

# HIV/AIDS in Adolescent and Young Adults: Prevalence, Sexual Practices, Substance Use, Health Education, and Parental Guidance in Pakistan

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HIV/AIDS remains a major public health challenge worldwide. Human Immunodeficiency Virus (HIV) attacks the immune system and makes the body vulnerable to opportunistic infections. Although effective antiretroviral therapy (ART) is available, there is no cure. HIV infection can lead to Acquired Immunodeficiency Syndrome (AIDS) in approximately 8-15 years and death, if left untreated<sup>1,2</sup>. Scientific advancement has changed HIV/AIDS into a chronic, manageable condition; however, the HIV epidemic is ongoing worldwide. Adolescents and young adults (AYAs) (aged 13-24) remain susceptible to HIV<sup>3</sup>.

**Adolescent and Young Adults (AYA):** Adolescence is a complex transitional period characterized by self-discovery, physical, emotional, and psychosocial development. Adolescents seek greater independence but are reluctant to assume responsibilities. Consequently, this attitude increases AYAs' vulnerability to risky behavior, resulting in greater susceptibility to sexually transmitted infections (STIs), including HIV<sup>4</sup>.

**Prevalence of HIV in AYAs:** HIV continues to increase in AYAs worldwide. Today, approximately 3 million AYAs (13–24) are living with HIV. Although the global prevalence of AYAs is only 11%, they represent an estimated 45% of all new infections. High HIV prevalence with increased risky behavior among AYAs is a growing concern in the developing countries, including Pakistan<sup>5</sup>.

**Transmission of HIV in AYAs:** Globally, some AYAs acquire HIV as infants via perinatal transmission<sup>6</sup>; however, most AYAs men acquire HIV through men-to-men sexual contact, and the majority of AYAs women acquire HIV via heterosexual contact<sup>2</sup>.

**Primary Risk Factors among AYAs:**

**Global: (1) Sexual Risky Behavior** – AYAs involved in activities including unprotected sex; multiple partners; sexual activities with persons belonging to high risk group. **(2) Substance Use** - Alcohol and illicit drug use. **(3) Lack of knowledge** about STIs, including HIV<sup>7</sup>.

**HIV in Sindh, Pakistan.** A research study on AYAs and HIV conducted in Sindh, Pakistan, reports the existence of HIV among AYAs aged 13-25, regardless of gender, sexual orientation, marital status, education level, or socioeconomic status, and spanning rural, semi-urban, and urban communities. The data suggest following risk factors: **(1) Sexual High Risk**

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doi: 10.22442/ijumhs.2025.01483

**Behavior** including early initiation of unsafe sexual activity, early marriages, multiple partners; **(2) Substance Use:** Alcohol and illicit drug use; (3) Easy access to willing sex partners, sex workers, and the LGBTQ+ community; **(4) lack of parental guidance/supervision or communication;** and **(5) lack of knowledge regarding sexual health, STIs including HIV** and the consequences of their risky behavior. **AYA source of information** –during illness, the primary source of health information is often their ignorant friends or peer networks **(6). Psychosocial Factors:** Troubled youths with psychiatric disorders. **(7) Limited Access to youth-friendly healthcare facilities**<sup>8</sup>.

**HIV Prevention for AYAs Worldwide**

**Treatment as HIV Prevention.** ART PrEP (pre-exposure prophylaxis) is extremely effective and safe for AYAs and should be offered to those at risk for acquiring HIV, and PEP (post-exposure prophylaxis) reduces the amount of virus to undetectable levels (U=U)

**Health Education as HIV Prevention.** Acquisition of basic HIV knowledge can lead to a better understanding of prevention, testing, and treatment and help lower the risk of HIV transmission. **Health education programs in schools should be comprehensive, age-appropriate, and evidence-based. Sexual health education must be part of the curriculum. An effective health education program will empower AYAs to make informed decisions about their sexual health and relationships**<sup>9</sup>.

**Parental Guidance.** Parents should serve as role models for AYAs to follow safety measures against HIV. **Parents and schools must have open communication and provide a supportive environment. Implementation of such components, health education programs can significantly reduce risky behavior and increase understanding of STIs and HIV and protect AYAs**<sup>10</sup>.

**AWARENESS in the AYA Community,** religious institutions, and AYAs can work together to prevent HIV transmission. The community, including parents, family and clinicians, should initiate open, non-judgmental communications with AYAs regarding their sexual and reproductive health and the consequences of risk behavior. Educating, creating knowledge, and awareness in AYAs in particular is needed to control the spread of STIs and HIV among AYAs worldwide<sup>9</sup>.

**Global HIV Prevention Strategies for AYAs**

The Global HIV Prevention Coalition (GPC) Road Map



is a ten-step action plan that emphasizes a precise prevention approach focused on key risk populations, including AYAs. It stresses the importance of community-led HIV prevention services and their integration with essential related services to improve outcomes. The roadmap is a collaborative effort involving various stakeholders, including the pharmaceutical industry, policymakers, government and private sectors, donors, researchers, and communities<sup>10-12</sup>.

#### **HIV/AIDS Prevention for AYA Population in Sindh, Pakistan – Ground Reality 2026**

Recently, a research study was conducted to investigate the HIV and STIs knowledge, risky sexual and drug use behaviors of AYAs in Sindh, Pakistan. School-based surveys were conducted between 2025 and 2026. Several students from high school (grades 8–10), colleges (grades 11–16), and community centres (grades 8–18) of both genders were interviewed. Approximately 7,500 students and staff (ages 13–65) were interviewed. The surveyed students reported that: (1) Most AYAs were sexually active (unmarried and married), (2) Several students had multiple sexual partners and were involved in unsafe sexual activities; (3) More than half of the students were experimenting with illicit drugs (e.g., ICE) and drinking alcohol; (4) None of them had been tested for HIV, nor did they have any knowledge about STI/HIV/AIDS, testing, treatment, or available prevention measures; (5) Most students did not receive any parental guidance/supervision/communication. Most parents were unaware of their sexual or drug-related activities. Comparatively, a similar survey on youth risk behavior was conducted in a rural setting in Sindh, Pakistan. It was noted that: (1) Most AYA from rural communities do not attend school; (2) Most youth engage in unsafe sex before the age of 12, involving multiple partners of all ages; (3) Most have used local alcohol and illicit drugs; (4) Absolutely no parental guidance is provided, even though most parents are aware of their children's sexual practices and drug-related activities; (5) Awareness regarding HIV/AIDS, STIs, and treatment/preventive measures does not exist in either rural or urban settings<sup>8</sup>. A community-based multi-faceted intervention is needed to address these challenges faced by AYAs in Sindh, Pakistan<sup>8</sup>.

In the absence of any effective vaccine or cure, health Education and awareness are the only ways to prevent the spread of HIV/AIDS among AYAs. School Teachers and Parents can play a crucial role in the prevention of HIV/AIDS. To reduce AYA vulnerabilities, multi-sectoral interventions are urgently needed. Strategies such as comprehensive sexual education in schools, AYA friendly sexual and reproductive services, and economic support can help reduce HIV transmission in AYAs.

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