ABSTRACT

OBJECTIVES: To outline the prevalence and disparities of teen pregnancy among school-aged urban minority youth, causal pathways through which nonmarital teen births adversely affects academic achievement, and proven or promising approaches for schools to address this problem.

METHODS: Literature review.

RESULTS: In 2006, the birth rate among 15- to 17-year-old non-Hispanic Blacks (36.1 per 1000) was more than three times as high, and the birth rate among Hispanics (47.9 per 1000) was more than four times as high as the birth rate among non-Hispanic Whites (11.8 per 1000). Compared with women who delay childbearing until age 30, teen mothers’ education is estimated to be approximately 2 years shorter. Teen mothers are 10-12% less likely to complete high school and have 14-29% lower odds of attending college. School-based programs have the potential to help teens acquire the knowledge and skills needed to postpone sex, practice safer sex, avoid unintended pregnancy, and if pregnant, to complete high school and pursue postsecondary education. Most students in US middle and high schools receive some kind of sex education. Federal policies and legislation have increased use of the abstinence-only-until-marriage approach, which is disappointing considering the lack of evidence that this approach is effective.

CONCLUSIONS: Nonmarital teen births are highly and disproportionately prevalent among school-aged urban minority youth, have a negative impact on educational attainment, and effective practices are available for schools to address this problem. Teen pregnancy exerts an important influence on educational attainment among urban minority youth. Decisions about what will be taught should be informed by empirical data documenting the effectiveness of alternative approaches.

Keywords: teen pregnancy, nonmarital births, reproductive health; school dropout; child and adolescent health; coordinated school health programs; academic achievement; achievement gap; socioeconomic factors.

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TEEN PREGNANCY OVERVIEW AND DISPARITIES

Approximately one third of teenaged females in the United States become pregnant and, once pregnant, are at increased risk of becoming pregnant again. Teenaged pregnancy and birth rates in the United States are high in comparison with other Western countries. Births to teens, particularly unintended nonmarital births, have far-reaching effects on both mothers and, perhaps even more dramatically, on their children. Minority youth (including Black and Hispanic adolescents) have much higher teen birth rates than White youth, a trend that has persisted for decades. The significance of nonmarital teen births in the United States lies in the numbers of teens affected and in the educational, health, economic, and social consequences for the teens and their children.

Teen pregnancy is associated with adverse educational, health, and economic outcomes for both mothers and children. Teens who become pregnant are less likely to complete high school or college, many are on a trajectory for these educational outcomes even before becoming pregnant. For those who manage to stay in school, pregnancy raises major obstacles to academic achievement and substantially exacerbates the challenge of completing high school and going to college. Children born to teen mothers are more likely to become teen mothers themselves. A recent analysis of the National Longitudinal Survey of Youth indicated that, after adjusting for other risks, daughters of teen mothers were 66% more likely to become teen mothers. In all likelihood, an unmarried teen mother and her child will live in poverty, further perpetuating a cycle of poverty and subsequent nonmarital teen births.
Both teen pregnancy and dropout may be, to a great degree, the consequence of poverty and its associated social context. More and less affluent teens differ in access to health care, housing, employment, and social support. It may be these variables, not maternal age per se, that are largely responsible for the noxious outcomes associated with teen pregnancy.

In 2006, the birth rate among 15- to 17-year-old non-Hispanic Blacks (36.1 per 1000) was more than three times as high, and the birth rate among Hispanics (47.9 per 1000) was more than four times as high as the birth rate among non-Hispanic Whites (11.8 per 1000) (Figure 1). There were a total of 435,427 births to 15- to 19-year-olds in 2006, and the large majority were births to unmarried mothers. Approximately 1 in 4 of the 1,470,189 nonmarital births in 2004 occurred among teens.

Teen birth rates among 15- to 19-year-olds declined by 34% between 1991 and 2005, but increased by 3% from 2005 to 2006. Declines in teen birth rates have been attributed primarily to increased access to education, increased use of contraceptives, and delayed initiation of sexual intercourse. A decline among older African American teens may have been influenced by macro-level expanded labor market opportunities.

Though the disparity in birth rates between non-Hispanic Black teens and non-Hispanic White teens narrowed between 1991 and 2006 from a ratio of 3.6:1 (86.1 vs 23.6 per 1000) to 3.1:1 (36.1 vs 11.8 per 1000), the disparity remains sizeable. The disparity in birth rates between Hispanic teens and non-Hispanic White teens increased from a ratio of 2.9:1 (69.2 vs 23.6 per 1000) to 4.1:1 (47.9 vs 11.8 per 1000). The significance of this increasing disparity is magnified by the growing size of the Hispanic population.

By current estimates, 48% of high school students have had sexual intercourse. Rates for non-Hispanic White and Hispanic females were similar (43.7% vs 45.8%, respectively). The rate among non-Hispanic Black females was approximately 40% higher (60.9%). The percentage of female students who have had sexual intercourse increased across grade level from 27.4% in grade 9, to 41.9% in grade 10, 53.6% in grade 11 and 66.2% in grade 12. The greatest proportional increase (52%) occurred between grades 9 and 10. For males, the corresponding rates were 38.1% in grade 9, 45.6% in grade 10, 57.3% in grade 11 and 62.8% in grade 12. The greatest absolute (11.7%) and proportional (25.7%) increase occurred between grades 10 and 11. Most adolescents who ever had sexual intercourse remained sexually active (ie, had sexual intercourse at least once in the past 3 months). For males and females combined, race/ethnicity-specific rates of being currently sexually active were higher for Blacks (48.7%) than for Whites (32.9%) and Hispanics (37.4%). There were also disparities in the percentage of youth who have had sexual intercourse with four or more persons during their life; non-Hispanic Blacks (27.6%), Hispanics (17.3%), and non-Hispanic Whites (11.5%). The percentage of currently sexually active high school students increases consistently with grade: 20.1% in grade 9, 30.6% in grade 10, 41.8% in grade 11 and 52.6% in grade 12, with the greatest proportional (52.2%) increase between grades 9 and 10.

Among the sexually active, condom use at last intercourse differed significantly for Blacks (67.3%) versus Whites (59.7%). Condom use among Hispanic youth (61.4%) did not differ significantly from use by Blacks or Whites. Condom use declined across grades from 69.3% in grade 9 to 54.2% in grade 12. Among sexually active adolescents, White female students were about twice as likely as Black females and more than 2.5 times as likely as Hispanic females to report using birth control pills before last sexual intercourse (24% vs 12.1% and 9.1%, respectively). In contrast to condom use, use of birth control pills increased across grades, more than doubling, from 9.2% in grade 9 to 25.6% in grade 12. Thus, while Blacks were more likely to use condoms than Whites, White females were much more likely than Black or Hispanic females to use birth control pills, and this disparity appears to grow over time from 9th to 12th grade.

Sexually transmitted disease and teen pregnancy share many of the same underlying behavioral risk factors. Teen sexual behavior, through its effects on both, assumes great educational, health, economic, and social significance. Available data for sexually transmitted disease are reported for 15- to 19-year-olds and, so, do not apply exclusively to school-aged youth. Nevertheless, given the rates of sexual activity reported above, it is reasonable to conclude that a substantial portion of the 19 million new sexually transmitted disease infections that occur each year exist among school-aged youth. The highest rates of chlamydia, the most commonly reported infectious disease in the United States (~2.8 million annual cases), occur among females aged 15-19 years. Minority youth are disproportionately affected by all sexually transmitted disease. High incidence and

Figure 1. Birth Rates per 1000 Among 15- to 17-Year-Olds in the United States by Race/Ethnicity

prevalence of teen sexual activity, coupled with high rates of nonmarital teen births and sexually transmitted disease, have important educational, health, economic, and social consequences.

CAUSAL PATHWAYS AFFECTING EDUCATIONAL OUTCOMES

Increased risk of dropping out of school is perhaps the main path by which teen pregnancy influences educational outcomes. The data outlined below address this issue. The dropout problem is, of course, influenced by many factors and must be addressed not only by schools, but by families and communities, and with multiple approaches. The problem needs to be addressed before children begin school, in elementary school, and straight through high school. Youth at greatest risk need to be identified and supported. Youth who have already dropped out need to be encouraged and enabled to return.

Dropping Out of School

The association between nonmarital teen births and educational attainment is well documented.3-10,24,25 Compared with women who delay childbearing until age 30, teen mothers’ education is estimated to be approximately 2 years shorter. Teen mothers are 10-12% less likely to complete high school and have 14-29% lower odds of attending college. Even small changes in the rate of nonmarital teen births would have substantial effects on the numbers of children living in poverty.3

Much debate in the literature centers on the extent to which nonmarital teen births versus conditions existing prior to pregnancy are the cause of reduced educational attainment. There are likely to be reciprocal causal relationships between environments (e.g., poverty), education, and health; therefore, some proportion of high school dropouts is attributable to causes other than nonmarital teen births. In their review of the National Education Longitudinal Study (1988 cohort), Levine and Painter9 found that about one half of the observed effect of pregnancy on dropout remained after statistical adjustment of numerous environmental disadvantages. Similar results were obtained by Manlove.10 Given that there were 435,000 births to teens (in 2006)3 and that the majority were among unmarried teens,3 if only one half of the school dropouts associated with pregnancy were attributable to pregnancy, it would remain a very important contributor to reduced levels of educational attainment.

The discussion has focused on the educational consequences to teen mothers, but the children of teen mothers (who themselves also tend to be children of teen mothers) are also at increased risk of adverse educational outcomes (as well as other adverse health, economic, and social outcomes). This cycle of poverty could be influenced, to some degree, by reducing nonmarital teen births.3 At the same time, the need to reduce environmental causes of poor educational outcomes remains.

WHAT CAN SCHOOLS DO TO REDUCE NONMARITAL TEEN BIRTHS?

Even as researchers, educators, and advocates continue the debate over what exactly should be taught,6,17,26-32 and as medical and public health authorities33-35 produce position statements, sex education programs are being implemented in the majority of the nation’s middle and high schools.36 Most students receive some kind of sex education,21 although students with the greatest needs are least likely to do so.37 Comprehensive data describing the extent and quality of sex education programs do not exist, but one thing is clear: federal policies and legislation have increased the prevalence of the abstinence-only-until-marriage approach. This is disappointing considering the lack of evidence that this approach is effective,6,37,38 notwithstanding a recent supportive study.39

The topic of sex education is value-laden, and local educational leaders and parents are the appropriate people to decide what will be taught in their own schools. These decisions should be informed by empirical data indicating the magnitude and consequences of teen births and sexual activity among youth. Among many controversial topics is education about correct use of condoms, currently covered in around 20% of all middle schools and 40% of all high schools.36 Condom distribution is another potentially controversial point, currently occurring in fewer than 1% of all middle schools and fewer than 5% of all high schools.36 Once general content is outlined, there are many resources available to assist local educators in selecting appropriate curricula and associated resources.6,40-42

An important component of school-based sex education programs deals not with sexuality, but with aspirations. An emphasis needs to be placed on the development of future aspirations such as completing high school, attending and completing college, and contributing to community and society. The point needs to be made that pregnancy (among many health-related choices) has important effects on the likelihood of attaining these aspirations. Indeed, the underlying cause of teen pregnancy (and other health factors) is the lack of opportunity to realize aspirations in the context of poverty and racism.12,13,20

Some of the most promising programs for reducing teen pregnancy focus on youth development rather than sex education, per se. One such program, initiated in early childhood, focused on parent and teacher training to facilitate children’s connectedness with school and family and on helping elementary-level children learn social skills.43 Another program, aimed at adolescents during nonschool hours, involved...
extensive contact, comprehensive education and training, and provision of health and dental care services. Given the cost of these approaches, the short-term feasibility of widespread implementation seems slim.

In addition to primary prevention programs aimed at delaying initiation of sex and reducing unsafe sexual behaviors, schools need to consider policies and programs for teens who become pregnant. These teens need help to succeed academically, to complete high school, and to prevent repeated pregnancy. Programs delivered through school-based health clinics have reported success in helping pregnant teens stay in school and other educational outcomes. These programs warrant serious consideration, given the documented unmet health care needs often faced by urban minority youth.

Although the nature and scope of school-based programs to prevent teen pregnancies and assist youth who become pregnant are likely to vary depending on school and community resources and values, among other factors, the following components warrant serious consideration:

1. State-of-the-art, evidence-based sex education that gives students knowledge, attitudes, skills, and motivation to avoid teen pregnancy.
2. Youth development activities that build on student assets and enhance their self-identities and future aspirations.
4. Linking students to reproductive health services, either in school clinics or in community.
5. Linking students to mental health and social services.
6. Providing parents education, helping them to develop skills to share their values with their children and teach them to avoid pregnancy.
7. Meeting physical health, mental health, and social service needs of teens who become pregnant to help them graduate from high school and continue their education.

**PROVEN OR PROMISING APPROACHES**

Over the past 15 years, there have been more than 20 reviews of research on the effectiveness of school- and community-based programs to prevent teen pregnancy. Conclusions have been inconsistent. Most recently, Kirby reported that, while no single program approach would dramatically reduce teen pregnancy, guidelines existed that, if followed by local educators, would ensure program effectiveness. He concluded that, collectively, the studies provide compelling evidence that comprehensive sex education (including education about both abstinence and contraception) resulted in delayed initiation of and frequency of sex, reduced number of partners and increased contraception use. Scher, Maynard, and Stagner, in their review of randomized trials, were less sanguine about the findings, but also concluded that more intensive, multicomponent youth development programs serving high-risk populations showed the most promising results.

**SUMMARY**

Teen pregnancy exerts an important influence on educational outcomes among teens. The causes of disproportionately high rates of teen pregnancy among urban minority youth are complex and multidimensional. Nevertheless, school-based programs have the potential to help teens acquire the knowledge and skills needed to postpone sex, practice safer sex, avoid unintended pregnancy, and, if pregnant, to complete high school and pursue postsecondary education. A secondary benefit of comprehensive sex education is that it will serve to protect youth from HIV and other sexually transmitted infections, which also disproportionately affect urban minority youth.

**REFERENCES**


