

Childhood Obesity And Its Consequences: *Nutrition, Activity and the Role of the Health Care Provider*



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Type 2 Diabetes Mellitus (T2DM) has reached epidemic proportions - particularly among African-American and Hispanic children living in poverty. For most newly diagnosed children, T2DM is associated with obesity. The Children's Health Fund is committed to public health action to prevent overweight and obesity, and in so doing prevent T2DM. For children at risk, we must develop more effective screening and earlier intervention to limit the often devastating consequences of diabetes, which may include eye disorders such as blindness, cataracts and glaucoma; circulatory disorders and heart disease; nerve damage; toe, foot and leg amputations; and kidney failure.

Overweight and obesity now affect approximately 61% of adults, double the rate in 1980. The number of deaths attributed to overweight and obesity each year is 300,000 - three-fourths as many as are attributed to cigarette smoking. The U. S. Department of Health and Human Services (HHS) estimates the direct and indirect costs of overweight and obesity at \$117 billion in 2000.

Estimates of prevalence of overweight and obesity among children and adolescents vary. According to HHS, 13% of children and 14% of adolescents are affected - triple the adolescent rate since 1980. A 1999 article in *American Family Physician* places the number between 25% and 30% of children and adolescents, and raises concern about under-identification and under-diagnosis.

This crisis prompted the Surgeon General to issue, in December 2001, a ***Call to Action to Prevent and Decrease Overweight and Obesity***. The ***Call to Action*** makes it clear that the increase in overweight and obesity has become a major public health problem.

At the ***Children's Hospital at Montefiore*** (CHAM), there has been a ten-fold increase in newly-diagnosed pediatric cases of T2DM since 1990. Currently, half of newly diagnosed cases of diabetes are type 2. These patients are predominantly African-American and Caribbean

Hispanic children. More than 70% of the newly diagnosed pediatric diabetes patients are obese.

In its "2000 Clinical Consensus Statement", the American Diabetes Association estimated that more than 15 million American adults suffer from T2DM. The cost of medical care for all diabetes patients in 1997 was \$44.1 billion - including \$11.8 billion for associated chronic conditions and \$24.6 billion for associated general medical conditions. The annual per capita cost of medical care for people with diabetes was \$10,071 compared with \$2,669 for people not diagnosed with diabetes.

Clearly there are enormous health and economic benefits to be gained from the prevention and early detection of T2DM. This is the mission of the Children's Health Fund-Bristol-Myers Squibb **Starting Right Initiative**. This effort is especially important in the context of the 1996 position of the U.S. Preventive Services Task Force, an agency reporting to HHS, Office of Public Health and Science, that there is insufficient evidence to recommend for or against routine screening for diabetes mellitus in asymptomatic persons. They conclude that the benefits of early detection have not been established for any population; however, clinicians may decide to screen based on high risk.

To facilitate prevention, **Starting Right** will build on recently published evidence from the National Institutes of Health-sponsored Diabetes Prevention Program which shows that diet and exercise may prevent or delay T2DM. With only moderate exercise such as walking briskly for 30 minutes per day, adult participants lost from 5% to 7% of body weight (approximately 15 pounds) and reduced their risk of diabetes by 58%.

The goals of **Starting Right** are to create a new model of care for medically underserved pediatric populations and increase awareness of childhood diabetes. Working with high-risk African-American and Hispanic children who are patients of the South Bronx Health Center for Children and Families, the Initiative will focus on healthy eating and physical activity, working with families in a culturally sensitive way and using available community resources to promote

healthy lifestyle changes. Clinical screening and referral protocols will be developed for children and adolescents who are overweight or obese, as well as for those whose body mass index is within normal range but whose parents are obese.

To facilitate early detection, **Starting Right** will work with the Division of Pediatric Endocrinology at the *Children's Hospital at Montefiore* to develop protocols that are appropriate for high-risk pediatric and adolescent populations. Currently, pediatric diabetes screening and diagnosis protocols are essentially adult standards applied to children. Typical recommendations, (e.g., screening once every two years) do not appear to be sufficiently rigorous for children at high risk. Recent studies at CHAM reveal that, with adult protocols in place, there is an alarming rate of undiagnosed hyperglycemia, especially among high-risk children who should be a high priority for screening and early detection.

Integrating research activities into optimal clinical care, will focus on the following goals:

- Establish effective protocols for screening and referral of pediatric patients at high risk for T2DM;
- Ensure that diagnostic criteria, e.g., fasting blood sugar levels and oral glucose tolerance test results, are appropriate for pediatric and adolescent patients;
- Develop primary care criteria to identify patients who should be referred to a clinical nutritionist;
- Develop culturally appropriate diabetes educational materials, workshop curricula and treatment materials for patients and their families;
- Increase public awareness of the dangers of obesity and diabetes, using media briefings, web and print communications, and collaborations with sports figures;
- Increase sensitivity to these issues within the professional community through presentations at national medical conferences and preparation of papers for publication in peer-reviewed medical journals.

In addition to the specific programmatic objectives of **Starting Right**, The Children's Health Fund will advocate strongly in support of the following:

- **Recognition of obesity as a medical condition** - Obesity should be recognized as a disease for which interventions are covered by health insurance - which currently covers only care for its consequences such as hypertension and diabetes;
- Improvement of the nutritional quality of school meals - While recognizing the progress made in the nutritional value of school lunches, CHF believes more fresh fruits and vegetables could be served, with less high fat and high cholesterol foods. Children in poverty receive a substantial percentage of their daily nutritional intake by school meal programs and are especially vulnerable to the quality of these meals;
- **Increased resources for physical education programs in the public schools** - Children need more opportunities for physical activity. Too few elementary schools have a physical education program or indoor gymnasium, and in many low-income communities parks and playgrounds are not safe or are in sub-standard condition.
- **Improved integration of nutrition education in health education curricula** - Nutrition education must be made more widely available, including in school health education programs. Children often make independent decisions about snacks and need information to make healthy choices;
- **More effective screening and pediatric primary care** - Pediatricians and other health providers must develop increased awareness of the early signs of risk - doing more effective screening, earlier referral, and promoting healthy lifestyles including better nutrition and more physical activity.