Adolescent pregnancy prevention

Ken L Cheyne, MD

The United States continues to have the highest rate of adolescent pregnancy in the western industrialized world. This review focuses on the recent decline in adolescent pregnancy rates and the recent slight decline in the number of sexually experienced youths. Risk factors for adolescent pregnancy, such as history of forced sexual intercourse and lack of connectedness with parents, are discussed. Various strategies to decrease the adolescent pregnancy rate and the effectiveness of these strategies are reviewed. The unique role of the primary health care provider in the prevention of adolescent pregnancy is also addressed. Curr Opin Pediatr 1999, 11:594–597

Director of Pediatric Education, Adolescent Medicine, Blank Children's Hospital, Des Moines, IA, USA

Correspondence to Ken L. Cheyne MD, Director of Pediatric Education, Blank Children's Hospital, 1200 Pleasant Street, Des Moines, Iowa 50309, USA

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The problem

The United States continues to have the highest rate of adolescent pregnancy in the western industrialized world: About 1 million US teenagers become pregnant each year. Approximately half of these pregnancies end in live births, and the other half end in induced abortion, miscarriage, or still birth [1]. Fifty percent of adolescent pregnancies occur within the first 6 months of the initiation of sexual intercourse, yet many adolescents delay visiting a health care provider for prescription contraceptives for 1 year or more [2].

Recent trends

Adolescent pregnancy is not a new problem. The highest adolescent birthrate recorded in the United States was in 1957 among women 15 to 19 years of age: 96.3 births per 1000 women. However, most adolescent mothers in 1957 were married, whereas most adolescent mothers today (84% of mothers 15 to 17 years of age in 1996) are unwed [3••].

The US adolescent birthrate declined significantly from 1991 to 1996. The birthrate for women 15 to 19 years of age was 54.7 in 1996, down 12% from a rate of 62.1 in 1991. However, this rate is still significantly higher than the rate of 50 to 53 live births per 1000 women 15 to 19 years of age in the early to mid-1980s. By race, the largest declines since 1991 have been for black adolescents: A 21% decline for black women 15 to 19 years of age was seen from 1991 to 1996. Hispanic adolescents now have the highest adolescent birth rates [3••]. It seems that the decline in the adolescent pregnancy rate is not due to an increase in the rate of induced abortion. From 1991 to 1995 among women 15 to 19 years of age, the birthrate decreased by 9% and the percentage of pregnancies ending in induced abortion decreased by 21% [4].

Not only are fewer adolescents becoming pregnant, but the number of sexually experienced teenagers has also decreased. The Youth Risk Behavior Survey from the Centers for Disease Control and Prevention is a survey of students in grades 9 through 12 that is conducted every 2 years. It measures the prevalence of health risk behaviors among adolescents through representative national, state, and local surveys. From 1991 through 1997, the percentage of adolescents who were sexually experienced decreased from 54.1% to 48.4%. In 1997, for the first time in years, the number of sexually inexperienced adolescents in senior high school was greater than the number who were sexually experienced. In

addition, the number of adolescents with multiple partners has decreased and the rate of condom use by sexually active adolescents has increased (from 46.2% in 1991 to 56.8% in 1997) [5].

Prevention of adolescent pregnancy

Over the past two decades, significant research has been done on sexual behavior and pregnancy in teenagers. Kirby [6] provides a succinct summary of advances in research methods and in our understanding of solutions for the problem of teenage pregnancy. Characteristics of successful sexuality and HIV education programs and effective youth development programs are delineated.

Some believe that increasing access to contraception would increase the use of contraception by teenagers and reduce the adolescent pregnancy rate. Others purport that it would increase sexual activity among teenagers. Kirby *et al.* [7] studied 10 Seattle high schools in which condoms were made available through vending machines and baskets in school clinics. Relative to national samples, the percentage of Seattle students who had ever had sex remained stable after the program began. The number of students reporting current sexual activity decreased significantly, and the percentage of sexually experienced students who said that they had used a condom the last time they had sex decreased significantly. Why would increased access to condoms not significantly increase the use of condoms? One possible explanation is that students had had access to condoms before they were made available at school. Another is that the condom-availability program may not have addressed the important reasons students gave for not using condoms (*eg*, they didn't plan ahead; they trusted their partners; sex "didn't feel as good" with a condom; they and their partners had been tested for sexually transmitted diseases; and they felt safe). It is clear from this and other studies that neither knowledge about contraceptive options nor access to contraceptives ensures behavioral change (*eg*, an increase in the effective use of contraceptives). Access to contraceptives, however, does not increase sexual activity among adolescents.

Sexuality education has been receiving significant attention as a strategy for reducing adolescent pregnancy rates. There have been four generations of sexuality education programs. The first generation was based on the premise that providing factual information would change adolescent behaviors. The second generation added a "values component" with attention to decision-making and communication skills. The third generation strongly stated that intercourse before marriage is dangerous and wrong; "Sex Respect" and "Choose the Best" are examples of third-generation programs. The fourth generation consists of "theory-based" programs (*eg*, "Reducing the Risk") that influence adolescent behaviors.

The current argument in sexuality education pits abstinence-only education against abstinence-based education. In abstinence-only programs, abstinence is presented as the most desirable and only acceptable behavior. In abstinence-based programs, abstinence is promoted as the most desirable behavior for teenagers but other methods of contraception are also discussed.

The US Congress has entered the debate on sexuality education. The Abstinence Education Provision of the 1996 Welfare Law (P.L. 104-193) appropriated 50 million dollars annually for 5 years for use by the states for adolescent pregnancy prevention. The purpose of the legislation is to enable states to provide abstinence education and (at the option of the state) appropriate mentoring, counseling, and adult supervision to promote abstinence, with a focus on groups most likely to bear children out of wedlock. Bonus money is available for states that reduce adolescent birth rates without increasing the rate of induced abortions among adolescents.

Despite the recent interest in sexuality education, few controlled studies have addressed the effectiveness of such education in preventing adolescent pregnancy. This is because of the numerous factors that influence sexual decision making among adolescents. Jemmott *et al.* [8•] conducted a randomized, controlled trial on HIV risk reduction in low-income African Americans; follow-up was done at 3, 6, and 12 months. In this study, the abstinence intervention stressed delaying sexual intercourse or reducing its frequency and the safer-sex intervention stressed condom use. Compared with controls, abstinence-intervention participants were less likely to report having had sexual intercourse at 3 months but not at 6 or 12 months. Participants receiving the safer-sex intervention reported significantly more consistent condom use than did controls at 3, 6, and 12 months. Among participants who were sexually experienced at baseline, those receiving the safer-sex intervention reported having less sexual intercourse in the previous 3 months at 6 and 12 months than did the control or abstinence-intervention groups. They also reported less unprotected intercourse at 3, 6, and 12 months than did the controls. The authors concluded that safer-sex interventions may be especially effective in sexually experienced adolescents and that the effects of these interventions may last longer than those of abstinence interventions.

What factors promote the prevention of adolescent pregnancy at the family, school, and individual levels? Resnick *et al.* [9], using data from the National Longitudinal Study of Adolescent Health, found that connectedness to parents or family and perceived connectedness to school protected against every health risk behavior except history of pregnancy. Nothing that happened at school, as measured in this study, protected

against the early onset of sexual activity or history of pregnancy. Parental disapproval of early sexual activity was associated with a later onset of intercourse. With respect to a history of pregnancy, a greater number of shared activities with parents and perceived parental disapproval of adolescent contraceptive use were protective factors. Protective individual factors were perceived negative consequences of becoming pregnant and use of effective contraception at first or most recent episode of intercourse. This study points out that parents are important in the lives of adolescents and that adolescents do listen to their parents.

The influence of the media on adolescent sexuality is not discussed in this review, but it cannot be denied. Health care providers often deliver their messages on sexuality in black and white, while the media presents theirs in color.

Many proposed strategies for dealing with the adolescent pregnancy problem have not been evaluated in well-controlled, randomized studies. Further research into adolescent sexual decision making is needed if the adolescent pregnancy rate is to continue to decrease.

What can primary health care providers do?

Because of the complexity of sexual decision making among adolescents, multiple strategies are needed to decrease the adolescent pregnancy rate. The strategies of the Centers for Disease Control and Prevention for addressing high-risk adolescent behaviors revolve around two basic principles. These principles serve as excellent templates that primary health care providers can use to approach adolescent pregnancy prevention. The first is to encourage adolescents to delay the onset of sexual activity whenever possible. The second is to give sexually active teenagers the tools they need to save their lives. The American Academy of Pediatrics Statement on Adolescent Pregnancy provides similar recommendations [10•].

To encourage honest communication, providers need to discuss their "confidentiality policy" with adolescents and their parents. In most states, adolescents may seek contraceptive counseling and pregnancy testing without parental consent. These laws are not meant to lessen the importance of an adolescent's parents but are meant to ensure access to reproductive health care for adolescents.

Before effective intervention can occur, health care providers need to identify high-risk sexual behaviors or adolescents at high risk for engaging in such behaviors. Blum *et al.* [11] found that non–teenager-focused practice settings typically fail to screen for sociobehavioral health risks, regardless of patient age or sex. On average, private pediatric and private family practice settings screened for only one fifth of age-appropriate health risks. School clinics for teenagers screened for slightly more than half of the risks, and community clinics for teenagers screened for two thirds. To prevent adolescent pregnancy, health care providers must be willing to ask adolescents whether they are sexually active and to provide health guidance with respect to risk-taking behaviors.

Health care providers also need to screen for sexual abuse, runaway behavior, and homelessness because these factors have been shown to be related to adolescent pregnancy. Greene and Rignwalt [12] compared estimates of the prevalence of pregnancy among runaway and homeless youth with youth living in households. Shelter and street youth were at much greater risk for having ever been pregnant than were youth in households, regardless of whether youth in households had recent runaway or homeless experiences. It is equally important to screen sexually active male adolescents for a history of forced sexual intercourse and health risk or problem behaviors. Pierre *et al.* [13] found an association between health risk and problem behaviors, forced sexual contact, and involvement in adolescent pregnancy among sexually active male high school students in Massachusetts.

Anticipatory guidance on sexuality and responsible sexual decision making should be given to adolescents and their parents. DiIorio *et al.* [14] studied parent–teenager communication on sexuality in a group of low-income, predominately African-American adolescents 13 to 15 years of age. Both male and female adolescents were more likely to discuss sexual topics with their mothers than with their fathers. Adolescents who reported a greater number of topics discussed with their mothers were more likely to have not initiated sexual intercourse and to have "conservative" values. Adolescents who reported a greater number of topics discussed with their friends were more likely to report the initiation of intercourse and to have more "liberal" sexual values. However, adolescents were more comfortable discussing sexual issues with their friends than with their parents. The National Campaign To Prevent Teen Pregnancy has developed *Ten Tips for Parents to Help Their Children Avoid Teen Pregnancy* [15]. These tips can facilitate communication about sexuality between adolescents and their parents. Health care providers can model communication techniques for parents during adolescents' office visits.

Health care providers may use negative pregnancy test results as opportunities for "teachable moments." Everyone, including the health care provider, often utters a sigh of relief when a pregnancy test result is negative. Zabin *et al.* [16] showed that among women younger than 17 years of age who had ever conceived, one third had

had a previous negative pregnancy test result and one fourth had had a negative pregnancy test result at a health care facility. Effective intervention at the time of a negative result in a health care setting has the potential to reduce the adolescent pregnancy rate by 25%.

Emergency contraception is another effective strategy for reducing the rate of unplanned pregnancies. Unfortunately, adolescents are often unaware of this method of pregnancy prevention. Delbanco *et al.* [17•] reported that of 1510 adolescents 12 to 18 years of age, only 23% knew that "anything" could be done after unprotected sex to prevent pregnancy. Only 28% had heard of "morning-after pills" or emergency contraceptive pills, and one third of this 28% did not know that the pills must be prescribed. Only 9% of those who knew about the pills knew that they are effective for up to 72 hours after unprotected sexual intercourse. One of the more important findings of this study was that 67% of female teenagers said that they would be likely to use emergency contraceptive pills. Those who care for adolescents need to 1) be knowledgeable about emergency contraception, 2) educate both male and female adolescents about this contraception, and 3) ensure that this contraception is available to adolescent patients within legal and ethical guidelines for the provision of reproductive health care to adolescents [18].

Working alone, health care providers will not be able to solve the problem of adolescent pregnancy. The causes of this problem are not as simple as a lack of knowledge about or lack of access to effective contraceptives. Health care providers can do their part in reducing adolescent pregnancy rates by reinforcing the positive health messages that adolescents receive elsewhere. They also need to become proficient in providing reproductive health care services to adolescents. Perhaps most important, they should participate on committees, boards, and task forces that deal with adolescent sexuality and related issues. Speak up, advocate for teens!

Conclusions

Although the United States continues to have the highest adolescent pregnancy rate in the western industrialized world, evidence shows that the number of sexually experienced adolescents is decreasing, the number of births to adolescents is decreasing, and the rate of induced abortions among adolescents is not increasing. Primary health care providers are in a unique position to help decrease the rate of adolescent pregnancy even further. They can give adolescents anticipatory guidance about responsible sexual decision making; facilitate communication about sexuality between adolescents and their parents; and give adolescents access to reproductive health care services.

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