

FACTORS ASSOCIATED WITH OVERWEIGHT AMONG URBAN AMERICAN INDIAN ADOLESCENTS: FINDINGS FROM PROJECT EAT

Objectives: To determine the prevalence of overweight in a sample of urban American Indian adolescents and identify associated behavioral, personal, and socioenvironmental factors.

Design and Participants: Participants were 246 American Indian boys and girls from the Saint Paul–Minneapolis metropolitan area of Minnesota who completed classroom surveys and anthropometric measurements as part of Project EAT (Eating Among Teens), a population-based study of adolescent nutrition and weight.

Measures: Survey items assessed behavioral factors (physical activity, television/video viewing, snacking and meal patterns, weight control behaviors), personal factors (body satisfaction, nutrition knowledge, nutrition/fitness attitudes, self-efficacy to make healthy food choices, perceived benefits/barriers to healthy eating), and socioenvironmental factors (family meal routines, family connectedness, parental attitudes regarding nutrition/fitness, availability of household foods, peer attitudes about weight and fitness).

Results: Overweight prevalence (body mass index ≥ 85 th percentile) was 43% and 39% for American Indian boys and girls. Compared to nonoverweight American Indian youth, overweight American Indian youth reported watching more hours of television/videos, greater use of weight control behaviors, less frequent snacking, caring less about fitness, lower body satisfaction, and greater parental concern about weight.

Conclusion: Obesity prevention programs targeting American Indian adolescents should focus on reducing time spent watching television/videos, screening for unhealthy weight-control behaviors, improving body satisfaction, and providing support for families to integrate healthy eating into their busy lifestyles. (*Ethn Dis.* 2008;18:317–323)

Key Words: American Indian, Adolescent, Overweight, Body Mass Index (BMI)

From the Department of Health, Ho-Chunk Nation (AJD); Division of Epidemiology and Community Health (NIL, MS, DNS), Division of General Pediatrics and Adolescent Health (MS, DNS, MI), Department of Family Medicine and Community Health (AWM), University of Minnesota, Minneapolis, Minnesota.

Amy J. DeLong, MD, MPH; Nicole I. Larson, PhD, MPH, RD; Mary Story, PhD, RD; Dianne Neumark-Sztainer, PhD, MPH, RD; Anne M. Weber-Main, PhD; Marjorie Ireland, PhD

INTRODUCTION

Obesity disproportionately affects low-income and minority youth, such as American Indians.^{1,2} A study conducted on reservations in South Dakota, North Dakota, Nebraska, and Iowa, found that nearly 40% of American Indian youth aged 5–17 years were either overweight or obese.³ A recent follow-up study on these same reservations in 2002 found that prevalences of overweight and obesity were increasing among the youth.⁴ During the seven years between measurements, the prevalence of overweight increased by 4.5% and the prevalence of obesity by 4.3%.⁴ Rates of overweight and obesity among American Indian youth were further determined to be higher than corresponding rates for the overall national population at almost every age.⁴ Other research in population-based samples of American Indian youth have similarly reported high prevalences of overweight.^{5,6}

Medical complications of childhood obesity include hypertension, dyslipidemias, insulin resistance, type 2 diabetes, orthopedic problems, sleep apnea, and social discrimination.⁷ For American Indian youth, type 2 diabetes is of paramount concern.^{8–13} A 2001 US population-based study of physician-diagnosed diabetes estimated the prevalence of type 2 diabetes to be 1.7 cases

per 1000 American Indian adolescents (ages 10–19 years), accounting for 76.4% of all diabetes diagnoses among this group (2.3 cases per 1000 adolescents).¹³ In contrast, type 2 diabetes accounted for only 12.0% (.2 cases per 1000 adolescents) of all diabetes diagnoses in the overall population (1.8 cases per 1000 adolescents).¹³ Relatively little is known about the factors associated with overweight in American Indian youth. A better understanding of these factors is essential for the development of effective interventions to reduce obesity.

Most studies regarding obesity in American Indians report on individuals living on or near reservations. However, today more than half of American Indians live outside of reservations in urban areas, and some research suggests lifestyle behaviors may differ according to residence.^{14–17} For example, studies in American Indian adolescents have found that, when compared with youth living on reservations, urban youth eat more fried foods, initiate alcohol use later, and have more neighborhood or school problems.^{15–17} This study assesses the prevalence of overweight among

...the study examines differences in behavioral, personal, and socioenvironmental factors for overweight and nonoverweight American Indian youth.

Address correspondence and reprint requests to: Mary Story, PhD, RD; Division of Epidemiology and Community Health; School of Public Health, University of Minnesota; 1300 South Second St, Ste 300; Minneapolis, MN 55454; 612-626-8801; 612-624-0315 (fax); story@epi.umn.edu