Adolescent mothers experience more pregnancy and delivery problems\(^1\) and have less healthy babies than adult mothers.\(^2,3,4\) These risks are probably not associated with the chronological age of the mother (except perhaps for adolescents who are younger than 16 years at delivery), but rather with poverty and the environmental and social circumstances of young mothers.

**CONSEQUENCES OF EARLY CHILDBEARING: THE MOTHER**

**Environmental And Health Risks**

The experience of poverty and the related perception of limited life options have been hypothesized to contribute to the concentration of adolescent childbearing among the poor.\(^5,6\) Since adolescents enter their pregnancies with high economic and social risks, their pregnancies and subsequent health may be compromised.

**Violence**

Adolescent mothers may be disproportionately exposed to violence and may have high rates of physical and sexual abuse histories.\(^7\) For example, a 1991-1994 study of 7,178 women (including 910 adolescents) in Alaska showed that about 10% of the adolescent mothers were physically harmed by someone they knew during pregnancy or shortly after delivery; their reported risk of violence was twice that of mothers who were 20 years-old or older. The study also found that two-thirds of the pregnancies of the few mothers who were younger than 16 years-old at delivery were associated with statutory rape.\(^8\)

**Sexually Transmitted Diseases**

Approximately 60% of all cases of sexually transmitted diseases (STDs) in the U.S. are among individuals who are 25 years-old or younger.\(^9\) It is estimated that one in eight 13-19 year-olds (and about one in four 13-19 year-olds who have ever had sexual intercourse) will acquire an STD every year.\(^10\)

- Chlamydia trachomatis is the most common STD in the U.S. Incident and recurrent cases of chlamydia are highest among adolescent females.\(^9\) Therefore, the Centers for Disease Control and Prevention recommends chlamydia screening of all sexually active females who are younger than 20 years when they undergo pelvic examinations.\(^11\) Because some
researchers have found the prevalence of chlamydia to be as high as almost one-third of clinical samples of adolescent females, there is some support for universal screening.\textsuperscript{12, 13}

- Chlamydia is not the only STD to affect adolescents. More than half of the reported gonorrhea infections occur among adolescent females and syphilis has increased in minority group adolescents in the past decade.\textsuperscript{9}

- Although relatively rare, HIV is also a concern of youth: it is estimated that about 25% of all new HIV infections occur among 13-21 year-olds. Women are increasingly represented among the HIV-infected. In 1994, females represented 43% of the adolescent AIDS cases and about half of these cases were transmitted heterosexually.\textsuperscript{10}

- STDs are associated with several adverse pregnancy outcomes, including ectopic pregnancy, and infant outcomes including pneumonia, death, mental retardation, immune deficiencies and neoplasia.\textsuperscript{9}

## Substance Use

Studies have found that sexual risk-taking, including behaviors that result in pregnancy, are strongly correlated with the use of legal and illegal substances, including tobacco, alcohol, and cocaine.\textsuperscript{14, 15} Because adolescent sexual risk-taking and pregnancy are correlated with substance use, it is not surprising that several researchers have found that adolescents may be more likely than adults to use tobacco,\textsuperscript{16} alcohol and illicit substances during pregnancy.\textsuperscript{16, 18, 19} However, the elevated risk has not been found consistently.\textsuperscript{20} The use of substances, possibly coupled with poor dietary habits and/or poverty, could result in nutritional deficiencies in pregnant adolescents.

There are very little data about the use of substances among adolescents postpartum or about the association of substance use to adolescent maternal health or parenting practices. A small study of urban adolescent mothers found that, at four months postpartum, the prevalence of alcohol and/or illicit drug use was 42%,\textsuperscript{21} suggesting that attention should not only be paid to prenatal substance use but to its use after delivery. While the antecedents of prenatal and postpartum substance use are not clear, it is plausible that pregnancy-related stress and/or depression could contribute to the continued use of substances or to postpartum relapse. The authors of this study found, as did others, that substance use was associated with maternal depression, stress, and need for social support, but it was not clear if the use of substances preceded these psychosocial needs.\textsuperscript{21}

### Stress and Depression

The variety and magnitude of social and economic stressors of adolescent mothers may contribute to high interpersonal stress.

- A recent analysis of data from the 1979-1992 National Longitudinal Survey of Youth showed that adolescent mothers reported more stress than adolescents who were not mothers. Adolescent child-bearing was associated with feelings of failure, low self-esteem, external locus of control, and having ever run away from home.\textsuperscript{22}

- Adolescent mothers may experience more depression than adult mothers. Data from the 1988 National Maternal and Infant Health Survey showed that adolescent mothers are much more likely than 25-34 year-old mothers to report symptoms of depression.\textsuperscript{23} In analysis adjusted for income and marital status, 15-17 year-old black adolescents and 18-19 year-old white adolescents were 1.6 times more likely to report symptoms of depression than adult mothers.

### Prenatal and Obstetrical Risks

- Compared with adult mothers, adolescents are at higher risks for less-than-adequate prenatal care and for some prenatal complications such as anemia, hypertension, and poor nutrition.\textsuperscript{3, 4, 24}

- National data for 1995 births showed that only 66% of women who delivered livebirths when they were younger than 20 years-old received first-trimester prenatal care compared with 84% of women who were at least 20 years-old at delivery.\textsuperscript{4}

- There are few reliable data about the factors associated with late access to prenatal care, but financial concerns\textsuperscript{25} and fear of disclosure to parents\textsuperscript{26} could play a role.
• Wiemann, et al. found correlates of late prenatal care in a study of 533 pregnant adolescents. Some of these correlates reflect low-risk behavior, leading the authors to speculate that adolescents with pre-pregnancy health risks (e.g., substance use, STDs) may be more linked to health-care providers than low-risk youth and thus more likely to receive an early confirmation of pregnancy and early enrollment into prenatal care. The following are the major correlates of late prenatal care entry for the adolescents in their study:
  - No previous history of abortion;
  - No alcohol use in the 30 days preceding the survey;
  - Unemployment;
  - Black or white race (compared with Mexican-American ethnicity);
  - Limited education;
  - One sex partner (vs. multiple partners) in the 12 months preceding the survey; and
  - No relationship with the baby’s father.

• Studies have not consistently found that adolescents are at higher risk than adults for complications of pregnancy, such as preeclampsia, or complications of labor and delivery. Adolescents at highest risk are very young mothers. Poverty, rather than maternal age, could be an important factor in pregnancy complications.1, 2, 28

Maternal Postnatal Risks

Health Risks

• The long-term health risks associated with adolescent childbearing are not well understood; however, there are several areas for future research, including whether excessive prenatal weight gain might predispose young mothers to adult obesity and whether lactation affects bone density in still-growing adolescents.

• Because adolescent mothers have more children in their lifetimes than women who delay childbearing, they are also more vulnerable to parity-related health risks.

• The most severe health risk associated with parity is maternal mortality. Although it is rare in the U.S., maternal mortality is 1.5 times higher in gravidae younger than 15 years-old compared with women who are 20-24 years-old.31

Socioeconomic Risks

While the pregnancy-specific health risks are not clear, it is evident that the socioeconomic outlook for adolescent mothers is not good.30, 32-34 It is difficult to disentangle whether the poorer socioeconomic status of women who begin childbearing in their teens is associated with early childbearing itself or with the generally poorer socioeconomic circumstances into which most adolescent mothers are born:

• Approximately 50-80% of mothers younger than 18 years-old live in poverty.30, 34 This is not surprising because about two-thirds of adolescent mothers live in, or near, poverty at the time of delivery.35

• Approximately 50% of adolescent mothers receive welfare and about 70% receive Medical Assistance within five years of giving birth.32

• Approximately half of the 1994 welfare (formerly AFDC) caseload was comprised of women who gave birth as adolescents.32 It is not clear what the effects of welfare reform will be on the welfare or economic status of adolescent mothers and their children.

• One national study of sisters showed that welfare receipt is independent of family circumstances: sisters who had children in their teen years were more likely to have received welfare than their sisters who delayed childbearing.34

• There is strong evidence that adolescent mothers are more likely than adult mothers to have fewer average years of schooling and to not attend college.29, 33, 34, 36 National data indicate that about two-thirds of adolescent mothers complete high school, compared with completion rates of about 90% for all adolescents.32

• One national study estimated that having a child before the age of 20 years reduced educational attainment by almost three years.36 It should be recalled that adolescent pregnancy, and especially parenting, are often preceded by poor academic performance.29, 37

• Adolescent mothers have higher rates of early marriage—and divorce—compared with women who delay childbearing. Because of their greater likelihood to divorce or to never marry, adolescent mothers spend more time as single parents than those who delay childbearing.29, 34, 38
• Because adolescent mothers have less education, tend to have more children than those who delay childbearing and are more likely to be single parents, they have less stable, less remunerative, and less satisfying employment than women who delay childbearing and, overall, they may be less likely to be employed.

CONSEQUENCES OF ADOLESCENT CHILDBEARING: THE INFANT AND CHILD

Adolescent Parenting Skills and Child Functioning

The transition to parenting may be stressful for adolescents whose parental responsibilities may be attended by poverty, single parenthood, and the demands of their own normal adolescent rites of passage. In a review article about adolescent pregnancy and parenting, Coley & Chase-Lansdale indicate that studies have shown that adolescent mothers, while as demonstrative as other mothers, tend to be less verbal and less responsive to their infants and they may provide less stimulating home environments than older mothers. The authors cautioned that much of the extant research about adolescent parenting is limited by one or more of the following design flaws: small, restricted samples; insufficient follow-up; inadequate control groups; and methods that may not be sensitive to the experiences of young mothers. Nonetheless, their review, and the work of others, suggest that adolescent childbearing has negative effects on the child's intellectual development and academic achievement.

• Pre-schoolers of adolescent mothers tend to show delays in cognitive function that persist into the school years.

• Pre-schoolers of adolescent mothers tend to show more behavior problems and to be more aggressive and impulsive than children of older mothers.

• Longitudinal studies of children of adolescent mothers suggest that some of the negative psychosocial and economic effects persist in adolescence and adulthood, including increased likelihood of early childbearing, grade failure, delinquency, and incarceration.

• Child abuse and neglect, as well as changes in the primary caretaker, are higher among infants of adolescents compared with those of older mothers.

• George and Lee estimated that in the U.S. there are twice as many reported cases of child abuse and neglect annually among children of adolescents compared with those of adult mothers: 110 reported cases/1000 families with adolescent mothers compared with 51 reported cases/1000 families with older mothers. They estimated that $1 billion is spent annually in the U.S. in foster care costs for children of adolescents.

• Children of adolescents may have little contact with their fathers. A recent survey of young mothers who received welfare and lived in three inner-city areas showed that fewer than one-fifth of the children born to adolescent mothers received monetary support from their fathers and only about one-half of these non-custodial fathers spent time with their children. In this study of 3,867 mothers and their children, it was found that paternal emotional and financial support decreased as the child grew older. Adolescent fathers were more likely to support their children than older fathers. Fathers were less likely to support their children if the mothers had children with different fathers or if the mothers lived with any other adult. Fathers with higher levels of education and higher incomes were more likely than other fathers to provide financial, but not necessarily emotional, support.

The Health of Infants and Children of Adolescents

Infants of adolescents have greater health and medical risks than infants of adults, although it is not clear if this is related to the age of their mothers or to the adverse social and economic circumstances into which many are born. Infant mothers of adolescents have twice the risk of infants of adults for low birthweight, intrauterine growth retardation, and preterm birth. These risks are most elevated for infants of very young mothers, and consistent with the findings for adults, are higher among infants born to black, compared with white, adolescents. However, in contrast to the data found for white mothers overall, black adolescents...
are not at higher risk than black adults for delivery of low birthweight or preterm infants.\textsuperscript{20, 50}

- While infrequently studied, infants of adolescents may be at higher risk than those of adults for some congenital malformations,\textsuperscript{52} although the risk may not be related to maternal age but rather to less access to prenatal care and reproductive counseling.

- Infants of adolescents are at 1.5-4.0 times higher risk than those of adults for neonatal and post-neonatal death.\textsuperscript{53}

- Adolescent mothers are less likely than adult mothers to breastfeed their infants.\textsuperscript{20, 54}

- Infants and children of adolescent mothers have a higher risk of injury than those of older mothers\textsuperscript{55, 56} and adolescents may be less likely than adults to perceive hazardous situations for their children and thus intervene.\textsuperscript{57}

- According to the National Longitudinal Survey of Youth, involving 3,130 infants, the odds of infant hospitalization in the first year of life is almost two times higher for infants of 14-17 year-old mothers compared with 23-25 year-old mothers. The differences in risk were not as high for 18-19 year-olds compared with 23-25 year-olds.\textsuperscript{58} Other data suggest that the higher hospitalization costs of infants of adolescents compared with those of adults diminish with adjustment for socioeconomic variables.\textsuperscript{50}

- Despite more health problems, infants of adolescents receive less well-baby and preventive medical care and treatment than those of adults.\textsuperscript{30}

**SUMMARY**

The pregnant adolescent has often not completed her own physical, cognitive and emotional development. Thus she must integrate the normal passages of adolescence with the new challenges and responsibilities of motherhood. Many adolescent mothers struggle with adulthood and motherhood in hazardous economic and social environments. Unfortunately, the extant data do not offer blueprints for resolution of the many problems adolescent mothers and their families face. The data, in fact, suggest that some families inherit an intergenerational pattern of severe social, economic, and psychological stress.


