 Meals
2	No. of Subjects	103	30	17
3	Per Cent	68.7	20	11.3

Table 2: Percentage Distribution Of The Subjects Based On Number Of Meals Consumption Per Day

Out of hundred and fifty participants, 68.7% subjects reported to consume less than three meals per day, 20% of the subjects consume three meals per day and 11.3% consume more than three meals per day (Table 2)

This was supported by a study conducted by Bovet. P, (2006) that irregular eating patterns are common during adolescence. Breakfast appears to be the most frequently missed meals. About 62.3% of subjects were irregular in taking breakfast as they skipped it two or three times a week, 33.8% took no breakfast at all and they were classified as absolute breakfast skippers and 3.9% of subjects regularly consumed breakfast every morning.

S.No	Faulty dietary pattern	Attributes	Per cent
1	Skipping meals	a) Yes	84
		b) No	16
2	Carbonated beverages	a) Yes	100
3	Frequency of Consumption of carbonated beverages	a) Daily	19.3
		b) Once a week	7.3
		c) Twice a week	8
		d) Once in a month	18.7
		e) Twice in month	18
		f) Rarely	28.7

Table 3: Percentage Distribution Of The Subjects Based On Faulty Dietary Pattern

Table 3 depicts the faulty dietary pattern of the selected subjects. Out of hundred and fifty subjects, 84% skipped their meals, 100% were found to consume carbonated beverages where 28.7% consume carbonated beverages rarely, 19.3% consumed daily, 18.7% consume once in a month, 18% consumed twice a month, 8% consumed twice a week and 7.3% consumed once a week. It was also illustrated in another study that 22%, 8% and 5% of students skipped breakfast, lunch and dinner respectively; 80% of the students snacked at least once a day (Ya-Li Huang, 2006)

It is confirmed in another study where M.F. Olumakaiye., (2010) showed that 33.2% of the adolescents consumed snacks once a day, whereas 33.0% and 33.8% consumed snacks twice and three times daily. Consumption of snacks was common among the adolescents (34.8% of urban and 31.8% of rural); the difference was statistically

significant ($P=0.002$). About 12.0% of the adolescents did not consume snacks daily. Bansal and Mahta, (2007) showed that meal skipping increased with age and that the habit was most prevalent among female adolescents. Snacks may contribute more energy to the total daily intake than other nutrients intake and their diet lacked fruits and vegetables.



Figure 1: Prevalence Of Anorexia Nervosa Among The Subjects

Figure 1 reveals about the percentage distribution of the subjects based on anorexia nervosa. It was found that 100% were weight conscious, 96.7% were found to have intense fear of gaining weight, 86.7% ate to escape from worries and 68% were found to have the habit of staying out of foods. Thus it can be presumed that a person suffering from anorexia nervosa may develop anemia due to lack of nutrients in the body, lack of iron in the blood which causes a feeling of weakness, tiredness and overall inability to function or perform physical activity.

It is confirmed in another study where Marita P. McCabe et al., (2003) showed that anorexia nervosa is increasingly common in adolescent girls. Frequency of some of the extreme weight loss behaviors were purging (2.3 and 1.7 per cent respectively for girls and boys), diet pills (1.0 and 0.7 per cent respectively for girls and boys), and diuretics (0.3 and 1.0 per cent respectively for girls and boys).

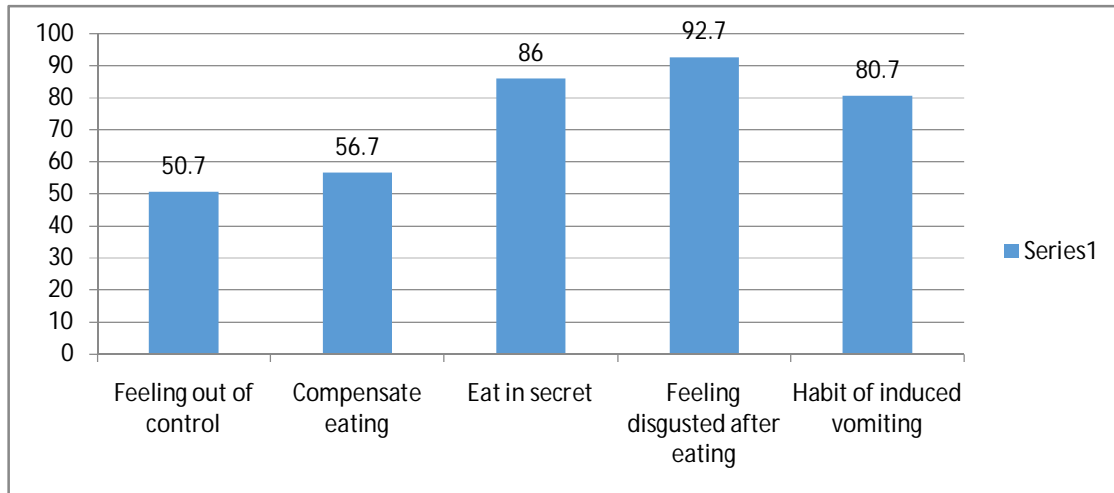


Figure2: Prevalence Of Bulimia Nervosa Among The Subjects

Figure 2 reveals about the percentage distribution of the subjects based on bulimia nervosa. It was found that 50.7% felt out of control while eating, 56.7% were involved in compensatory behavior to control their body shape and weight, 86% were found to eat in secret, 92.7% felt disgusted after eating heavy meals and 80.7% had the habit of induced vomiting after a meal.

John (2007) exhibited about adolescent's behaviors and attitudes regarding eating, food, weight and physical appearance. A large sample of adolescents (75%) in terms of such characteristics as weight for height and age, perceived ideal weight, and perceived physical attractiveness. A number of these factors have implications for the increasing incidence among adolescents of such serious eating disorders as (27%) bulimia and (21%) anorexia nervosa.

S.No	Type of exercise	Frequency	Per Cent
1	Walking	Daily	45.3%
		5 days a week	1.3%
		Never	53.3%
2	Cycling	Daily	12%
		5 days a week	12%
		Never	76%

Table 4: Percentage Distribution Of The Subjects Based On Physical Activity

Table 4 shows the % distribution of the subjects based on the physical activity. The table reveals that 45.3% of the subjects go for walking daily, 1.3% of the subjects go for walk five days a week and 53.3% of the subjects do not go for walking. 12% of the subjects reported that they do cycling daily and 12% reported cycling for five days a week, 76% never do cycling. The present study shows that the physical activities among the adolescents were inadequate.

4. Conclusion

Adolescence is an unique intervention point in the life cycle for a number of reasons. It is the time to learn and adopt healthy habits to avoid many health and nutritional problems later in life. The present study was undertaken with an objective to analyze the meal patterns, faulty dietary practices, eating disorders and activity patterns of underweight adolescent girls. According to WHO classification body mass index <18.5 is considered as underweight and the subjects assigned to this category were selected for the study with their consent. Information was elicited from the underweight adolescents using a questionnaire. The findings of the study revealed that majority of the subjects were non-vegetarians. Skipping of meals was practiced by 84 percent of the adolescent girls. Carbonated beverages were consumed by all the adolescents and 19.3 percent of the subjects consumed them daily. Prevalence of anorexia nervosa and bulimia nervosa with weight conscious, fear of gaining weight, disgusted feeling after eating and induced vomiting that the underweight adolescent girls were predisposing themselves to general weakness, fatigue and iron deficiency anemia.

5.Reference

1. Bansal and Mahta, 2007, "Eating disturbances among adolescent girls" Indian Journal of Public Health, Volume 15, Pages 45-48.
2. Bovet.P, 2006, "Eating disorders in adolescent girls", Indian Journal of Public Health, Volume 11, Issue 3, Pages 225-230.
3. Deshmukh P.R, 2006, "Anthropometric assessment of nutritional status of adolescents of Kolkata, West Bengal", Journal of Human Ecology, Volume 18, Issue 3, pages 213-216.
4. Ghosh D,2011, " Growth pattern and prevalence of underweight and stunting among rural adolescents", Journal of Nepal Paediatric Society, Volume 31, Issue 1, Pages 123-126.
5. John 2007, "Adolescents behaviour and attitude regarding food habits", Journal of Clinical Nutrition, Volume 33, Issue 4, Pages 121-128.
6. Kochar G K, 2009, "Nutrition outcomes of nutrition education and hematinic supplementation in 13-14 years old rural school girls", European Journal of Clinical Nutrition, Volume 45, Pages 411-415.
7. Lazzeri G, 2008, "Underweight and overweight among children and adolescents in Tuscany, Journal of medicine and Hygiene, Volume 49, Issue 1, Pages 13-21.
8. Marita P. McCabe and Vincent M.A, 2003, "The role of bio developmental and psychological factors in disordered eating among adolescent males and females", Journal of Community Psychology, Volume 11, Issue 4, Pages 315-328.
9. Olumakaiye M.F& Tola Atinmo , 2010, "Nutritional status and food consumption pattern of adolescents ", Indian Journal of Clinical Nutrition Volume 34, Issue 1, Pages 1243-1249
10. Ya-Li Huang., (2006) "The treatment of bulimia nervosa in patients with diabetes mellitus", Indian Journal of Eating disorders., Volume 11, Pages 45-53