

# Office of Research on Women's Health

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Why Is Adolescent Health Important?

What Diseases Should Be Especially Considered During Adolescence?

Why Is Adolescent Health a Women's Issue?

What Are the Barriers to Healthy Behaviors and Development?

What Is NIH Doing About Adolescent Health?

## The Health of Girls and Women Across the Lifespan: Adolescents

Understanding Adolescent Health and Planning for Future Research

### Why Is Adolescent Health Important?

With more than 41 million adolescents in the United States, adolescent health and its relationship to long-term adult health and health behaviors are important topics to examine and address. Adolescence is the time for teenagers to develop independence, responsibility, and an adult identity. Behavioral changes combine with physical changes to create health issues unique to adolescents. Life-long behaviors related to physical activity, eating behaviors, perceptions of body image, and experiences with violence and substance use are established.

The prevalence of drug use—particularly tobacco, marijuana, and alcohol—peaks during adolescence and is associated with increased disease and death in this population. Alcohol, marijuana, and other illicit substances interfere with brain development that typically occurs between ages 15 and 25, including regions involved in judgment and learning. Poor judgment and a lack of understanding consequences can result in injury, a major source of mortality among adolescents. Drug use may impair school performance and negatively affect long-term health.

Substance abuse in adolescence is related to endocrine and neurological changes that occur during this stage of sexual maturation. Hormonal changes such as rises in estrogen and testosterone levels lead to reproductive maturity in adolescence. High levels of testosterone are associated with increased impulsivity and aggression, and alcohol may lead to increased levels of testosterone in females. These endocrine changes may combine with behaviors such as substance use and/or increased peer pressure, along with the normal changes in brain circuitry

during adolescence, leading to negative health outcomes and health behaviors. Adolescents have higher incidences of unprotected sex, reckless driving, and violent behavior than adults.

During adolescence, sleep patterns change; poor sleep may result in increased aggression, decreased tolerance, and impaired performance due to neurological, endocrine, and environmental cues. Adolescents are also biologically programmed to go to sleep later at night than children, despite traditionally early start times in high school.

### What Diseases Should Be Especially Considered During Adolescence?

While adolescence is a time of great discovery and joy, it is also a period when many diseases first emerge. It is the peak time of onset for common diseases and disorders, such as asthma, hepatitis, bulimia, and anorexia nervosa. Juvenile-onset diabetes peaks between ages 10 and 13, and the prevalence of Type II diabetes among adolescents continues to rise. Fatty plaques that may lead to coronary artery disease develop during this age. Schizophrenia, sleep apnea, and sleep disorders may first appear during late adolescence or the early twenties. Many autoimmune diseases such as lupus and myasthenia gravis that are predominant in women also first appear during late adolescence and the early twenties.

According to the Centers for Disease Control and Prevention, more than half of all teens report having had sex, many without protection, and 25 percent of all annual sexually transmitted infection cases in the United States occur in adolescents, affecting long-term health.<sup>1</sup>



## Why Is Adolescent Health a Women's Issue?

Women face unique health issues and social pressures during adolescence. Girls are less active than boys and this gap persists as they age. Significant racial and socioeconomic disparities in adolescence may underlie a lack of physical activity during adulthood. According to national data, the prevalence of obesity has tripled since the late 1970s, with 17 percent of adolescent girls currently overweight. Prevalence of eating disorders, dissatisfaction with body image, and unhealthy habits related to weight loss occur more frequently in adolescent girls than in adolescent boys. Eating behaviors during adolescence increase the likelihood of being overweight and may also increase a person's risk for long-term disordered eating.

Women have specific issues related to their reproductive system and its maturation during adolescence. The age of first menstrual period has steadily declined in the United States over the past decades and, with it, the age of fertility. Adolescent females are faced with decisions regarding sexual activity, contraception, and identity linked to reproductive potential at increasingly younger ages. Prevalence of sexual violence and assault also rises during adolescence and disproportionately affects adolescent females, with related increases in depressive symptoms and social isolation.

## What Are the Barriers to Healthy Behaviors and Development?

- **Neighborhoods:** Neighborhoods are an important predictor of physical activity, particularly via adolescents' access to exercise facilities. Neighborhoods and access to education are also critical in preventing substance use and substance-related health outcomes among adolescents.
- **Violence:** One study showed that 1 in 10 female adolescents has been the victim of date violence<sup>2</sup>; even more suffer from domestic abuse. Particularly among males, hormonal changes during adolescence have been linked to increased aggression and impulsivity, which may manifest as partner violence and/or peer violence. Alcohol use has been associated with a rise in testosterone levels among adolescent girls and a related rise in aggressiveness and other risky behaviors.
- **Access to Healthcare:** Approximately 11 percent of persons under the age of 19 remain uninsured. Lack of health insurance is an important predictor of a lack of access to healthcare services and of long-term adverse health conditions.

## What Is NIH Doing About Adolescent Health?

The information presented here was compiled from a 2007 NIH Office of Research on Women's Health Seminar Series (WHSS) to increase awareness and scientific understanding of adolescent health. Presenters at the WHSS on June 5, 2007, included Ronald Dahl, M.D.; Russell Pate, Ph.D.; Dianne Neumark-Sztainer, Ph.D., M.P.H., RD; Donald Vereen, M.D.; and Christine Bachrach, Ph.D. These speakers presented information on sleep, physical activity, obesity, eating disorders, addictions, brain development, and early results from the AddHealth Study on adolescent health and its social contexts. The NIH sponsors numerous efforts to study adolescent health, including investigation of depression, pregnancy and risky sexual-health behaviors, prevention of substance and alcohol abuse, effects of alcohol and other substances on brain development, and interventions targeted at improving adolescent health.

<sup>1</sup> American Academy of Pediatrics. (2008). Policy statement: Achieving quality health services for adolescents. *Pediatrics*, 121, 1263-1270.

<sup>2</sup> American Psychological Association. (2001, August 26). One out of ten female adolescents experience date violence and/or rape, says study of over 80,000 youths in Minnesota. Retrieved November 13, 2008, from <http://www.apa.org/releases/dateviolence.html>.

