

More Than 350 Million People Will Have Diabetes by 2030

Even if the level of obesity remains constant, the epidemic of diabetes will continue.

BY CONNI BERGMANN KOURY, EDITOR-IN-CHIEF

It is expected that the total number of people living with diabetes will rise to 366 million by 2030.¹ Based on data from the World Health Organization Global Burden of Disease Studies, the prevalence of the disease will rise to 4.4% in 2030. Researchers said that the most important demographic change to diabetes prevalence across the world appears to be the increase in the percentage of the population that is older than 65 years.

Many other factors contribute to the increasing number of people with diabetes, including most notably the increasing prevalence of obesity. In fact, even if the level of obesity remains constant, the epidemic of diabetes will continue, according to research published in *Diabetes Care*. Experts said that it is likely that current figures underestimate the future problem of diabetes prevalence.

INTERNATIONAL DIABETES FEDERATION

In developing countries, people with diabetes are most often in the 45-to-64-year age range, while the majority of those with the disease in developed countries are older than 64. Estimates of the International Diabetes Federation (IDF) predict that, by 2030, the number of people with diabetes who are older than 64 will be 82 million in developing countries and 48 million in developed countries.

The IDF, in conjunction with the International Obesity Task Force of the International Association for the Study of Obesity, released a report entitled, "Diabetes and Obesity: Time to Act." The report calls for action on the part of individuals, health care professionals, industry and policy makers.

An IDF news release issued at the American Diabetes Association 64th Annual Scientific Sessions meeting said:

Strategies to reduce the prevalence of diabetes must include controlling access to calorie-dense food and drinks, in particular for children.

"Strategies must encourage and facilitate physical activity and a healthy diet, and control access to [calorie] dense food and drinks. Health promotion, particularly in relation to diet, weight control and physical activity, can play a part but it is not sufficient on its own. In particular for our children, policies and legislation need to ensure safe play outdoors, safe transport to and from school by foot and bicycle, and protection from highly influential advertising which promotes inappropriate (and unnecessary) consumption of [calorie] dense food and drink."

TWIN EPIDEMIC: OBESITY AND DIABETES

Obesity and diabetes can be thought of as twin epidemics. At the 2004 annual meeting of the American Association of Clinical Endocrinologists, Allen M. Spiegel, MD, said that by 2030 there will be almost 30 million people with diabetes in the United States alone. Dr. Spiegel, who is director of the National Institute of Diabetes & Digestive & Kidney Diseases, said "the burden is enormous, yet much is preventable." The epidemic of diabetes is paralleled by the "absolute crisis" of obesity, he said.²

A recent study in the *Journal of the American Medical Association* updated the prevalence of overweight in children and obesity in adults.³ Using body mass index as an indicator, the study found that in 1999 to 2002,

among adults aged 20 years of age and older, 65.1% were overweight or obese, 30.4% were obese, and 4.9% were extremely obese. For the same time frame, among children aged 6 through 19 years, 31% were either at risk for overweight or were overweight with 16% classified as overweight.

The data is part of the National Health and Nutrition Examinations Survey, which looked at 4,115 adults and 4,018 children in 1999 to 2000 and 4,390 adults and 4,258 children in 2001 to 2002. The authors noted that there continues to be disparities by sex and between racial/ethnic groups in the prevalence of overweight and obesity.

ADA MEETING

Studies presented at the ADA annual meeting underlined the risk of diabetes and obesity to children and especially minorities. British researchers reported that most parents of obese children were unaware that their children's weight was abnormal.⁴ "When parents do not recognize overweight and obesity in their children — as up to three-quarters of the parents in our survey did not — we are missing critical partners in our effort to halt a developing epidemic of childhood type 2 diabetes," said Alison N. Jeffery, MSc, senior research nurse at Derriford Hospital, Peninsula Medical School, Plymouth, UK. The

OBESITY TRENDS

- In the United States, in 1991, only four of 45 participating states had obesity prevalence rates of 15% to 19% and none had prevalence >20%.
- By 2000, all of the 50 states except Colorado had prevalences of ≥15%, with 22 of the 50 states having obesity prevalence as high as ≥20%.
- In 2001, 20 states had obesity prevalence of 15% to 19%; 29 states had prevalences of 20% to 24%; and one state reported a prevalence ≥25%.
- The prevalence of obesity among U.S. adults increased to 20.9% in 2001, a 5.6% increase in 1 year and a 74% increase since 1991.
- About 15.5% of adolescents (ages 12 to 19 years) and 15.3% of children (ages 6 to 11 years) are obese. The increase in obesity among American youth over the past two decades is dramatic.

Source: Centers for Disease Control and Prevention and the American Obesity Association

DIABETES STATISTICS

- 18.2 million people in the United States, or 6.3% of the population, have diabetes. This is including 5.2 million people who are undiagnosed.
- About 206,000 people younger than the age of 20 have diabetes, 0.25% of all people in this age group.
- Approximately 1 in every 400 to 500 children and adolescents has type 1 diabetes.
- Clinic-based reports and regional studies indicate that type 2 diabetes is becoming more common among American-Indian, African-American, Hispanic and Latino children and adolescents.
- 8.6 million or 18.3% of all people aged 60 years or older have diabetes.

Source: American Diabetes Association for 2002

British Early Bird Survey included 300 children and their families.

The other survey found that more than half of a group of 1,700 eighth graders had one of the following risk factors for diabetes and premature heart disease: overweight, high cholesterol, high blood pressure or blood glucose abnormalities.⁵

The children were from Texas, North Carolina and California, and 75% were Hispanic or African-American. The study is part of the Studies to Treat or Prevent Pediatric Type 2 Diabetes Study Group (STOPP-T2D).

LIFESTYLE INTERVENTIONS NEEDED

In another report published in *Diabetes Care*,⁶ researchers found that obese patients with type 2 diabetes can better manage their weight with a lifestyle intervention program. In the Improving Control with Activity and Nutrition study (ICAN) 147 patients were randomized to lifestyle case management with a registered dietician or usual care. This low-cost intervention, \$350 per person, resulted in greater weight loss, reduced weight circumference, reduced HbA1c level, less use of medications and improved health-related quality of life.

Three leading health groups have joined forces to fight the leading causes of death in this country. For the first time ever, the American Cancer Society, the ADA and the American Heart Association have come together to provide a set of recommendations.

According to a news release from the ADA, "Everyday

DIABETES AND ETHNICITY

Non-Hispanic Whites

12.5 million or 8.4% of all non-Hispanic whites aged 20 years or older have diabetes.

Non-Hispanic Blacks

2.7 million or 11.4% of all non-Hispanic blacks aged 20 years or older have diabetes. Non-Hispanic blacks, on average, are 1.6 times more likely to have diabetes than non-Hispanic whites of similar age.

Hispanic/Latino-Americans

2 million or 8.2% of all Hispanic/Latino-Americans aged 20 years or older have diabetes. On average, Hispanic/Latino-Americans are 1.5 times more likely to have diabetes than non-Hispanic whites of similar age. Mexican-Americans, the largest Hispanic/Latino subgroup, are more than twice as likely to have diabetes than non-Hispanic whites of similar age. Similarly, residents of Puerto Rico are 1.8 times more likely to have diagnosed diabetes than U.S. non-Hispanic whites.

American-Indians and Alaska Natives

who receive care from the Indian Health Service (IHS): 107,775 or 14.5% of American-Indians and Alaska Natives aged 20 years or older receiving care from IHS have diabetes. At the regional level, diabetes is least common among Alaska Natives (6.8%) and most common among American-Indians in the southeastern United States (27%). On average, American-Indians and Alaska Natives are 2.2 times more likely to have diabetes than non-Hispanic whites of similar age.

Asian-Americans and Native Hawaiian or other Pacific-Islanders

In 2002, Native Hawaiians and Japanese and Filipino residents of Hawaii were approximately two times more likely to have diagnosed diabetes than white residents of Hawaii of similar age. Prevalence data for diabetes among other Pacific-Islanders or Asian-Americans are limited, but some groups within these populations are at increased risk for diabetes.

Source: American Diabetes Association for 2002

Choices for a Healthier Life," is a 3-year advocacy, public and professional education campaign based on four preventive strategies. The recommendations are:

- Consume a healthy diet as a key component to achieving an maintain a healthy body weight
- Be physically active
- Don't smoke and avoid tobacco smoke
- See a physician to assess your personal health risks.

"Health care costs are climbing steadily, but the national investment in prevention was recently estimated at less than 5% of the total annual health care expenditures," said Eugene Barrett, MD, PhD, president of the ADA and professor of medicine and pediatrics at the University of Virginia's Diabetes Center. "We plan to pool our expertise and resources to encourage greater collaborative efforts among federal and state governments, private health care providers, insurers and policymakers to increase the funding and opportunities for prevention." ■

Visit the following Web sites for more information: IDf's Time to Act at www.idf.org; the National Institute of Diabetes & Digestive & Kidney disease at www.niddk.nih.gov; and the joint effort of the American Cancer Society, the ADA and the American Heart Association at www.everydaychoices.org.

1. Wild S, Roglic G, Green A, et al. Global prevalence of diabetes. Estimates for the year 2000 and projections for 2030. *Diabetes Care*. 2004;27:1047-1053.
2. Spiegel AM. The National Institutes of Health research agenda for the prevention of diabetes and obesity. Presented at the American Association of Clinical Endocrinologists 13th Annual Meeting. April 28 to May 2, 2004. Boston.
3. Hedley AA, Ogden CL, Johnson CL, et al. Prevalence of overweight and obesity among US children, adolescents, and adults, 1999-2002. *JAMA*. 2004;291:2847-2850.
4. Jeffery AN, Voss LD, Metcalf BS, et al. Overweight families: unaware and unconcerned. Presented at the American Diabetes Association 64th Scientific Sessions. June 4 to 8, 2004. Orlando, Fla.
5. Pilot feasibility study group of the Studies to Treat or Prevent Type 2 Diabetes (STOPP-T2D) Collaborative Group. Presented at the American Diabetes Association 64th Scientific Sessions. June 4 to 8, 2004. Orlando, Fla.
6. Wolf AM, Conaway MR, Crowther JQ, et al. Translating lifestyle intervention to practice in obese patients with type 2 diabetes. *Diabetes Care*. 2004; 27:1570-1576.