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Statistical Fact Sheet — Risk Factors

Metabolic Syndrome — Statistics

The Third Report of the National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (ATP III, NHLBI) defines the metabolic syndrome as having three or more of the following abnormalities:

— Waist circumference greater than 102 cm (40 inches) in men and 88 cm (35 inches) in women.

— Serum triglyceride level of 150 mg/dL or higher.

— High-density lipoprotein (HDL) cholesterol level less than 40 mg/dL in men and 50 mg/dL in women.

— Blood pressure of 130/85 mm Hg or higher.

— Fasting glucose level of 110 mg/dL or higher.

- People with the metabolic syndrome are at increased risk for developing diabetes and cardiovascular disease as well as increased mortality from CVD and all causes. Limited information is available about the prevalence of the metabolic syndrome in the United States.
- An estimated 47 million U.S. residents have the metabolic syndrome. *(Ford, ES, et al. Prevalence of the metabolic syndrome among US adults: findings from the Third National Health and Examination Survey. JAMA 2002;287:356–9)*

- The age-adjusted prevalence of the metabolic syndrome for adults is 23.7 percent.
  - — The prevalence ranges from 6.7 percent among people ages 20-29 to 43.5 percent for ages 60-69 and 42.0 percent for those age 70 and older.
  - — The age-adjusted prevalence is similar for men (24.0 percent) and women (23.4 percent).
  - — Mexican Americans have the highest age-adjusted prevalence of the metabolic syndrome (31.9 percent). The lowest prevalence is among whites (23.8 percent), African Americans (21.6 percent) and people reporting an “other” race or ethnicity (20.3 percent).
  - — Among African Americans, women had about a 57 percent higher prevalence than men. Among Mexican Americans, women had a 26 percent higher prevalence than men did.

(Ford ES, et al. Prevalence of the metabolic syndrome among US adults: findings from the Third National Health and Examination Survey. JAMA 2002;287:356–9)

- The prevalences of people with the metabolic syndrome are:
  - — Among whites, 24.3 percent for men and 22.9 percent for women.
  - — Among blacks, 13.9 percent for men and 20.9 percent for women.
  - — Among Mexican Americans, 20.8 percent for men and 27.2 percent for women.

(Park YW, et al. The metabolic syndrome prevalence and associated risk factor findings in the US population from the Third National Health and Nutrition Examination Survey, 1988-1994. Arch Intern Med 2003;163:427-36)

Prevalence of Metabolic Syndrome Among Adolescents:
The prevalence of metabolic syndrome among 12-19-year-old U.S. adolescents was estimated in an analysis of NHANES III data, by applying a modification of the ATP III definition for adults. Metabolic syndrome during adolescence was defined as having three or more of the following abnormalities:
{tc \l1 "The prevalence of metabolic syndrome among 12-19 year old U.S. adolescents was estimated by Cook et al (Cook S et al: Arch Pediatr Adol Med 2003;157:821-827) in an analysis of NHANES III data, by applying a modification of the ATP III definition for adults. Metabolic syndrome during adolescence was defined as three or more of the following abnormalities:**}**

- Serum triglyceride level of 110 mg/dL or higher.
- High-density lipoprotein (HDL) cholesterol level of 40 mg/dL or lower.
- Elevated fasting glucose of 110 mg/dL or higher.
- Blood pressure at or above the 90th percentile for age, sex and height.
- Waist circumference at or above the 90th percentile for age and sex (NHANES III data set)

- An estimated 1 million 12-19-year-old adolescents in the United States have the metabolic syndrome, or 4.2 percent overall (6.1 percent of males; 2.1 percent of females). *(Cook S, et al. Prevalence of a metabolic syndrome phenotype in adolescents: findings from the Third National Health and Nutrition Examination Survey, 1988-1994. Arch Pediatr Adol Med 2003;157:821–7)*

  - The mean BMI of adolescents with the metabolic syndrome (30.1) was just above the 95th percentile of the CDC Growth Chart; thus they are likely to represent a fairly common clinical problem in pediatrics.
  - Of adolescents with metabolic syndrome, 73.9 percent were overweight (BMI>= 95th percentile of the CDC Growth Chart), and 25.2 percent were at risk of overweight (BMI 85-94th percentile).
  - The mean BMI of adolescents with the metabolic syndrome (30.1) was just above the 95th percentile of the CDC Growth Chart; thus they are likely to represent a fairly common clinical problem in pediatrics.
  - Metabolic syndrome was present in 28.7 percent of overweight adolescents (BMI >= 95th percentile of the CDC Growth chart) compared with 6.8 percent of at-risk-of-overweight adolescents, and 0.1 percent of those with BMI below the 85th percentile) (P<.001).
  - Prevalence of adolescents with one or more abnormalities of the metabolic syndrome, 40.9 percent had >=1abnormality; 14.2 percent had >=2 abnormalities; 4.2 percent had >=3 criteria and 0.9 percent had >=4 criteria for metabolic syndrome. For *overweight* adolescents, 88.5 percent had >=1 criterion; 54.4 percent had >=2 criteria; 28.7 percent had >=3 criteria and 5.8 percent had >=4 criteria for metabolic syndrome.

- Among more than 3,400 children examined in one study, one in 10 had the metabolic syndrome. *(De Ferranti, et al. Circulation 2003;108:17:IV-727. Meeting Abstract #3286)*
- Using a sample of adolescents from NHANES III, the overall prevalence of the metabolic syndrome in moderately obese subjects was 38.7 percent and 49.7 percent in severely obese subjects. The prevalence of the metabolic syndrome in severely obese black subjects was 39 percent. *(Weiss, R, et al. Obesity and the metabolic syndrome in children and adolescents. NEJM 2004;350:2362–74)*

Source Footnotes
CDC/NCHS – Centers for Disease Control and Prevention/National Center for Health Statistics
JAMA – Journal of the American Medical Association
NHANES – National Health and Nutrition Examination Survey
NHLBI – National Heart, Lung, and Blood Institute