American Indians and Alaska Natives and Diabetes

Diabetes mellitus poses a significant public health challenge for the US. Some 800,000 cases are diagnosed each year, and changing demographic patterns in the US are expected to increase the number of people at risk for diabetes and who eventually develop the disease. Diabetes is a chronic disease that usually manifests as one of two major types. In type 1, which occurs mainly in children and adolescents, the body does not produce insulin, and insulin administration is required to sustain life. In type 2, which usually occurs in adults over 30 years of age, the body becomes unable to use its own limited supply of insulin effectively. (US DHHS, 2000).

Adult-onset diabetes also has **strong physiologic ties to cardiovascular disease** (CVD). The majority of patients with diabetes mellitus die of complications of CVD rather than of causes associated directly with glucose control. (US DHHS, 2003).

Diabetes is a major clinical and public health challenge among certain racial and ethnic groups in which both the number of new cases of diabetes and the risk of associated complications are great. Vulnerable and high-risk populations include Asian Americans and Pacific Islanders, elderly persons, and economically disadvantaged persons. Factors that account for this chronic disease epidemic include behavioral elements (e.g., increased fat consumption, decreased physical activity, obesity), demographic changes (aging, increased growth of at-risk populations), genetics, cultural and community traditions, and socioeconomic status. The level of patient knowledge and empowerment has a great impact on the disease burden associated with diabetes. (US DHHS, 2000).

Overweight and Obesity
Overweight and obesity are major contributors to many preventable causes of death. On average, higher body weights are associated with higher death rates. Those who are overweight or obese have a substantially higher risk of developing high blood pressure, high cholesterol, type 2 diabetes, heart disease and stroke, gallbladder disease, arthritis, sleep disturbances and breathing problems, and certain types of cancer. (US DHHS, 2000).

Incidence and Mortality

- **American Indians and Alaska Natives have the highest prevalence rates of diabetes in the world.** (Indian Health Service, 2001).

- About **15% of American Indians and Alaska Natives who receive care from the Indian Health Service have been diagnosed with diabetes,** a total of 105,000 people. On average, American Indians and Alaska Natives are 2.6 times as likely to be diagnosed with diabetes as are non-Hispanic whites of similar age. The available data probably underestimate the true prevalence—for example, **between 40% and 70% of American Indians aged 45 to 74 were found to have diabetes in a recent screening study in three geographic areas.** (NDIC, 2002).

Undiagnosed Cases Hide Actual Rate
The actual prevalence of diabetes may be one-third to one-half higher in many communities because of undiagnosed cases, as estimated by the American Diabetes Association. (Indian Health Service, 2001).

- **Diabetes mellitus is one of the most serious health challenges** facing American Indians and Alaska Natives in the US today. The disease is very common in many tribes, and morbidity and mortality from diabetes can be severe. (NDIC, 2002).

Prevalence of Type 2 Diabetes

- **Most American Indians and Alaska Natives with diabetes have type 2,** which is now common in American Indian children aged 10 and older. A small number of American Indians (about 2% to 4%) have type 1 diabetes. (NDIC, 2002).

- A review of National Institutes of Health data on type 2 diabetes in adolescents aged 15 to 19 years living in the Gila River Indian Community indicates that the **prevalence of type 2 diabetes is much higher than the Indian Health Service has estimated** (5.1% versus 0.46%). Both data sources, however, suggest a secular increase in prevalence between 1986 and 1996–1997. (Fagot-Campagna et al., 1999).

- A recent Centers for Disease Control and Prevention review of the current knowledge about type 2 diabetes among children and adolescents in North America revealed that **American Indian young people have the highest prevalence of type 2 diabetes.** In the 15- to 19-year age group, the current prevalence per 1,000 is 50.9 for Pima Indians from Arizona (active population screening by the National Institutes of Health), 4.5 for all US American Indian populations (reported cases from the US Indian Health Service outpatient clinics), and 2.3 for Canadian First Nation people from Manitoba (reported cases from outpatient clinics). In comparison, the prevalence of type 1 diabetes for US residents aged 0 to 19 years is 1.7 per 1,000. (CDC, 2002).

- Between 1990 and 1998, **the total number of American Indian and Alaska Native children, adolescents, and adults aged 35 and younger diagnosed with diabetes increased 71%,** from 4,534 to 7,736—a rate of about 9 of every 1,000 people in that age group in 1998. (CDC, 1999).

(For data on gestational diabetes, see **Risk Factors and Challenges**.)

Prevalence Rates in Specific Groups and States

- Data from the Navajo Health and Nutrition Survey, published in 1997, showed that **22.9% of Navajo adults aged 20 and older had diabetes.** Fourteen percent had a history of diabetes, but another **7% were found to have undiagnosed diabetes** during the survey. (NDIC, 2002).

- The **prevalence of type 2 diabetes ion Alaska Natives varies by subgroup.** For example, in 1993, Eskimo groups had a prevalence of 12.1 per 1,000, Indian groups had a prevalence of 24.3, and Aleut groups had a prevalence of 32.6. (NDIC, 2002).

- Among the **Pima Indians of Arizona,** about 50% of people between the ages of 30 and 64 have diabetes. Diabetes rates are highest in Pima children whose parents developed diabetes at an early age. (National Diabetes Education Program, 1999).

- **Minnesota and Wisconsin have high rates.** In a population-based study, the rate of diabetes for American Indians in Minnesota and Wisconsin was 600% higher than the rate for whites. (Minnesota Department of Health, 2001).

No Stereotyping!
There are more than 560 federally recognized tribes in the US, and about 100 others are recognized by individual states. (Department of the Interior, 2002). Health beliefs, practices, and status may vary greatly among different tribes, among different regions, and, as for members of any population group, among individuals. Each community and its individuals are unique, and it is dangerous to generalize.

- The official rate of diabetes among **Navajo** Indians aged 45 and over is 40%. (Indian Health Service, 2000).

Prevalence Rates for Women

- **American Indian and Alaska Native women 65 years and older have especially high rates:** nearly 25% have diagnosed diabetes. By comparison, among the non-Hispanic white population in the US, 11.2% of women 65 and older have diabetes. (Indian Health Service, 2000).

- **American Indian and Alaska Native women are almost three times as likely to be diagnosed with diabetes** as are white women of similar age. The disease is common in many tribes. (National Women's Health Information Center, 2003).

Mortality Rates from Diabetes

- The **rate of diabetes deaths has been increasing** in both the Indian and the US all-races populations. Since 1993, the Indian age-adjusted diabetes death rate has increased 93%. For the US all-races population, the increase since 1982 has been 39%. In 1994–1996, the Indian age-adjusted mortality rate (46.4 deaths per 100,000) was 3.5 times the 1995 all-races rate (13.3). (Indian Health Service, 2001).

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