

Status of Cardiovascular Health in U.S. Adolescents

The following is a synopsis of “Status of Cardiovascular Health in US Adolescents: Prevalence Estimates from the National Health and Nutrition Examination Surveys (NHANES) 2005–2010,” published online ahead of print in *Circulation*.

What is already known on this topic?

Cardiovascular disease (CVD) is the leading cause of death among U.S. adults. Research has shown that the number of CVD risk factors that people have when they are young influences their risk for CVD as adults. Accordingly, the 2020 Strategic Impact Goals of the American Heart Association (AHA) promote primary prevention strategies to avoid developing CVD risk factors and maintain overall cardiovascular health from youth throughout adulthood. According to AHA, cardiovascular health is defined by seven health behaviors and factors: tobacco use, body mass index, diet, physical activity, blood pressure, blood glucose, and total cholesterol.

What is added by this document?

The authors of this article examined the cardiovascular health of 4,673 U.S. adolescents aged 12 to 19 years using nationally representative data from the National Health and Nutrition Examination Survey (NHANES). The study rated each adolescent’s cardiovascular health as poor, intermediate, or ideal for each of the seven AHA components. The findings shed light on the cardiovascular health of about 33.2 million U.S. adolescents (see table).

None of the adolescents in the study had ideal levels of all seven cardiovascular health components. Less than half of adolescents had five or more ideal components.

Component	Overall	Sex	Race/Ethnicity*
Ideal Healthy Diet Score (4–5 components; e.g., >4.5 cups/day of fruits and vegetables)	<1%	Female: 0% Male: 0%	White: <1% Black: <1% Mexican American: <1%
Ideal Smoking Status (never tried; never smoked whole cigarette)	≈66%	Female: 70% Male: 66%	White: 67% Black: 68% Mexican American: 60%
Ideal Physical Activity Level (≥60 minutes of moderate or vigorous activity every day)	NR	Female: 43.5% Male: 67%	White: 71% Black: 61% Mexican American: 60%
Ideal Body Mass Index (<85th percentile)	NR	Female: 66% Male: 67%	White: 68% Black: 66% Mexican American: 55%
Ideal Total Cholesterol (<170 mg/dL)	NR	Female: 65% Male: 72%	White: 74% Black: 68% Mexican American: 70%
Ideal Blood Pressure (<90th percentile)	≈82%	Female: 90% Male: 77.7%	White: 79% Black: 72% Mexican American: 78%
Ideal Fasting Blood Glucose (<100 mg/dL)	NR	Female: 89% Male: 74%	White: 74% Black: 80% Mexican American: 67%

*Prevalence estimates were reported only for non-Hispanic whites, non-Hispanic blacks, and Mexican Americans because a majority of the participants (≈90%) were one of these three races/ethnicities. NR = not reported by study authors

What are the applications and implications of these findings?

Although researchers have shown that cardiovascular health during youth predicts cardiovascular health in adulthood, the current prevalence of ideal cardiovascular health among U.S. adolescents is low. To address this concern, the authors suggest that improvements in and maintenance of cardiovascular health must begin immediately to prevent a rise in coronary heart disease as these adolescents reach adulthood.

The authors argue that primary CVD prevention strategies for youth require a broad social and cultural shift in the definition of normative childhood behavior toward frequent physically active play, healthy food choices, and avoidance of tobacco. This approach will require support from parents, families, health care professionals, industry, government agencies, and educational institutions. Comprehensive changes to policy, environment, and societal norms may follow in response to a successful shift in social expectations regarding the cardiovascular health of children and adolescents.

Resources

Centers for Disease Control and Prevention

Division for Heart Disease and Stroke Prevention
www.cdc.gov/dhdsp

Division of Physical Activity, Nutrition, and Obesity
www.cdc.gov/nccdphp/dnpao

Smoking and Tobacco Use
www.cdc.gov/tobacco

U.S. Department of Health and Human Services
Million Hearts®
www.millionhearts.hhs.gov

American Heart Association
Getting Healthy
www.heart.org/HEARTORG/GettingHealthy/GettingHealthy_UCM_001078_SubHomePage.jsp

Citations

Shay CM, Ning H, Daniels SR, Rooks CR, Gidding SS, Lloyd-Jones DM. Status of cardiovascular health in US adolescents: prevalence estimates from the National Health and Nutrition Examination Surveys (NHANES) 2005–2010. *Circulation*. 2013;127:1369–76.

Lloyd-Jones DM, Hong Y, Labarthe D, Mozaffarian D, Appel LJ, Van Horn L, Greenlund L, et al. Defining and setting national goals for cardiovascular health promotion and disease reduction: the American Heart Association's Strategic Impact Goals through 2020 and beyond. *Circulation*. 2010;121:586–613.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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