

# Asian Resonance

## A Study of Obesity in Shivpuri District, Madhya Pradesh, India

### Abstract

In contrast to other threats to Indian children's health, the treatment and prevention of childhood obesity are considered the responsibility of individual children and their parents. This pressure exists in the context of the societal stigmatization of overweight children and the powerful environmental inducements aimed directly at children to eat nutritionally poor foods. Parents of overweight children are left in the difficult position of fearing the social and health consequences of their child's obesity, and fighting a losing battle against the omnipotent presence of the media and constant exposure to unhealthy foods. This paper brings together several literatures to provide a comprehensive examination of the major challenges facing obese children and their families. In particular, this paper documents the extent of stigmatization towards overweight children and reviews evidence of the conflicting advice given to parents about how to help children develop healthful eating in the face of biological and learned food preferences. We conclude with a call for a shift in thinking about the role of our society in the etiology, treatment and prevention of childhood obesity.

**Keywords :** Child, Environment, Obesity, Stigma, Health. Shivpuri

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### Introduction

Obesity means having too much body fat. It is not the same as being overweight, which means weighing too much. A person may be overweight from extra muscle, bone, or water, as well as from having too much fat. Both terms mean that a person's weight is higher than what is thought to be healthy for his or her height. Obesity is defined as excess body fat. Because body fat is difficult to measure directly; obesity is often measured by body mass index (BMI), a common scientific way to screen for whether a person is underweight, normal weight, overweight, or obese. BMI adjusts weight for height (Braet C1999) and while it is not a perfect indicator of obesity (Wadden et al 2002). It is a valuable tool for public health. Adults with a BMI between 25.0 and 29.9 are considered overweight, those with a BMI of 30 or more are considered obese, and those with a BMI of 40 or more are considered extremely obese (Braet C and Van Winckel M F 2000) or children and adolescents, these BMI categories are further divided by sex and age because of the changes that occur during growth and development. Growth charts from the Centers for Disease Control and Prevention (CDC) are used to calculate children's BMI. Children and adolescents with a BMI between the 85th and 94th percentiles are generally considered overweight, and those with a BMI at or above the sex-and age-specific 95th percentile of population on this growth chart are typically considered obese. Determining what is a healthy weight for children is challenging, even with precise measures. BMI is often used as a screening tool, since a BMI in the overweight or obese range often, but not always, indicates that a child is at increased risk for health problems. A clinical assessment and other indicators must also be considered when evaluating a child's overall health and development (Brownell K.D., Horgen K.B. 2002).

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## Result and Discussion

AGE YEARS	BOYS			GIRLS		
	Total sample	Non Obese	Obese	N	Non Obese	Obese
7	135	102	33	112	100	12
8	83	53	30	86	72	14
9	130	110	20	117	101	16
10	78	58	20	109	85	24
11	135	108	27	173	150	23
12	201	155	46	189	161	28
13	174	128	46	166	121	45
14	114	95	19	168	135	33
<b>TOTAL</b>	<b>1050</b>	<b>809</b>	<b>241</b>	<b>1120</b>	<b>925</b>	<b>195</b>

Table- 2. Adverse outcomes in childhood obesity

<b>Cardiovascular</b>	High blood pressure, Early onset of atherosclerosis, Left ventricular hypertrophy
<b>Endocrine</b>	Insulin resistance, Diabetes mellitus (NIDDM), Menstrual abnormalities, Polycystic ovarian syndrome(PCOS)
<b>Gastrointestinal</b>	Gallstones, Non alcoholic, Steatohepatitis(NASH), Hepatic fibrosis, Cirrhosis
<b>Neurological</b>	Pseudotumor cerebri
<b>Orthopedic</b>	Slipped capital femoral epiphysis, Tibia Vara, Osteoarthritis
<b>Psychosocial</b>	Obsessive concern about body image, Expectation of rejection, Progressive withdrawal, Low self esteem, Depression
<b>Pulmonary</b>	Increased bronchial hyperactivity, Asthma exacerbation, Obstructive sleep apnoea, Pickwickian syndrome, Pulmonary embolism
<b>Renal</b>	Increased sensitivity to sodium, Decreased natriuresis, Proteinuria, Focal segmental glomerulosclerosis (FSGS)

**How Does Obesity Impact Our Health**

Obese adults have an increased risk for many diseases, including type 2 diabetes, heart disease, some forms of arthritis, and several cancers. Overweight and obese children are more likely to become obese adults. Specifically, one study found that obese 6-8 year-olds were approximately ten times more likely to become obese adults than those with lower BMIs. The association may be stronger for obese adolescents than younger children. Obese children are also more likely to have increased risk of

heart disease. One study found that approximately 70% of obese children had high levels (greater than 90th percentile) of at least one key risk factor for heart disease, and approximately 30% had high levels of at least two risk factors. There is evidence that heart disease develops in early childhood and is exacerbated by obesity, and people as young as 21 have been found to display early physical signs of heart disease due to obesity. Obese children are also more likely to develop asthma (Prentice A.M. and Jebb S.A.2001). Obesity is the most significant risk factor for type 2 diabetes, a disease once called "adult onset diabetes" because it occurred almost exclusively in adults until childhood obesity started to rise substantially. The number of hospitalizations for type 2 diabetes among Americans in their 20s has gone up substantially, for example. A 2001 study found that more than 75% of children ages 10 and over with type 2 diabetes were obese. Type 2 diabetes occurs more frequently among some racial and ethnic minority groups, and rates among American Indians are particularly high. In addition to the physical health consequences, severely obese children report a lower health-related quality of life (a measure of their physical, emotional, educational, and social well-being). In fact, one study found that they have a similar quality of life as children diagnosed with cancer. Obesity during childhood is also associated with some psychiatric disorders, including depression and binge-eating disorder, which may both contribute to and be adversely impacted by obesity. Multiple twin and adoption studies also indicate a strong genetic component to obesity. However, genes associated with obesity were present in the population prior to the current epidemic; genes only account for susceptibility to obesity and generally contribute to obesity only when other influences are at work. Genetic susceptibility to obesity is significantly shaped by the environment (National Institutes of Health, 1998). In addition to genetic factors, recent research has focused on other factors, such as maternal nutrition, environmental toxins, and the prenatal environment, which may shape later risk for childhood obesity.

**What Causes Obesity****Early Life**

A child's risk of becoming obese may even begin before birth. Pregnant women who use tobacco, gain excessive weight, or have diabetes give birth to children who have an increased risk of being obese during their preschool years. Furthermore, although the evidence is not conclusive, rapid weight gain in early infancy has been shown to predict obesity later in life. Racial and ethnic differences in obesity may also be partly explained by differences in risk factors during the prenatal period and early life. Studies show that early influences can affect obesity rates. The increased occurrence of obesity among children of obese parents suggests a genetic component.

**Environmental Factors during Childhood**

There have been major changes in Indians' life styles over the last 30 years, as childhood obesity rates have been raising. This includes what and

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where we eat. Given the pace of modern life, Indians' now consume more fast-food and sugar-sweetened beverages, eat outside the home more frequently and spend less time enjoying family meals. In addition, prepared and processed food is easily accessible and inexpensive. All this adds up to poor eating habits. For example, 13% of the daily caloric intake for 12-19 year-olds now comes from sugar-sweetened beverages. At the same time, adults and children alike are getting less physical activity. Some schools have cut back on activities like physical education and recess, in part due to budget pressures at the state and local level. And children are increasingly driven to school by car or bus, rather than walking or biking. Meanwhile, "screen time" has increased, including television viewing, which is directly associated with childhood and adult obesity. Among children, watching television or time spent on computers or gaming systems takes away from engaging in physical activity like organized sports or informal playing. It also has a more harmful effect on healthy eating habits; as children watch television, they are more likely to snack, including on the foods advertised. In addition, screen time has been associated with children getting less and poorer quality sleep and insufficient sleep has been linked to a heightened risk of obesity.

## What Can We Do

While additional studies to identify the precise causes of obesity will be useful, we do not need to wait to identify specific actions that we can take as a society to prevent obesity. There are many examples of effective therapies for diseases whose cause has not been fully identified. For example, remission rates of acute lymphocytic leukemia in children have been dramatically improved over the last 20 years, although the causes of the disease remain uncertain. No single action alone will reverse the childhood obesity epidemic; although there is no question that improving eating habits and increasing physical activity are two critical strategies. As with tobacco prevention and control, comprehensive, multi-sectoral approaches are needed to address the many.

## Solving the Problem of Childhood Obesity

Reducing childhood obesity does not have to be a costly endeavor, however. And indeed, in many communities it simply cannot be. Times are tough, and federal, state, local, and family budgets are all feeling squeezed. But a great deal can be accomplished without significant expenditures, and some steps may ultimately save money. Behavioral risk factors associated with obesity. These risk factors fall into three general categories: material incentives, such as the cost of food or the desire to avoid poor health; social norms, such as the nutritional and physical activity habits of friends and family, which influence us greatly; and the broader environment, such as whether grocery stores and playgrounds are nearby or far away. Changes in each of these risk factors are possible. For example, with sound information, parents and caregivers will be able to seek out the most nutritious foods to improve their children's health; changes in social norms can be

brought about through movements such as the successful seatbelt buckling campaigns of the late 20th century; and changes can be made in the broader environment by eliminating "food deserts" or "playground deserts."

**Empowering parents and caregivers** with simpler, more actionable messages about nutritional choices based on the latest *Dietary Guidelines for Indians'* improved labels on food and menus that provide clear information to help make healthy choices for children; reduced marketing of unhealthy products to children; and improved health care services, including BMI measurement for all children.

**Providing healthy food in schools**, through improvements in federally-supported school lunches and breakfasts; upgrading the nutritional quality of other foods sold in schools; and improving nutrition education and the overall school environment.

**Getting children a healthy start on life**, with good prenatal care for their parents; support for breastfeeding; adherence to limits on "screen time"; and quality child care settings with nutritious food and ample opportunity for young children to be physically active.

**Improving access to healthy, affordable food**, by eliminating "food deserts" in urban and rural Indians' lowering the relative prices of healthier foods; developing or reformulating food products to be healthier; and reducing the incidence of hunger, which has been linked to obesity.

**Getting children more physically active**, through quality physical education, recess, and other opportunities in and after school; addressing aspects of the "built environment" that make it difficult for children to walk or bike safely in their communities; and improving access to safe parks, playgrounds, indoor and outdoor recreational facilities. Many of these recommendations are for activities to be undertaken by federal agencies. All such activities are subject to budgetary constraints, including the weighing of priorities and available resources by the Administration in formulating its annual budget and by Congress in legislating appropriations.

## Treatment

### Changing Your Lifestyle

An active lifestyle and regular exercise, along with healthy eating, is the best way to lose weight. Even modest weight loss can improve your health. You will need a lot of support from family and friends. When dieting, your main goal should be to learn new, healthy ways of eating and make them a part of your daily routine. Many people find it hard to change their eating habits and behaviors. You may have practiced some habits for so long that you may not even know they are unhealthy, or you do them without thinking. You need to be motivated to make lifestyle changes. Make the behavior change part of your life over the long term. Know that it takes time to make and keep a change in your lifestyle. Work with your health care provider and dietitian to set realistic, safe daily calorie counts that help you lose weight while staying healthy. Remember that if you drop pounds slowly and steadily, you are more likely to

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keep them off. Your dietitian can teach you about Healthy food choices, Healthy snacks, Sweetened drinks, Portion sizes, How to read the nutrition labels, new ways to prepare food.

Extreme diets (fewer than 1,100 calories per day) are not thought to be safe or to work very well. These types of diets often do not contain enough vitamins and minerals. Most people who lose weight this way return to overeating and become obese again. Learn new ways to manage stress, rather than snacking. Examples may be meditation, yoga, or exercise. If you are depressed or stressed a lot, talk to your health care provider.

### Medications and Herbal Remedies

You may see ads for supplements and herbal remedies that claim they will help you lose weight. Many of these claims are not true, and some of these supplements can have serious side effects. Talk to your health care provider before using them. Several prescription weight loss drugs are available. Most people lose between 5 and 10 kg by taking these drugs. Most people also regain the weight when they stop taking the medicine, unless they have made lasting lifestyle changes, such as exercising and cutting unhealthy foods from their diet.

### Surgery

Bariatric surgery can reduce the risk of disease in people with severe obesity. These risks include arthritis, diabetes, heart disease, high blood pressure, sleep apnea, some cancers and stroke. Surgery may help people who have been very obese for 5 years or more and have not lost weight from other treatments, such as diet, exercise, or medicine. Surgery alone is not the answer for weight loss. It can train you to eat less, but you still have to do much of the work. You must be committed to diet and exercise after the surgery. Talk to your doctor to learn if this is a good option for you.

### Conclusion

In conclusion, we report that the prevalence of obesity has increased in urban adolescents aged 14–17 years in India. In addition, male gender and higher socioeconomic status is associated with a significant risk of being both overweight and obese. Socioeconomic status is another factor which has been linked to problem of overweight and obesity in many other studies. The locus of responsibility for childhood obesity needs to shift away from individuals and towards the environment. Society can address this health problem in a number of ways that are consistent with strategies used to combat other childhood diseases. Places that are intended to protect children, such as schools, need to become involved in proactive ways. Unhealthful foods should be removed from public schools. Physical education should return as a required part of each child's school day. Advertising unhealthful foods to children should be limited and advertising healthful foods should be subsidized. In addition, parents, teachers and others who work with children need to take on the challenges of educating children not only about nutrition but also about the importance of treating each other with respect and tolerance despite physical differences in

size and shape. When a child becomes obese because of eating the fast-food meals, we say that the child should not have eaten that food and that the parent should not have taken the child to the fast-food restaurant. Large scale nationwide campaigns targeted at these specific groups are required to check the growing epidemic of childhood obesity in developing countries. Countrywide awareness programs to spread healthy messages on good nutrition and good health for the prevention of obesity and its consequences need to be initiated. These shall not only promote good health, but also help in the prevention of non-communicable diseases as diabetes, heart problems, and other related diseases. On the long run, such programs shall act to reduce the burden on economic growth of the nation.

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