

## Adolescent Sexual Health: Providing Factual Information

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Adolescent sexual activity is fraught with numerous ramifications. When defining adolescent health risk behaviors, the Centers for Disease Control (CDC) includes sexual activity among these risks along with smoking, drug use, and violent behaviors. A review of the consequences of this premature sexual activity reveals the tremendous health and socioeconomic devastation.

Of all the infections reported to the CDC, the most common are STDs. Of the over 15 million STDs per year, almost 4 million are in 15-19 year olds and over 6 million are in the 20-24 year old age group.<sup>1</sup> Adolescents are also at a higher risk for acquiring STDs since earlier initiation of sexual intercourse increases the likelihood of eventual multiple sexual partners and high risk partners. The adolescent cervix is also actively being transformed from columnar epithelium to squamous epithelium making it more vulnerable to STDs such as HPV. Also, most adolescents are unaware that individuals infected with sexually transmitted diseases usually have no symptoms. Eighty percent of women infected with chlamydia are asymptomatic, a common infection in sexually active adolescents.<sup>2</sup> Of the 45 million Americans infected with Herpes Simplex Virus Type 2, 90% are unaware that they are infected, but 80% of these "asymptomatic" people have been shown to be shedding the virus in their genital area with the possibility of transmitting it during sexual activity.<sup>3,4,5</sup> Many of the estimated 900,000 Americans with HIV are unaware of their infection.<sup>6</sup> Similarly, most people infected with human

papillomavirus (HPV) are not aware and thus transmit the infection unknowingly.<sup>7</sup> Most adolescents are not aware that HPV causes genital warts, abnormal Pap smears, and has been linked to cervical, vulvar, and anal cancer. Women at highest risk for developing cervical cancer are those that become sexually active in the mid-adolescent years and have a tendency to have multiple sexual partners.<sup>8</sup> In one study HPV-16 was detected in 84% of anal cancer specimens.<sup>9</sup> HPV is particularly common among sexually active adolescents with one study showing 90% prevalence of HPV on the cervix.<sup>10</sup> The significance of STDs must be explained to adolescents. STDs are not only a nuisance but can cause serious health problems (sores, warts, pain, infertility, cancer, and even death). In the United States, billions of dollars are spent each year diagnosing and treating STDs and their sequele. The fact that most people infected with STDs do not know it but can pass it on to others needs to be emphasized to teens.

Teenage out-of-wedlock pregnancy is a continuing problem in the United States. Of the 4 million births in the United States in 2000, 11.8% were to teenagers with 78.8% occurring out-of-wedlock.<sup>11</sup> Many describe these teenage families as "kids having kids". The Robin Hood Foundation documented the consequences for the children of these adolescent mothers.<sup>12</sup> They are more likely to have health problems, grow up in a house without a father, run away from home, be abused, abandoned, or neglected, and perform much worse in school. The daughters are more likely to become teen moms themselves and the sons are more likely to be imprisoned. The adolescent mothers and fathers also suffer with lower levels of education, high rates of single parenthood, and poverty. It is

estimated that the yearly cost to society of kids age 17 or less having children is 29 billion dollars in the United States.<sup>12</sup>

There are also numerous legal implications to adolescents having sex. Most states have a legal age of consent to sex and also an age of statutory rape. Unfortunately, most adolescents do not know what these ages are in their state which can lead to legal difficulties. For example, in the state of Texas, over 20% of inmates in the juvenile prison are there for sexually related crimes.<sup>13</sup>

Considering the health, socioeconomic and legal ramifications of adolescent sexual activity, clear and concise factual information should be made available to adolescents, their parents, and the communities in which they live. Adolescents often hear that they can have "safe" or "protected" sex. Providing them with the facts on what contraception can and cannot do is vital toward enabling them to make informed decisions.

Adolescents need to understand that no birth control method is 100% effective. All have failure rates which are higher with teens compared to the adult population. They must also understand that no hormone containing method of birth control (pills, injection, implants, vaginal rings and patches) provides any protection from the transmission or acquisition of STDs.<sup>14</sup> They should also know that condoms have the highest pregnancy rate of any of the leading contraceptive methods, usually quoted at 12-16% failure rate.

If condoms have a high failure in preventing pregnancy, what is the data regarding effectiveness in preventing acquisition of sexually transmitted diseases? In its 1996

Cervical Cancer Consensus Statement, the NIH emphasized the importance of prevention of HPV infection. They related the necessity to educate adolescents that HPV is an STD that can cause precancerous and cancerous cells of the cervix, and that encouraging a delayed onset of sexual intercourse was warranted. The NIH also stated that "the data on the use of barrier methods of contraception to prevent the spread of HPV are controversial but do not support this as an effective method of intervention".<sup>15</sup> The CDC also noted many years ago in its weekly publication that condoms offer less protection from viral STDs such as herpes and HPV.<sup>16</sup> In July 2001, the NIH released the summary of its workshop held on condom effectiveness against STD transmission. The document was released and is available on their website with the summary statement: "Scientific review panel confirms condoms are effective against HIV/AIDS, but epidemiologic studies are insufficient for other STDs".<sup>17</sup> This panel of expert consultants reviewed 138 peer review articles on the most common STDs and condom use and could confirm that consistent and correct condom use reduced risk of HIV/AIDS but there was not sufficient data from available studies to make comments regarding consistent and correct condom use with other STDs. Unfortunately, this is not the message that most adolescents are receiving. If condoms are used consistently and correctly, there is an estimated 87% reduction in the risk of acquiring HIV infection,<sup>17</sup> but consistent and correct condom use is not the norm despite years of condom awareness and education. Even in studies looking at HIV discordant couples where the couple is aware that one is positive and the other is negative for HIV, inconsistent and incorrect condom use is common. The problem with condoms is that people are not perfect in their use of them correctly and consistently, and condoms are not perfect in that they do not cover all of the areas of the

body that can be infected with STDs. There is also a 2-4% accepted slippage and breakage rate.<sup>17</sup>

Making sure adolescents get up-to-date, accurate information is critical. Many sex education curriculums contain information that is out-of-date, inadequate, and often inaccurate. Do sex education curriculums tell adolescents that no birth control method is 100% effective in preventing pregnancy and STDs, and if they do become pregnant or get someone pregnant, they will have to cope with the health, social, and economic ramifications of that event? Are adolescents being told that no hormone containing method of contraception provides any protection from STDs? Are they being instructed on all sequelae of STDs and are they cognizant of the fact that most people infected with STDs including chlamydia, herpes, HPV, and HIV are asymptomatic and unaware they are infected but capable of transmitting those infections? Are adolescents aware that sufficient data is available to show that condoms reduce the transmission of only one infection in males and females and that is HIV? There is not data showing that consistent and correct condom use prevents transmission of infections such as HPV, herpes, chlamydia, and syphilis. Unfortunately, not only are adolescents not aware of this information but neither are their parents or for that matter many health care professionals.

Adolescents must have correct data to make informed decisions regarding sexual activity. Considering the many ramifications, the importance of emphasizing a delayed onset of sexual activity in adolescents is crucial. What factors do help adolescents delay the onset of sex? In an article published in JAMA in 1997 entitled "Protecting Adolescents From

Harm", 12,000 adolescents were interviewed in 1995 regarding factors that cause them harm including drugs, violence, suicide, and sex.<sup>18</sup> In this large study, factors that were statistically significant in delaying the onset of sex included a pledge of virginity by the adolescent, parent disapproval of adolescents using birth control, parent disapproval of adolescents having sex, parent-family connectiveness, and school connectedness.

What information is being disseminated to adolescents regarding sexual activity? Some sex education programs do give confusing messages and may even tell adolescents that they can have "healthy" sexual relations as long as they are consensual, and protected against disease and unintended pregnancy. When assessing the available data regarding contraception and pregnancy and STDs, is this a realistic message for adolescents? Quite appropriately, the CDC defines adolescents having sex as a "risk behavior" not a "healthy" behavior. Also, adolescents often receive incorrect information from the media and even from health care sources which do not give current, factual information.

The good news is that fewer teenagers today are having sexual intercourse compared to years ago, and the teen pregnancy rate (births and abortions) is going down. The Youth Risk Behavior Surveillance was performed by the CDC every two years in the 1990s to thousands of high school students. From 1991 to 2001 there was a reduction in males and females who had "ever had sexual intercourse". The Youth Risk Behavior Surveillance of 2001 also showed a decrease in linear trends in the percentage of students who: ever had sexual intercourse, had sexual intercourse before age 13 and sexual intercourse with greater than 4 partners.<sup>19</sup> The birth rate for teenagers declined 5%

between 2000 and 2001 to the lowest rate in 60 years. The teen birth rate is down 26% from the most recent high in 1991.<sup>20</sup> In a statement on preventing teenage pregnancy, the CDC gives their recommendation: "Building on the variety of efforts already underway, the national study works to prevent out-of-wedlock pregnancies and encourage adolescents to remain abstinent."<sup>21</sup>

What do kids themselves think about teens and sex? In a nationally representative survey of teenagers, the National Campaign to Prevent Teen Pregnancy conducted a study entitled "Not just another thing to do". The teens talked about sex, regret, and the influence of their parents. Of those teens that had sex, 55% of boys and 72% of girls wish they had waited.<sup>22</sup> When it comes to decisions about sex, teens say parents are most influential. But, what are parents telling their children? Do they have the facts? In this same study, more teens say they have received information about sex in the past month from the media, not their parents.

How are kids to get correct factual information? What is the role of the health care professional? Since teens having sex is a "health" problem, the role of health care professionals in primary prevention is essential. Fortunately, many more health care professionals are getting involved by going to schools and youth groups to talk to kids about delaying the onset of sexual activity. At Scott & White Clinic and Memorial Hospital in Temple, Texas, the Worth the Wait<sup>®</sup> program was developed by health care professionals and educators. This program produced slide kits for health care professionals to speak to adults and kids on the consequences of adolescent sexual

activity. Separate kits are available for presenting to adults and to teens with information obtained from the NIH, CDC, and peer reviewed journals (Scott & White Sex Education Program 254-724-7359). Greater involvement by the healthcare profession can only improve the quality of sex education programs and provide another support system for encouraging today's teens and delay the onset of sexual activity for their future health.

#### References:

<sup>1</sup>American Social Health Association/Kaiser Family Foundation. Sexually Transmitted Diseases in America: How Many Cases and at What Cost? Dec 1998.

<sup>2</sup>Burstein GR, Gaydos CA, Diener-West M, Howell MR, Zenilman JM, Quinn TC. Incident Chlamydia trachomatis infections among inner-city adolescent females. JAMA 1998; 280:521-6.

<sup>3</sup>Corey L, Handsfield HH. Genital Herpes and Public Health: Addressing a Global Problem. JAMA 2000; 83:791-4.

<sup>4</sup>Fleming DT, McQuillan GM, Johnson RE, Nahmias AJ, Aral SO, Lee FK, St. Louis ME. Herpes simplex virus type 2 in the United States, 1976 to 1994. NEJM 1997;337:1105-11.

<sup>5</sup>Wald et al. Reactivation of Genital HSV-2 Infection in Asymptomatic Seropositive Persons. NEJM 2000;342:844-50

<sup>6</sup>CDC. How many people have HIV & AIDS? Available online: [http://www.cdc.gov/nchstp/hiv\\_aids/pubs/faq/faq13.htm](http://www.cdc.gov/nchstp/hiv_aids/pubs/faq/faq13.htm)

<sup>7</sup>Gloria et al. Natural History of Cervicovaginal Papillomavirus Infection in Young Women. NEJM 1998;38:423-8.

<sup>8</sup>Disaia PJ, Creasman WT. Clinical Gynecologic Oncology. 5th ed. St. Louis (MO): Mosby-Year Book, Inc.;1997.

<sup>9</sup>Frisch M, Glimelius B, van den Brule AJC, Wohlfahrt J, Meijer C, Walboomers JM, et al. Sexually transmitted infection as a cause of anal cancer. NEJM 1997;337:1350-8.

<sup>10</sup>Jacobson et al: Concordance of human papillomavirus in the cervix and urine among inner city adolescents. Pediatr Infect Dis J 2000; 19:722-8.

<sup>11</sup>National Vital Statistics Report for 2000; National Center for Health Statistics, Hyattsville, Maryland.

<sup>12</sup>Kids Having Kids. New York (NY): Robin Hood Foundation; 1996. National Institutes of Health (NIH). Cervical Cancer, Consensus Statement. Bethesda (MD): Department of Health and Human Services (US), Office of the Director 1996; 14:1-38.

<sup>13</sup>Texas Youth Commission Data 2001

<sup>14</sup>Cates W, Sulak PJ. Contraceptives and STDs: Alternative Approaches to Providing Dual Protection. Dialogues in Contraception 2000; Vol. 6 (no.3).

<sup>15</sup>NIH Consensus Statement on Cervical Cancer, HHS 1996; 14:1-38.

<sup>16</sup>CDC. Condoms for the prevention of sexually transmitted diseases. MMWR 1988; 37:133-7.

<sup>17</sup>HHS News: Scientific Review Panel Confirms Condoms Are Effective Against HIV/AIDS, But Epidemiological Studies Are Insufficient for other STDs. Available online: <http://www.hhs.gov/news>

<sup>18</sup>Resnick et al: Protecting Adolescents from Harm: Findings from the Longitudinal Study on Adolescent Health. JAMA 1997; 278:823-32.

<sup>19</sup>Youth Risk Behavior Surveillance, United States 1999. MMWR Vol 51, No SS-04, June 28, 2002.

<sup>20</sup>National Vital Statistics Report. 2002.

<sup>21</sup>CDC. Preventing Teenage Pregnancy Online at: <http://www.cdc.gov/nchs/about/major/natality/teenpreg.htm>. September 11, 1997.

<sup>22</sup>National Campaign to Prevent Teen Pregnancy. Not Just Another Thing To Do: Teens Talk about Sex, Regret, and the Influence of Their Parents. Conducted by International Communications Research. June 30, 2000.