Sharron Dalton, PhD, RD, New York, USA
Associate Professor, Department of Nutrition, Food Studies & Public Health, New York University, New York, USA; Director of a Graduate Program in Nutrition; led New York University graduate student seminars in Germany, England, Ireland and Puerto Rico; recent book: Our Overweight Children: What Parents, Schools, and Communities Can Do to Control the Fatness Epidemic
Außerordentliche Professorin am Institut für Ernährungswissenschaft und Public Health, New York, USA; Direktorin eines Ernährungsprogrammes; Leitung von Universitätsseminaren in Deutschland, England, Irland und Puerto Rico; letzte Publikation „Our Overweight Children: What Parents, Schools, and Communities Can Do to Control the Fatness Epidemic"

Obesity in Children and Youth

Abstract

Fettleibigkeit stellt eine immer größere Gefahr für die körperliche und geistige Gesundheit von Kindern dar. Am beunruhigendsten ist, dass vor allem Kinder zwischen zwei und fünf Jahren dicker sind als je zuvor. Die Liste der Gesundheitsrisiken, denen sie dadurch ausgesetzt werden, ist lang. Vielen Kindern droht aufgrund von Fettleibigkeit ein kürzeres Leben, das durch chronische Krankheiten (hier vor allem Diabetes II) und durch geringere Lebensqualität gekennzeichnet ist. Laut Experten sind die Hauptgründe für diese epidemische Fettleibigkeit in vielen verschiedenen Faktoren zu suchen, so z. B. Veranlagung, Armut, moderne, die körperliche Bewegung unnötig machende Geräte sowie eine „toxische" Umgebung, die mit „Junkfood" verseucht ist. Man ist sich in Expertenkreisen nahezu einig, dass sowohl genetische Faktoren als auch äußere Einflüsse (z. B. Ernährung) eine Rolle spielen. Der Trend zu starker Gewichtszunahme unter Kleinkindern steht in engem Zusammenhang mit der steigenden Fettleibigkeit bei Jugendlichen. Übergewichtige Teenager laufen ferner große Gefahr, auch im Erwachsenenalter übergewichtig zu bleiben. Ein essenzieller Schritt bei der Bekämpfung von Fettleibigkeit bei Kindern ist die Aufklärung der Eltern. Zum Beispiel sind bei der Geburt sehr kleine, aber auch sehr große Neugeborene einem größeren Risiko ausgesetzt, als Erwachsene unter Fettleibigkeit oder Diabetes zu leiden. Wenn die Gewichtszunahme eines Kindes schneller vor sich geht als das körperliche Wachstum, sollten Maßnahmen ergriffen werden, um die Gewichtszunahme zu verlangsamen. Auch Stillen ist wichtig, da sich sowohl die Mutter als auch das Kind auf die Regelmäßigkeit der Ernährung mit Muttermilch einstellen und so das Risiko von Übergewicht eingeschränkt wird.
Der Kampf gegen Fettleibigkeit bei Kindern erfordert aber nicht nur Kontrolle innerhalb der Familie, sondern auch Maßnahmen von Seiten der Schulen, Gemeinden und Regierungen.

**

The threat of obesity to the physical and mental health of American and European children is high and rising. On a global scale, obesity affects nearly as many children as undernourishment. The growing prevalence during the 1990's was dramatic, with an increase of almost 1% annually in North America and many European countries, affecting as many as 1 out of 4 children.[i] Young children, aged between 2 and 5, are getting fatter faster than ever before, and even early infancy is proposed as being a critical period for the development of obesity.[ii]

The list of health dangers is long. As many as 25 % of obese children already show signs of early glucose intolerance, a precursor to type II diabetes.[iii] Predictions are that a child who is diagnosed with type II diabetes mellitus at age 10 will lose between 17 and 26 life-years to this chronic disease - a shortened life in both quantity and quality.[iv] Besides the usual chronic diseases, overweight children more frequently have:

- Orthopedic problems, especially damage to the growth plate of the hip
- Sleep apnea and other breathing difficulties
- Fatty liver disease (non-alcoholic steatohepatitis) and gall bladder problems
- Menstrual irregularities and polycystic ovary disease

The worst case scenario is that this generation of children could be the first to have a shorter life expectancy than their parent's generation.[v]

Why are Kids Getting Fatter?

Experts identify the root causes of the epidemic obesity as "multifactorial," including genetics, poverty, movement-saving devices, and a "toxic" environment polluted with "junk" food. Some blame "distorted policy priorities" such as unregulated industrial globalisation fueled by the gigantic food and electronic corporations that provide cheap, high calorie, low nutrient foods and seductive, sedentary gadgets like television and video games. Parents and families are also named (and blamed) as the source of "personal responsibility" in helping children choose foods and physical activities that support a healthy weight. Almost everyone agrees that both *nature* (genes) and *nurture* (environment) are important factors.

Studies of twins show that predisposing genes for obesity are likely to be commonplace among children (accounting for 60-80% of obesity variation). However, obesity is evident only where the environment allows and encourages it. During the last two decades, the near universal availability of cheap, high-calorie foods and beverages combined with a decline in energy expenditure provided this "fattening" environment. Obesity occurs in families because both genes and environments are shared. Excess energy consumption early in an infant's life, even 20 calories above energy daily requirements, coupled with

being born to obese parents may set the stage for future childhood obesity. A pattern of rapid weight gain during early infancy is associated with increasing obesity throughout adolescence. [vi] A vicious cycle begins: eating high-fat foods and sitting 24 hr/day in front of TV and video games promotes obesity, in turn making physical activity uncomfortable and painful. The cycle continues with teasing from other children, leading to isolation, less activity, and physical illness. Overweight teenagers have a very high risk of becoming overweight adults.

How and when can we identify and help these children?

Parental awareness of children's excess weight is a particularly crucial step in tackling childhood obesity. In economically developed countries, especially among low-income groups, parents do not recognize that their overweight child is overweight. Recognition and concern regarding children's size and related health risks vary among cultures and countries worldwide, and between older and younger generations. Few parents or caregivers (mainly grandmothers) associate excess weight with future risk of disease. Thin children are associated with poor health. But evidence is mounting that babies born either very small or very large are both at risk of obesity or diabetes when growing up. Energy disruption in the womb from too much or too little maternal nourishment may groom a child for obesity. Parents of overweight nursery school children commonly believe their children are healthy or will grow into their weight. Many believe children are destined to be a certain weight, which is impossible to change. At the same time, in many cultures, discrimination toward overweight children by their peers[vii], families, and health providers is worsening and begins at a very young age. These cultural and social measures and judgements of appropriate body size are as important and varied as physical measurements. Often, they are barriers to achieving a healthy weight.

A high weight-for-height, known as the body mass index (BMI), is termed overweight and a very high weight-for-height is obese. BMI must always relate to age and, preferably, be compared to a suitable reference standard. A single measure of BMI does not account for variation in the amount of body fat, and provides only a snapshot of a child's weight-for-height, not the rate of growth. Studying the rates of weight and height gain and the relationship between them over time, is critical. If a child's weight growth outpaces height growth, steps should be taken to slow the rate of weight gain. Also noteworthy is the dip in the growth curve BMI that occurs in early childhood. Children usually thin out after their second birthday, hold steady, and then slowly increase around age five or six. This upswing from the dip, the "adiposity rebound", is now beginning at younger ages with a high rate of weight gain during the first three years. Because breastfeeding may help both mother and child to regulate feeding according to need, it is important and may reduce the risk of becoming overweight.

When a health crisis affects children, we would expect parents to be especially alarmed by the early signals. But because excessive weight gain is often imperceptible but

steady, and because it is overshadowed by more immediate challenges confronting families today, prevention is way behind schedule. Once a child becomes overweight, losing excess weight and maintaining a healthy weight is very difficult, as it is for adults. “Eating less” and “moving more” are the age-old remedies. But “dieting” to lose weight is risky for children who are growing and learning eating behaviors for life. Worrying side effects of calorie restriction are eating disorders (anorexia nervosa, binge eating, bulimia). Prevention of becoming overweight is critical, but extremely challenging. Suggestions for families, schools and communities are abundant and worth trying, but unfortunately few are supported by successful results.

- Families eat together - parents eat moderately - children will copy
- Families talk, walk, and play together indoors and outdoors instead of “screen” time
- Families get enough sleep which is related to healthy weight (children need 9 hours)
- Schools phase out soft drinks and high fat/sugar food and offer tasty meals and snacks
- Schools promote physical activity throughout the day
- Communities reclaim streets for play and community activities
- Governments promote availability of affordable nutritious food in low-income areas
- Health providers intervene early with sensitive, ongoing support for families
- Corporations consider the health of future consumers as being important to business
- Governments regulate sales and promotions of high-calorie/low nutrient foods/drinks

Being overweight certainly puts children at an increased risk of serious diseases and reduced quality of life. It is a condition requiring large amounts of prevention and moderation. The challenge is bigger than any one of us. It requires immediate attention from all.

REFERENCES[i]

1. Lobstein T, Baur L, Uauy for the IASO International Obesity TaskForce. *Obesity in children and young people: a crisis in public health*. Obesity Reviews 2004;5(suppl 1):4-85.

2. Hedley AA, Ogden CL, Johnson CL, Carroll MD, Curtin IR, Flegal KM. *Prevalence of overweight and obesity among US children, adolescents, and adults, 1999-2002*. JAMA. 2004;291(23):2847-2850.

3. Sherry B, et al. *Prevalence of overweight among low income children, aged 2-5 years*: Pediatric Surveillance System 2000. Arch Pediatr Adol Med. 2004; Dec.

4. Sinha R, Fisch G, Teague B. Tamborlane WV, Banyas B. Allen K, et. *Prevalence of impaired glucose tolerance among children and adolescents with marked obesity*. N Engl J Med 2002;346:802-810.

5..Narayan KM, Boyle JP, Thompson TJ, Sorensen SW, Williamson DF. *Lifetime risk for diabetes mellitus in the United States*. JAMA 2003;290:1884-1890.

6. Olshansky SJ, Passaro DJ, Hershow RC, et al. *A potential decline in life expectancy in the United States in the 21st century*. N Engl J Med. 2005;352:1138-1145.

7. Reilly JJ, Armstrong J, Dorosty AR, Emmett PM, Ness A, Rogers I, Steer C, Sherriff A. *Early life risk factors for obesity in childhood: cohort study*. BMJ. 2005; May 20:1-7.

8. Latner JD, Stunkard AJ. *Getting worse: The stigmatization of obese children.* Obesity Res. 2003;11(3):452-456.