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INDIA'S #1 COOKERY AUTHOR

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by Tarla Dalal**



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# ADOLESCENT OBESITY

## KEEPING A WATCH ON FOOD INTAKE IN THE CRUCIAL TEENAGE YEARS HELPS PREVENT A NUMBER OF COMPLICATIONS LATER

Adolescence is one of the most challenging periods in human development both for children and their parents. During this period a child transforms into an adult, and his physical and mental well being is very important. Though most parents recognise the rapid growth in their child's physical appearance, they fail to understand the equally rapid development of hormonal secretions and the metabolic process, which affects the child's mental and intellectual capacity. That's why this is often a difficult period for parents who tend not to understand or predict their adolescent child's behaviour.

Normally boys reach adolescence at around 13 years and girls around 11 years. From then onwards for 5-7 years they gain 20% of their height and 50% of their adult weight.

### Dietary modifications

Teenagers are more concerned with their physical appearance in terms of body shape and body weight. Females want to look lean and they indulge in skipping meals, especially breakfast; they eat less than is required, opting for food that is not nutritious, and engaging in heavy exercise. Hence they deprive themselves of essential nutrients resulting in long term complications.

On the other hand males want to be muscular and they do heavy exercise and consume nutrition supplements. A balanced diet is sufficient to fill all the nutritional requirements. When nutrition supplements are consumed, they interfere with absorption of other vitamins and minerals and lead to nutritional deficiencies. For example, a high intake of a calcium supplement may interfere with the absorption of iron, zinc and manganese.

Surveys have shown that adolescents tend to lack essential nutrients like vitamin A, vitamin B6, folate, riboflavin, iron, calcium, zinc, magnesium, etc. This is a crucial period since there are rapid changes in their body metabolism and they must try to balance their nutritional requirements. Unfortunately, thanks to the junk food culture teenagers tend to consume more energy, fat, saturated fat, carbohydrates and sodium than required. This is due to the influence of their peer group and media advertisements, and the lack of proper cooked food in nuclear families where both parents are working.

Healthy food habits	Junk food habits
Balanced ratio of protein, carbohydrates, fat and nutrients	Consumption of empty calories
Influenced by family dietary pattern	Influenced by media (advertisements) and friends
More meals at home	More meals at restaurants and malls
Health conscious eating	Eating for pleasure
Self control and confidence over eating habits	No control over eating, guilt and disguise
Regular dietary pattern	Irregular dietary pattern
Aware of nutritional requirements	No awareness
Foods with sufficient energy and sufficient nutrients	Foods with high energy and less nutrients

## Adolescent Obesity

During the pubertal period the body fat percentage of males increases from 15% to 19%, and for females from 19% to 26%.

Uncontrolled weight gain during adolescence leads to pre pubertal obesity (PPO) or adolescent obesity. About 20% of children between 6-17 years of age are overweight or obese.

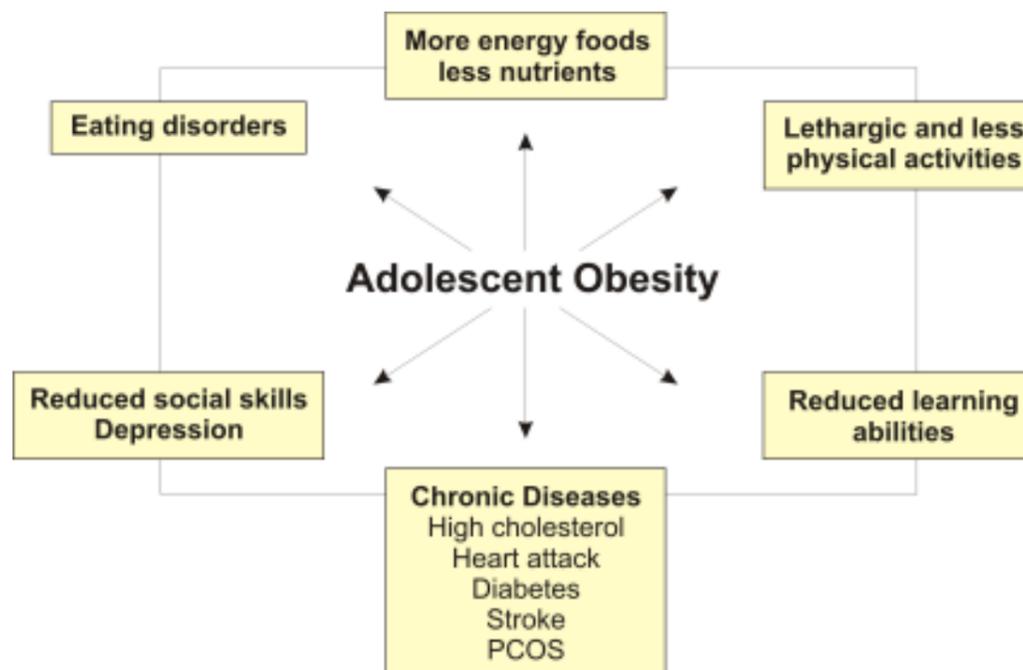
Body mass index (BMI) is popularly used to identify the ideal height weight ratio.  
 BMI = Weight in Kg / Height in meters

**For adolescents and adults:**  
**BMI > 25 = overweight**  
**BMI > 30 = obese**  
**BMI > 40 = morbidly obese**

Recommended Calorie requirements				Recommended BMI Range	
Age in years	Sedentary	Mildly active	Very active		
Males	10	1600	2100	2400	15-19
	15	2200	3000	3400	17-23
	18	2400	3200	3800	19-25
Females	10	1500	2000	2350	14-20
	15	1750	2350	2900	17-24
	18	1700	2300	2850	18-25

However not all children carrying extra weight are overweight or obese. Each child has a different body frame and different ratio of fat mass and fat free mass (weight of muscles, bones and organs). The excess fat they carry is more dangerous than the excess muscle or bone weight. Hence it is appropriate to measure body fat percentage instead of merely depending on body weight alone. Body fat gets accumulated by eating direct fats. Excess carbohydrates and proteins are also converted into fatty acids by the liver.

### Health Risks of Youngsters



**A**dolescent obesity is a very serious health condition which needs immediate attention and action. Adolescent obesity leads to many complications, which in turn lead to increased obesity levels, thus forming a vicious circle which your child may find difficult to come out of at a later stage.

These complications affect the physical, mental, social and emotional well-being of your child. Obesity leads to lethargy; obese children tend to lead a sedentary life style by reducing their physical activities. Other effects of obesity are:

**Low self-esteem and depression:** Obese children are often discriminated against and teased by others; loss of self-esteem results in frustration and depression. Pay close attention to your child and encourage him to lose weight through an appropriate diet pattern.

**Reduced learning skills:** Teenagers are under stress to excel in academics which decides their future. Overweight children tend to have more stress and anxiety and these factors lead to reduced learning skills and poor social skills, scoring in exams.

**Polycystic ovary syndrome (PCOS) :** This is closely associated with obesity in girls - it causes erratic menstrual periods, multiple ovarian cysts, and infertility or difficulty in getting pregnant. It also leads to ovarian cancers and type 2 diabetes.

Asthma, sleep disorders and other breathing problems: Obesity affects lung function thus leading to asthma or other breathing problems like snoring. Asthmatic children who are obese at puberty age are three times more likely to carry this condition through their adulthood.

**Reduction of bone mass and density:** Excess consumption of aerated drinks and junk food disturbs the effect of low dietary calcium and phosphorous ratio on the PTH (Parathyroid Hormone) concentration - this leads to loss of bone mass.

**Other complications:** Obese people are more prone to life threatening health conditions like diabetes, high blood pressure, heart disease, stroke, cancer, liver disease, etc.

### Case study

Ketaki V. developed adolescent obesity at the onset of puberty. At age 20 she weighed 94.6 kg and faced the problem of polycystic ovarian syndrome (PCOS).

Weight loss after joining program			
Date	5/3/2010	23/9/2010	Total Weight Loss
Weight	96.4 kg	80.8 kg	15.6 kg

"I tried many weight loss programmes without success. They recommended vigorous exercise, skipping of meals, consumption of milk shakes, restricted calories and sweets, and reduced carbohydrates and fat. With Dr. Nupur's diet I lost 15.6 kg and a number of inches in six months. My self confidence has gone up. Now I can concentrate better at my studies. My mother is very happy to see such a positive change in me physically as well as mentally," she says.

### LIFESTYLE MODIFICATION STRATEGIES FOR ADOLESCENTS

- Your child's diet is the most significant cause of obesity. Don't let others influence his food habits. Remember it is food that determines health, wealth and happiness.
- Help teenagers choose nutritious food over high calorie but low nutrient foods like fast foods, baked foods, soft drinks, chips, candy and desserts.
- Encourage your child to avoid a sedentary lifestyle. Help kids be active enough to burn excess calories.
- Adolescents who have inherited excess weight from their parents must follow the right food habits to control obesity.
- Discourage your children from indulging in other activities like reading or watching television while eating, the quantity of their food will be influenced by their emotions.
- Ensure that teenagers are not overeating to cope with problems or to deal with emotions such as stress, or to fight boredom.
- Monitor your child's eating patterns and provide positive feedback.
- Remember that a high level of phosphorus from processed foods and soft drinks will deplete bone density and cause fractures.
- Teach your children to eat slowly and savour each mouthful.
- Substitute fresh vegetables and fruits, nuts or sprouts for high calorie snacks.
- Teach kids to stop eating when they are full – leftovers can be kept aside for another time.
- Encourage teenagers to consume more salads, soup and sprouts.



**Dr. Nupur Krishnan - Ph.D. Food and Nutrition**  
 Director (Bio-Logics Nutrition Clinics) - is a Clinical Nutritionist with a decade of proven experience in preventive and clinical nutrition therapies for heart attack, obesity, diabetes, high cholesterol, stroke, blood pressure, thyroid, kidney disorders, liver disease, constipation, anaemia, etc.

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