

## Perspective

# Sexuality, Sexual Health, and Sexually Transmitted Infections in Adolescents and Young Adults

*Adolescents in the United States are at increased risk for acquiring HIV and other sexually transmitted infections (STIs). Rates of chlamydia, gonorrhea, and primary and secondary syphilis are increasing among individuals aged 15 to 24 years, among both sexes. Approximately 1 in 5 new HIV diagnoses is occurring among individuals aged 13 to 24 years. Compared with heterosexual and cisgender youth, sexual and gender minority youth may be more likely to have had sex before age 13 years, and young transgender women have the highest rates of HIV and STIs than other sexual and gender minority youth. Comprehensive, culturally sensitive, and developmentally sensitive care is needed to address sexuality-related issues in adolescents and young adults. This article summarizes a presentation by Allison Agwu, MD, ScM, at the International Antiviral Society–USA (IAS-USA) annual continuing education program held in New York, New York, in September 2019.*

**Keywords:** HIV, STI, sexually transmitted infection, adolescent, youth, sexual minority, gender minority, prevention, testing, PrEP, preexposure prophylaxis, family planning

Adolescents in the United States are at increased risk for acquiring HIV and other sexually transmitted infections (STIs). In the Centers for Disease Control and Prevention (CDC) 2017 Youth Risk Behavior Survey, 39.5% of high school students (grades 9-12) reported ever having sexual intercourse, 9.7% reported having had 4 or more sexual partners, and 28.7% reported having had sexual intercourse during the previous 3 months.<sup>1</sup> Among sexually active students, 53.8% reported that either they or their partner had used a condom during last sex, 18.8% reported drinking alcohol or using drugs before last sex, and 13.8% reported that they did not use any method of contraception at last sex.<sup>1</sup> Additionally, 7.4% of the students surveyed reported being physically forced to have sex when they did not want to, and 9.3% reported that they had ever been tested for HIV.

Some of the increased risk for STIs among adolescents is attributable to biologic factors. Hormonal changes occurring in adolescent girls cause cervical ectopy (presence of columnar cells on the outer surface of the

cervix), which are more susceptible to STIs. In adolescent boys, there is some evidence that circumcision may reduce STI risk, but circumcision rates are lower than they have been in the past. Other biologic factors that may increase STI risk among adolescents include lack of immunity from prior infections, an increased risk for physically traumatic sex, and concurrent STIs.

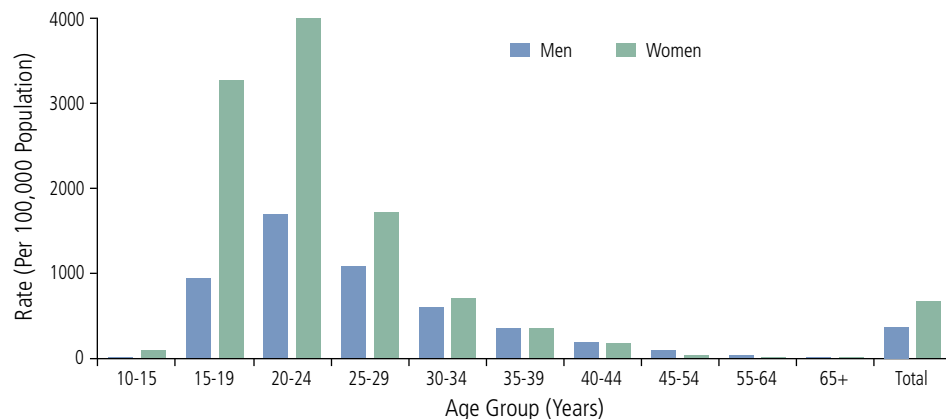
As relates to STI risk, adolescent brains are still developing, including in the ability to calibrate risk versus reward. Risk-taking and experimentation are normal accompaniments to the

increased autonomy and self-identity that emerge during adolescence. Environment, culture, trauma, substance use (e.g., marijuana or alcohol use), and illness are also factors that affect adolescent cognitive development.

## Sexually Transmitted Infection Rates Among Adolescents and Young Adults

Rates of chlamydia, gonorrhea, and primary and secondary syphilis are increasing among individuals aged 15 to 24 years, among both sexes.<sup>2</sup> Rates of reported cases of chlamydia are highest among women aged 15 to 24 years (Figure), and the overall rate of chlamydia in this population increased by 4.9% from 2016 to 2017 and by 8.8% from 2013 to 2017.<sup>2</sup> Among males aged 15 to 24 years, the overall rate of chlamydia increased by 8.9% from 2016 to 2017 and by 29.1% from 2013 to 2017.<sup>2</sup>

Rates of reported cases of gonorrhea among females aged 15 to 24 years increased by 14.3% from 2016 to 2017 and by 24.1% from 2013 to 2017.<sup>2</sup> Concurrently, rates of gonorrhea among males aged 15 to 24 years increased by 13.4% from 2016 to 2017 and by 51.6% from 2013 to 2017.<sup>2</sup>



**Figure.** Chlamydia rates in 2017 among men and women in the United States, by age and sex. Adapted from Centers for Disease Control and Prevention.<sup>2</sup>

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Between 2014 and 2018, rates of primary and secondary syphilis have increased 100% among females and 44.6% among males aged 15 to 24 years.<sup>3</sup>

The increased rates discussed above may reflect a general increased incidence in these STIs and, possibly, increased screening, including extra-genital screening.

### HIV Among Adolescents and Young Adults

Approximately 1 in 5 new HIV diagnoses occurs among individuals aged 13 to 24 years.<sup>4</sup> Of these new diagnoses in this population, 53% are among black youth, 23% are among Hispanic or Latino youth, 19% are among white youth, and 6% among youth identified as “other,” and 87% and 13% are among young men and women, respectively. Among male youth, 93% of new HIV diagnoses are attributable to same-sex sexual contact.<sup>4</sup> By the end of 2016, approximately 51,000 adolescents and young adults in the United States were living with HIV, and an estimated 40% were unaware of their HIV serostatus.<sup>5</sup>

### Sexual and Gender Minority Youth

Sexual minority youth are those who identify as same-gender loving, gay, lesbian, bisexual, questioning, or other sexual identity or those who have sexual contact with persons of the same or both sexes. Gender minority youth are those who identify as a gender that is different from the gender assigned to them at birth or who identify as nonbinary, are questioning their gender identity, or are otherwise gender diverse. Together, this group is often referred to as LGBTQ, with each letter representing a distinct population with its own health concerns. How individuals’ LGBTQ identities intersect with factors such as race, ethnicity, age, socioeconomic status, and geographic region should also be considered in discussions of sexual health.

Compared with heterosexual and cisgender youth, sexual and gender minority youth are more likely to have

had sex before age 13 years, have had sex with at least 4 partners, have used drugs and alcohol before last sex, and to have not used any pregnancy prevention method during last sex, and they are less likely to use condoms.<sup>1,6,7</sup>

Young transgender women have the highest rates of HIV and STIs among sexual and gender minority youth. The increased risk for HIV and STIs among transgender women may be associated with commercial sex work, transactional sex, survival sex, unemployment, substance use, history of incarceration, homelessness, nonconsensual sex, access to care, number of partners, stigma and discrimination, and condomless anal intercourse. Conversely, HIV prevalence among transgender men is relatively low, although transgender men who have sex with men (MSM) are also at higher risk for acquiring HIV.<sup>8</sup>

### Discussing Sexual Health With Adolescents and Young Adults

Normalizing and being fluid in discussions of sexuality are crucial to establishing trust and rapport with adolescents. Annual preventive health visits are an opportunity to provide comprehensive education and health services. Decision-making around healthy relationships, healthy sexual behavior,

and prevention of STIs, HIV, and human papillomavirus (HPV) should be discussed at each visit. The annual preventive health visit is also an opportunity to perform any needed STI screenings and vaccinations. Clinicians can employ the HEADSS assessment (Box) to help tailor the discussion and engage adolescent patients in understanding their own psychosocial history.

To develop trust and encourage the adolescent to speak freely, clinicians should first ask about other aspects of the adolescent’s life and then move into discussion of sex. When taking a sexual history of an adolescent patient, clinicians should be specific and nonjudgmental, avoid using medical jargon, avoid making assumptions (e.g., assuming that an individual’s sexual identity or gender always reflects who they have sex with and how they engage in sex), and allow the adolescent the opportunity to speak confidentially, without the presence of a parent or guardian. Adolescents should be asked about the 5 Ps: partners, prevention of pregnancy, protection from STIs, sexual practices, and past history of STIs.

There is a wide range of sexual behaviors, activities, and expressions and clinicians should remain open and neutral when discussing them with adolescents. Information about sexual and reproductive health that is provided

#### Box. HEADSS Assessment

- **Home/Household**—Ask questions such as, **Where do you live and who lives there with you? Where did you sleep last night? Is that where you usually live?**
- **Education/Employment**—Ask questions such as, **Tell me about school/work? What do you like/dislike about school/work?**
- **Activities**—Ask questions such as, **What do you like to do for fun? What do your friends like to do for fun?**
- **Drugs**—Ask questions such as, **Are any of your friends using any drugs or alcohol? Have you seen/been around alcohol or drugs as you are hanging out with your friends? Have they offered you alcohol/drugs? Have you tried any alcohol or drugs?**
- **Sex/Sexuality**—Ask questions such as, **Tell me about your dream/ideal partner?**
- **Suicidality/Mental Health**—Ask questions such as, **Have you ever had thoughts about how things might be better if you were not here? How often do you feel sad about this/that?**

Adapted from the American Academy of Pediatrics.<sup>16</sup>

needs to be comprehensive and non-stigmatizing and should promote healthy sexuality even if the adolescent is not sexually active. In a study that examined discussions between physicians and adolescent patients about sexuality during health maintenance visits, one-third of all adolescents had annual visits that did not include any mention of sexuality-related issues.<sup>9</sup> When sex was discussed, the conversations lasted an average of 36 seconds.<sup>9</sup>

Some clinicians may be less comfortable taking sexual histories from sexual and gender minority youth, and such youth are often marginalized by noninclusive health discussions.<sup>10,11</sup> Clearly, healthcare practitioners serving adolescents should be adequately trained on how to elicit disclosure of sexual or gender identity.

### Sexually Transmitted Infection Screening and Prevention in Adolescents and Young Adults

Decisions regarding STI screening in adolescents should be based on sexual behaviors and the anatomy and body parts used for sex, as identified through a thorough and inclusive sexual history. Extragenital chlamydia and gonorrhea screening should be performed for adolescent patients who have a history of engaging in oral or anal sex. Sexually active youth should be screened at least annually for STIs and more frequently as needed based on risk behavior. The 2015 Sexually Transmitted Diseases Treatment Guidelines from the CDC provides specific STI testing recommendations,<sup>12</sup> and suggests that nucleic acid amplification testing is sufficient in most cases. A pelvic examination may be indicated in the presence of persistent vaginal discharge, dysuria or urinary tract symptoms in a sexually active female patient, dysmenorrhea unresponsive to nonsteroidal antiinflammatory drugs, amenorrhea, abnormal vaginal bleeding, lower abdominal pain, suspected or reported rape or sexual abuse, suspected or confirmed pregnancy. A Papanicolaou (Pap) test is indicated for sexually active female patients, although HPV testing should not be

routinely performed unless an abnormality is found on the Pap test.

Vaccinations for adolescents and young adults to prevent diseases, whether sexually transmitted or otherwise, include those for HPV; hepatitis A and B viruses; tetanus, diphtheria, and pertussis (Tdap); meningococcus; and influenza as indicated.

### HIV Testing Among Adolescents and Young Adults

Of adolescents and young adults living with HIV, an estimated 51% are unaware of their serostatus, indicating the importance of testing for this population.<sup>13</sup> The CDC recommends universal HIV screening for all individuals aged 13 to 64 years and for all pregnant individuals, with repeat HIV screening for all individuals with increased risk recommended at least annually.<sup>5</sup> HIV screening is indicated if there has been an HIV diagnosis in the family, if there is clinical suspicion for HIV, or if a patient requests it. Barriers to HIV testing for adolescents and young adults include their low perceived risk of infection, concerns about confidentiality, and lack of access to services.

### Preexposure Prophylaxis

Although more than 20% of new HIV infections occur among young adults and adolescents, this population accounts for less than 10% of all preexposure prophylaxis (PrEP) prescriptions.<sup>14</sup> Studies have shown low or nonadherence among adolescents and young adults who do initiate PrEP.<sup>14</sup> Laws regarding minor consent, which vary by state, concerns about confidentiality, barriers to disclosing same-sex sexual behavior or sexual risk behavior, and lack of access to comprehensive culturally and developmentally sensitive care may affect access to and uptake of PrEP among adolescents and young adults.

### Family Planning and Reproductive Health

Pregnancy among adolescents is declining across all demographics and

declined by 64% between 1991 and 2015.<sup>15</sup> However, approximately 80% of adolescent pregnancies are unplanned.<sup>15</sup> It is important to have open discussions with all youth, including sexual and gender minority youth, about reproductive health and family planning. Sexual behavior and sexual identity are not always aligned, and many sexual and gender minority youth may have sexual encounters that would not be predicted based on their sexual orientation. Conversations about birth control are important for all youth, regardless of sexual or gender identity.

### Summary

Adolescents and young adults are at increased risk for acquiring HIV and other STIs. Clinicians should normalize and initiate discussions of healthy sexual practices with their adolescent patients. Such discussions should be open and free from judgement, assumptions, and stigma, to encourage adolescents to take an active role in their own sexual health. Sexual history taking should be sensitive to the varied sexual and gender identities of patients. STI screening, HIV testing, PrEP, immunizations, and family and reproductive planning should be discussed and performed as indicated. ☑

*Presented by Dr Agwu in September, 2019. First draft prepared from transcripts by Rachel Lastra. Reviewed and edited by Dr Agwu in May, 2020.*

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### References

1. Kann L, McManus T, Harris WA, et al. Youth risk behavior surveillance - United States, 2017. *MMWR Surveill Summ*. 2018;67(8):1-114.
2. Centers for Disease Control and Prevention. Sexually transmitted disease surveillance 2017. <https://www.cdc.gov/std/stats17/default.htm>. Accessed on May 4, 2020.
3. Centers for Disease and Control and Prevention (CDC). STDs in Adolescents and Young Adults. <https://www.cdc.gov/std/stats18/adolescents.htm>. Accessed on June 4, 2020.
4. Centers for Disease Control and Preven-

- tion (CDC). HIV surveillance reports, 2018. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Accessed on May 4, 2020.
5. Centers for Disease Control and Prevention (CDC). Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR Recomm Rep*. 2006;55:1-17.
  6. O'Brien RF, Warner L, Blythe MJ, et al. Condom use by adolescents. *Pediatrics*. 2013;132(5):973-981.
  7. Rasberry CN, Lowry R, Johns M, et al. Sexual risk behavior differences among sexual minority high school students - United States, 2015 and 2017. *MMWR Morb Mortal Wkly Rep*. 2018;67(36):1007-1011.
  8. Rowniak S, Chesla C, Rose CD, Holzemer WL. Transmen: the HIV risk of gay identity. *AIDS Educ Prev*. 2011;23(6):508-520.
  9. Alexander SC, Fortenberry JD, Pollak KI, et al. Sexuality talk during adolescent health maintenance visits. *JAMA Pediatr*. 2014;168(2):163-169.
  10. SIECUS. Taking a sexual history. <https://siecus.org/wp-content/uploads/2018/07/1.7-Taking-A-Sexual-History.pdf>. Accessed on June 4, 2020.
  11. Advocate for Youth. Advocates for youth issue areas. <https://advocatesforyouth.org/issues>. Accessed on June 4, 2020.
  12. Centers for Disease Control and Prevention. 2015 Sexually transmitted diseases treatment guidelines. <https://www.cdc.gov/std/tg2015/default.htm>. Accessed on May 4, 2020.
  13. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2014. <http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-21-4.pdf>. Accessed on May 4, 2020.
  14. Yusuf H, Fields E, Arrington-Sanders R, Griffith D, Agwu AL. HIV preexposure prophylaxis among adolescents in the US: a review. *JAMA Pediatr*. 2020;
  15. US Department of Health and Human Services. Trends in teen pregnancy and childbearing. <https://www.hhs.gov/ash/oah/adolescent-development/reproductive-health-and-teen-pregnancy/teen-pregnancy-and-childbearing/trends/index.html>. Accessed on June 4, 2020.
  16. American Academy of Pediatrics. Adolescent sexual health. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/adolescent-sexual-health/Pages/Assessing-the-Adolescent-Patient.aspx>. Accessed on June 4, 2020.

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