

Adolescent obesity – rising trends

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Obesity in adolescents is increasing rapidly. Biological, genetic, cultural & behavioral factors cause obesity. Risk of becoming obese is 50% when either of the parent is obese & it increases to 80% when both of them are obese.

Keywords: Adolescent obesity, Physical inactivity, Junk foods

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Obesity is defined as a body mass index equal to or greater than 95th percentile for age & gender. Prevalence of obesity among adolescents has increased worldwide & is now the 2nd commonest cause of preventable death in developed countries. Recent National Health & Nutrition Examination Survey estimates that 30.4 % of adolescents 12-19 years of age are overweight or at risk for becoming overweight [1]. Average adolescent weight has increased by 5 kg within last 3 decades [2]. Stagnant lifestyle & junk foods are responsible for more than 3,00,000 deaths per annum. Biological, genetic, cultural & behavioral factors cause obesity. Risk of becoming obese is 50% when either of the parent is obese & it increases to 80% when both of them are obese. Causative factors for the rising trend of adolescent obesity include overeating, lack of exercise, medical illness, low self esteem, medications, depression, emotional problems, stressful life & family problems.

Female gender, firstborn status, urban living, sedentary lifestyle, higher level of education, higher income, skipping breakfast, inadequate consumption of green leafy vegetables & fruits & increasing television viewing also contribute to obesity [3]. Risk of obesity is 7 times higher among those who had television screen time ≥ 4 hours/day [4]. Having a television in the bedroom is a strong predictor of being overweight. Increased consumption of refined grains & sugar-sweetened beverages & increased portion size of fast food are also responsible for the rising prevalence of obesity. About 25%-70% of the 40,000 advertisements/year are for food, much aimed directly at children & adolescents & almost 1/3rd contains misleading nutrition information. Nearly \$13 billion is being invested every year on restaurant & food advertisements [5]. The portion sizes for food & beverages has increased by 25-50% over the last 2 decades (plate sizes, supersizing /value meals, recipes).

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Consumption of fried food & carbonated beverages have increased. Nearly 1 in 4 adolescents aged 12–19 don't eat breakfast regularly & nearly 23% do not get the recommended amount of physical activity. With increasing urbanization, there has been a decrease in the duration of physical activities of daily living such as walking and doing household chores which contribute greatly to the recent upsurge of adolescent obesity. Obese teens are approximately 10 times more likely than normal teens to develop hypertension in young adulthood, 3-8 times more likely to develop dyslipidemia, and more than twice as likely to develop diabetes [6]. Obesity is associated with sleeping disorders, breathing problems, emotional disturbances, heart diseases, liver & renal diseases, reproductive dysfunction, asthma, joint pain, stroke, gallbladder disease, low self esteem, depression, obsessive compulsion disorders, anxiety & premature deaths [7]. Modalities to overcome adolescent obesity include combinations of diet, behavior modification, medical therapy, and invasive procedures. Medications evaluated for treatment of obesity include sibutramine, orlistat, metformin & exenatide. Surgical procedures for severely obese adolescents include Roux en Y gastric bypass, adjustable gastric banding, vertical sleeve gastrectomy (VSG), biliopancreatic diversion, duodenal switch & VSG combined with massive enterectomy [8]. Gedam DS noticed increased prevalence of obesity in recent time. Indian data as per various studies varies from 3-18 % in pediatric and adolescent age groups. Obesity has far reaching consequences and is associated with type 2 diabetes mellitus, the early-onset metabolic syndrome, subclinical inflammation, dyslipidemia, coronary artery diseases, and adulthood obesity. Cardiovascular diseases—coronary artery disease and stroke—are the largest cause of deaths in India currently [9]. As recent increase in obesity is due to environment & lifestyle influences rather than genetic inheritance, it is important to implement awareness as well as behavior modification programmes targeting both adolescents & parents. Obesity is defined as a body mass index equal to or greater than 95th percentile for age & gender. Prevalence of obesity among adolescents has increased worldwide & is now the 2nd commonest cause of preventable death in developed countries. Recent National Health & Nutrition Examination Survey estimates that 30.4 % of adolescents 12-19 years of age are overweight or at risk for becoming overweight [1]. Average adolescent weight has increased by 5 kg within last 3 decades [2].

Stagnant lifestyle & junk foods are responsible for more than 3,00,000 deaths per annum. Biological, genetic, cultural & behavioral factors cause obesity. Risk of becoming obese is 50% when either of the parent is obese & it increases to 80% when both of them are obese. Causative factors for the rising trend of adolescent obesity include overeating, lack of exercise, medical illness, low self esteem, medications, depression, emotional problems, stressful life & family problems. Female gender, firstborn status, urban living, sedentary lifestyle, higher level of education, higher income, skipping breakfast, inadequate consumption of green leafy vegetables & fruits & increasing television viewing also contribute to obesity [3]. Risk of obesity is 7 times higher among those who had television screen time ≥ 4 hours/day [4]. Having a television in the bedroom is a strong predictor of being overweight. Increased consumption of refined grains & sugar-sweetened beverages & increased portion size of fast food are also responsible for the rising prevalence of obesity. About 25%-70% of the 40,000 advertisements/year are for food, much aimed directly at children & adolescents & almost 1/3rd contains misleading nutrition information. Nearly \$13 billion is being invested every year on restaurant & food advertisements [5]. The portion sizes for food & beverages has increased by 25-50% over the last 2 decades (plate sizes, supersizing/value meals, recipes). Consumption of fried food & carbonated beverages have increased. Nearly 1 in 4 adolescents aged 12–19 don't eat breakfast regularly & nearly 23% do not get the recommended amount of physical activity. With increasing urbanization, there has been a decrease in the duration of physical activities of daily living such as walking and doing household chores which contribute greatly to the recent upsurge of adolescent obesity. Obese teens are approximately 10 times more likely than normal teens to develop hypertension in young adulthood, 3-8 times more likely to develop dyslipidemia, and more than twice as likely to develop diabetes [6]. Obesity is associated with sleeping disorders, breathing problems, emotional disturbances, heart diseases, liver & renal diseases, reproductive dysfunction, asthma, joint pain, stroke, gallbladder disease, low self esteem, depression, obsessive compulsion disorders, anxiety & premature deaths [7]. Modalities to overcome adolescent obesity include combinations of diet, behavior modification, medical therapy, and invasive procedures. Medications evaluated for treatment of obesity include sibutramine, orlistat, metformin & exenatide.

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