



Review Article

## **Emerging risky sexual behavior and substance use among adolescents**

**Sanju Pant**

Lecturer, Department of Psychiatric Nursing, Manipal College of Nursing, Manipal Academy of Higher Education, Manipal, Karnataka

**Date of Submission :**

17 March 2021

**Date of Acceptance :**

24 June 2021

**Keywords:** Adolescence, Risky sexual behavior, Substance use, Sexually transmitted diseases

### **Abstract**

Adolescence is a period of substantial developmental changes in an individual's physical, cognitive, emotional, and social behavior. Peer pressure, family problems, lack of education, use of mass media, delinquencies, and changes in neurobiology all affect an adolescent's development and may predispose to consequences such as drug addiction, unprotected sexual activities, unplanned pregnancies STDs, HIV, and other mental health issues. This paper is mainly focused on highlighting the emerging risky sexual behavior and substance use among adolescents. The review also reveals the role of educational institutes, government programs & policies, community, and health care workers as they play a crucial role in reducing the risk of these problems by providing adequate knowledge and services to the adolescents from the beginning itself.

### **Introduction**

Human development is a continuous process of physical, behavioral, cognitive, and emotional growth, and changes occur throughout one's lifetime. Massive changes happen in the early phases of human life, from infancy to childhood, childhood to adolescence, and adolescence to maturity.

Each person develops attitudes and values that drive their choices, relationships, and understanding all across the process (Delamater and Friedrich, 2002).

We all know human beings are sexual beings and sexuality manifests within them throughout their entire life. Sexual development begins after conception and progresses until death (Kar et al., 2015). A few researchers say sexuality is a driving force behind all thoughts, feelings, and behaviors. The physical and biological aspects of sexuality are concerned with the functioning of the human reproductive system, including the sexual response cycle. Studying human sexuality is much more complex than the biological forces which initiate the process of

**Corresponding author:** Sanju Pant

Email: [sanju.pant63@gmail.com](mailto:sanju.pant63@gmail.com)

**How to cite article:** Pant, S. (2021). Emerging risky sexual behavior and substance use among adolescents.

Indian Journal of Health, Sexuality & Culture, 7(1), 50-61.

**DOI:** 10.5281/zenodo.5151867

This article is distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

sexual maturation and also determines how individuals project themselves mentally and socially (Manohar et al., 2020).

Adolescence is a period of transition in which considerable changes in sexuality occur. They achieve physical maturity, but they are cognitively incapable of dealing with it. During this time, adolescents make numerous assumptions about their sexuality and learn a lot about themselves, including their sexual identity and sexual orientation (Kar et al., 2015). Sexual orientation is another facet of sexual development. It refers to the physical, mental, sexual, and romantic aspects of one's attraction to others. Adolescents' sexual orientation usually changes during the stages of puberty, and their interest in sexual activity increases (Malvaso et al., 2020). Gender identity is also a part of this process for deciding whether they consider themselves masculine, feminine, or transgender (Kar et al., 2015).

Adolescent sexuality has gained much scrutiny compared to childhood sexuality (Tulloch and Kaufman, 2013). Because adolescents typically get fascinated by mass media, domestic issues, peer pressure, and the surrounding environment. Most adolescents do not have adequate information about prevention and support to deal with risky behavior. Moreover, this conjures them to lend up in fancy venturous ways of life like smoking, alcohol or drug use, unprotected sexual activities, and sexual health issues (Pringle et al., 2017). A meta-analysis found that several factors, including sex, ethnicity, sexuality, age, sample type, and measurement level, showed the association between substance use and risky sexual activity (WHO/UNFPA/UNICEF Study Group on Programming for Adolescent Health (1995): Saillon and World Health Organization, 1999).

The peer group is an adolescent's primary source of sexual-related material, whereas

adolescents' families may not be powerful enough to direct them in cultivating positive, non-risky sexual activity (Malvaso et al., 2019). The adolescents' premature sexual activities like unplanned pregnancy, sexually transmitted infections (STIs), sexual assault, substance abuse, and the possible emotional effects are the concerned topic for parents and society. There are significant gender disparities in the incidence of sexual abuse. According to CDC, adolescents account for half of all new STD cases, and one out of every four sexually active adolescent females has an STD. Women are more likely than males to be victims of sexual abuse, with roughly 30% of women and 10% of men reported being victims of sexual abuse (CDC HIV Surveillance, n.d.).

Another systematic analysis revealed that alcohol consumption is the leading global risk factor that accounts for death among men (8.9%) and women (2.3%) aged 15-49, respectively (Griswold et al., 2018). Substance abuse leads to a variety of adverse health consequences for adolescents. For example, using the same non-sterile injecting equipment to cause HIV, syphilis & viral hepatitis; indulging in unprotected sex; sex with multiple partners; and multiple medical health issues (Larney et al., 2017; Griswold, 2018). So, there is a need to make preventive interventions and treatment modalities to reduce the factors that increase one's risk for illnesses.

The higher prevalence of adolescent STDs and substance abuse also replicate many barriers to accessing prevention and administration services. The inability to pay, lack of transport, long waiting times, the conflict between dealing & clinical hours, and school schedules (Sharma and Vishwakarma, 2020) are some common examples of barriers faced by them. These issues illustrate the value of offering preventive health care and adequate health education regarding

substance abuse and risky sexual behavior in adolescents (Oswalt, n.d.). However, as emphasized in this introduction, these growth areas do not advance uniformly at the same pace. So, adolescent sexual behavior and substance abuse is a concerning area for family and society, as this can lead them to troubling decisions with lifelong implications.

### **Pattern and trend of risky sexual behavior and substance use among adolescents**

UNDESA estimated in 2019 that the world was home to 1.2 billion persons aged between 15-24 years and predicted to be at a peak globally by 2065. Around 22% of the population in India consists of adolescents. They are the most energetic and productive sector, but they are also prone to more substance abuse and risky sexual behavior with negative repercussions (Bearinger et al., 2007). In adolescents, risky sexual behavior is associated with psychological and social consequences, such as poor self-esteem, suicidal thoughts, depressed mood, school dropouts, and unwanted pregnancy (Bersamin et al., 2014; Malhotra, 2008; Slaymaker et al., 2004). A study was conducted among high school, and preparatory students in the eastern part of Ethiopia found a 13.7% prevalence of risky sexual activity (Fentahun and Mamo, 2014). A similar study on psychosocial correlates found that 63.4% of students had risky sexual behavior. The majority were male gender, older than 19 years, and diagnosed with STDs (Ebuenyi et al., 2021).

While it is well known that girls mature faster than boys, but few research studies have shown that adolescent boys participate in more risky sexual activity compared to girls (Weinstock et al., 2004; Ebuenyi et al., 2021). Several psychiatric illnesses are found to be associated with risky sexual behavior. Suicide

attempts, depression, and poor self-esteem are expected consequences of risky sexual behavior among adolescents. A study revealed that inconsistent condom users were nearly twice as likely to have attempted suicide, while teenagers diagnosed with an STI were almost twice as likely to have attempted suicide (Houck et al., 2008).

Global socioeconomic developments and behavioral trends, combined with unique developmental vulnerabilities, have resulted in a confluence of circumstances that put today's adolescents at risk for poor health outcomes. It has been observed that there is a developmental relationship between risky sexual behavior and substance abuse among early adolescents. Early substance abusers led to more sex partners and less use of condoms compared to non-user (Guo et al., 2002; Srivastava, 2016). The family environment is also essential: family violence, physical or emotional abuse, mental illness, or drug use increase the likelihood of taking drugs. Finally, adolescents' hereditary genetic susceptibility; personality traits, such as poor impulse control or a strong need for arousal; mental illness, such as depression, anxiety, or hyperactivity; and belief that drugs are "cool" or harmless increases adolescent's possibility of using drugs (Sussman, Skara, and Ames, 2008). Few studies observed how early risky sexual activities were related to parents and how they affect each other (Srabhzu and Tirfeneh, 2020; Anasteseu et al., 2019). According to WHO, adolescent risky sexual behavior is linked to the socioeconomic status of a family, parenteral joblessness, sexually active peers, chaotic families, instability in the family, single-parents, sexually active siblings, and factors like race, sex, religion, age, and status of puberty. So, it can be said that the quality of the parent-adolescent relationship, family sociodemographic, the structure of the family, and a parent's educational level play an essential role in the study of early and

risk-taking sexual activities among adolescents (Guilamo-Ramos et al., 2012).

From generation to generation, rapid changes in many physiological factors, cultural and social influences affect sexual behavior among adolescents (Savioja et al., 2018). Understanding the physiological forces that drive adolescent sexual activity, such as hormonal, chemical, and neurological responses and changes, will guide strategies to help teenagers make better sexual behavior choices. For children and adolescents, electronic media has become a part of their everyday lives. Exposure to it can be good or bad for them. Somehow every little information is available on this topic, but many systematic reviews were undertaken in decades to explore more about the influence of electronic media among children and adolescents with substance abuse, and they found ambiguity in the results (Khatib et al., 2018).

Negative consequences of risky sexual behavior like unprotected sex, multiple sexual partners, and sexual encounters under the effect of substance use also have psychosocial and health issues (Sayegh et al., 2005). Risky sexual behavior with individuals who have sexually transmitted infections or diseases such as HIV puts them at risk of contracting infectious diseases. Currently, worldwide more than 30% of adolescents aged 15 to 25 years had a new HIV infection for a combination of causes like behavioral, biological, and cultural reasons (Shashikumar et al., 2012; Sharma and Vishwakarma, 2020). Heterosexual men are also at risk of developing HIV infection. In 2016, approximately 14% of new males came with HIV infection, among which 9.5% had acquired infection from sex with the woman and 3.9% by injecting drug use (WHO, 1999; Calsyn et al., 2010). On the other hand, these figures do not provide an accurate image of HIV in heterosexual men. Due to the

complexities of sexuality, some heterosexual men have sex with other men while still identifying as gay.

Substance misuse is one of the most significant global public health challenges impacting adolescents. Given the state of heightened emotion and the importance of retaining friends, adolescents pass through a process of considerable potential for access to drugs and exposure to the risks of substance use (Ritchwood et al., 2015). Few studies have found a correlation between risky sexual behavior and hazardous habits like smoking, drinking, and drugging, both of which are considered substance abuse (Ritchwood et al., 2015; Jiloha 2017; Asante, Wetiz and Petesen 2015; Calsyn et al., 2010). Whereas, few researchers found that alcohol and marijuana usage was relatively common regularly among adolescents. There were variations in drug use by age and gender in these studies. Females had smoked cigarettes, drank alcohol, and used marijuana in more significant numbers than males. Although alcohol consumption decreases compared to marijuana, people grow older (Jiloha, 2017; Guo et al., 2002). The risk of unsafe sexual intercourse has been commonly demonstrated to be one such factor, substance use before sexual activity. Many research studies have shown mixed results about the link between risky sexual behavior and substance use among adolescents in many situations (Ritchwood et al., 2015; Jiloha 2017; Asante et al., 2014).

Even though little is known about the prevalence, a factor responsible, socio-demographic profile, and negative consequences of risky sexual behavior & substance use among adolescents, particularly those aged 15 to 19 years. As a result, this review investigated these trends and patterns of risky sexual behavior, substance abuse among adolescents. So, to reduce their impact on them, successful interventional strategies can be made.

## Early interventions and treatment modalities to overcome risky sexual behavior and substance use behavior among adolescents

### Treatment modalities

Growth in the rates of a maladaptive pattern of substance use, high-risk sexual behavior, gambling, and associated illnesses has created a sense of urgency among young adults, families, and society. Both pharmacological and psychological strategies are used for the management of substance use among adolescents. Moreover, this helps identifies and treat adolescents.

According to National Institute on Drug Abuse, 2015, adolescents seeking care for substance use vary from their adult counterparts in many ways: the use of the drug is typically less prolonged and severe; the traditional trends and context of using the drug differ; the issues related to commonly used substances often differ; and, in most of the cases, there is no self-referral to treatment.

A systematic review revealed that multi-dimensional family therapy, functional family therapy, and community CBT are three therapeutic methods developed as well-established models for substance abuse treatment. However, various other models are likely to be successful, although none of the treatment interventions seemed superior to any other in terms of adolescent substance abuse treatment efficacy (Gaidhane et al., 2018). Schmiede et al. 2021 performed a randomized controlled trial to see whether one of three motivational enhancement therapy approaches could minimize risky sexual activity among justice-involved adolescents. The approaches were 1) intervention to reduce sexual risk, 2) intervention to reduce sexual risk with alcohol, and 3) intervention to reduce sexual

risk with alcohol and cannabis use. Moreover, they observed a substantial reduction in risky behavior of justice-involved adolescents.

The sexual and reproductive health of adolescents living with HIV should also be given importance. Although ART has aided millions of adolescents to live everyday life. Despite being in therapy, the adolescents are confronted with desires and worries that have influenced their sexual behavior (Ofurum, 2021). So, in high-HIV prevalence areas, creating effective gender-based treatments to address stigma, sexual behavior, and risk perception will help increase adolescent well-being. It is suggested that adolescents with HIV should receive intensive re-orientation and health education from experts. Moreover, women should be empowered and educated about their rights (Luseno et al., 2021).

Substance abuse disorders among adolescents are a significant public health issue. Regular exercise has long been known to have benefits in physical and mental health; however, evidence for the role of exercise as a treatment is limited. However, a few reviews and studies have shown that exercises can help with boredom, stress, and tension, improve interpersonal relationships, and improve physical and mental health in adolescents (Penedo and Dahn, 2005; Waldron and Turner, 2008; Ramo et al., 2005).

### Early intervention and prevention

Lopez et al. 2020 conducted a substance use and sexual risk prevention program (SIHLE) via telemedicine among African-American girls and found that the program demonstrated usability and acceptability. Due to the COVID-19 pandemic, it has been seen that the adolescent group has also suffered much mental health and to cope

with the most of the adolescent took the help of substance to cope with their issue. A substantial number (13%) of 18-24-year-old respondents reported using a substance to cope with mental health problems in a 2020 CDC national survey on suicidal thoughts, mental health, and substance use during the pandemic.

According to a study, this issue can be addressed by community-level intervention and preventive activities, including health communication methods. Shreds of evidence also suggest that telehealth is a feasible method for healthcare providers (Holland et al., 2021). As school and community service providers can use telehealth as a platform for communication with the adolescent to prevent substance use. Cognitive behavior therapy, dialectical behavior therapy, and mindfulness-based methods are examples of therapeutic modalities that can be transmitted through a school-based telehealth modality for adolescents to deal with substance use behavior.

Many summary findings indicate that school-based prevention programs and family-based comprehensive interventions that generally address family functioning successfully reduce smoking/tobacco interventions. Campaigns in the news media may also be successful if undertaken at a fair intensity over a long period. School-based alcohol prevention strategies have been related to a decrease in the incidence of drinking, while family-based interventions have a limited but long-lasting impact on teenage alcohol misuse (Das et al., 2016; Carney et al., 2016).

Although the long-lasting preventive program in schools is hard to achieve, community action should occur. Action like an increase in the price of substances like tobacco, social media drives against smokers, and enforcement of legal rules and

regulations make it difficult for young people to purchase tobacco (Winters et al., 2011; CDC, 2014). On the other hand, it can also be helpful to screen and treat adolescents for substance abuse by primary care doctors. Since this review shows that many young people under 18 years commit sexual abuse, it is crucial to enhance the knowledge regarding sexual health and minimize possible adverse impacts by providing sexual education before they are indulging in sexual intercourse and other activities.

Since adolescent sexual misconduct is unlawful or unsanctioned behavior, it is necessary to start preventive measures and programs to reduce drug abuse rates, which will eventually help reduce the sexual risk of misconduct among adolescents. The current review itself confirms that adolescent substance abuse can cause sexual misconduct and vice versa. Because of the ramification of health and legal issues of substance abuse, it is critically important that adolescents should develop the necessary skills and knowledge to reject intrinsically pleasurable but harmful and illegal products. One implication is to intervene before drug abuse becomes a stubborn habit and break a behavioral chain at an early point. If successful preventive programs were introduced, the onset of drug abuse in early adolescents would be postponed, results in fewer harms for the future (Powers, 2007).

### **Role of the psychiatric health care worker in community and teachers in school**

Child abuse, substance abuse, and risky sexual behavior endanger the welfare and well-being of children and adolescents all over the world every day. It is not only the duty of a single organization or professional association to intervene successfully in the lives of these children and their families, but it is also the responsibility of the whole

society. Many of these topics are well-suited to discuss in the classroom since child victimization begins in primary school (Cross-Tower, 2003). So, according to an adolescent's age and knowledge level, the schools, community support, social workers, and government should work together and make effective interventions regarding age-appropriate sex education and prevention programs for substance use.

**Role of school-** Adolescents mostly spend much of their time in schools. So, prevention programs can be implemented in schools to reduce the risk of early use of substances, sexual problems, and future crime (WHO, 2017). The school creates an appropriate environment for the provision of knowledge to adolescents. The basic curriculum should also include learning about hazards associated with substance use and how to develop healthy sexual behavior (Lander, Howsare, and Byrne, 2013). The school must include a sex education program, good or bad touch, and menstrual hygiene, especially for female adolescents (Esere, 2008; Kirby et al., 1994). A study of over 2000 students found that a twofold increase in regular drinking alcohol, cigarette smoking, and marijuana was associated with low school connections (Bennigfield, Riggs, and Stephen, 2015). Adolescents who are school dropouts are more indulged in reckless substance use and un-protective sexual experimentation (Esere, 2008).

**Role of educator-** Education is primarily responsible for protecting children and adolescents from substance use and indulging in risky sexual behavior. An educator plays a vital role in identifying the sexual and substance abuse cases and can be considered trustworthy persons who work outside the environment of family and peer groups (Li et al., 2011; Kirby, 2002). Educator ensures that the school campus is drug-free, so school should also enhance the

knowledge and skill (Li et al., 2011; Lander, Howsare, and Byrne, 2013). This means: The education sector, in conjunction with other sectors, particularly the health sector and drug control authorities, must adopt a comprehensive approach to mobilize the system as a whole (Bond et al., 2007; Li et al., 2011).

**Government programs and initiatives-** In past years, the government had initiated numerous programs and policies based on schools, colleges, and the community. Moreover, these programs found positive outcomes in reducing substance users, more use of contraceptives, decrease in STD's/HIV cases, and fewer mental health issues among adolescents (Substance Abuse and Mental Health Services Administration, 2014; Substance Abuse and Mental Health Services Administration (US) and Office of the Surgeon General (US), 2016; Radford, 2015; Crosson-tower C, 2003) According to a systematic review, universally applied interventions and programs are beneficial for improving adolescents' mental health and reduce risk behavior. They observed the effectiveness of mental health programs more in 3 components - interpersonal skills, regulation of emotions, and education on substance (Skeen et al., 2019).

**Psychological and social health worker-** According to pieces of evidence, social workers contribute a lot towards adolescents by providing advocacy and health services to combat substance abuse (Diradistsile and Mabote, 2019). They also act as first service suppliers and play a vital role for adolescents who suffer from sexual and substance use issues. Social workers help diagnose the clinical issues, make goals, and create a concept of actions to achieve those goals. Generally, they function as a bridge between adolescents and the health system. They work with the treatment team, use psychosocial assessments, handle counseling,

and review the adolescent's progress. (Wells et al., 2013; Sakeen et al., 2020).

**Role of media-** As we all know, mass media play an important source in information for all of us. Print and visual media project information on adolescent sexual health and substance use on a large scale. The media affects adolescent's lives, particularly in terms of their interactions with people of the opposite sex. Most adolescents are exposed to television; observation indicated that films and ads harm society, particularly in terms of cigarettes, alcohol usage, hostility, sexual behavior, and violence. The media is also a valuable source of information on reproductive and sexual health and gender norms. So, a more responsible media approach towards the portrayal of machoness concerning risky sexual behavior and substance use should be avoided.

## Conclusion

This review showed that the relationship between substance abuse and high-risk sexual behavior among adolescents varies across ages, gender, cultures, educational level, etc. With increased advancement in science, adolescents are more indulging in sexual activities and substance abuse. From family to teacher and counselors, social workers, nurses, and administrators, each of them is an integral part of the educational team supporting adolescents who have difficulties. School-based primary prevention programs are among the most effective treatments for risky sexual behavior and substance abuse among adolescents. The evidence from mass media, researchers, and government initiatives predict that more research is needed in this area. The effectiveness of specific interventions should be evaluated in future researches by using standardized assessment and evaluation criteria. Various delivery systems, such as digital platforms and policy initiatives, can

enhance adolescent substance addiction and risky sexual behavior outcomes; however, more studies and reviews are needed.

**Acknowledgements:** None

**Declaration of interests:** None

## References

- Anastassiou, A., Shibolet, T., Caswell, R.J. (2019). Teens, sexual assault and ethical research: how do we include their voice? *Sex Transm Infect*, 95, 555-556.
- Asante, K.O., Meyer-Weitz, A., Petersen, I. (2015). Correlates of psychological functioning of homeless youth in Accra, Ghana: A cross-sectional study. *International Journal of Mental Health Systems* 9.
- Bearinger, L.H., Sieving, R.E., Ferguson, J., Sharma, V. (2007). Global perspectives on the sexual and reproductive health of adolescents: patterns, prevention, and potential. *Lancet*, 369, 1220-1231.
- Benningfield, M.M., Riggs, P., Stephan, S.H. (2015). The role of schools in substance use prevention and intervention. *Child Adolesc Psychiatr Clin N Am*, 24, 291-303.
- Bersamin, M.M., Zamboanga, B.L., Schwartz, S.J., Donnellan, M.B., Hudson, M., Weisskirch, R.S., Kim, S.Y., Agocha, V.B., Whitbourne, S.K., Caraway, S.J. (2014). Risky business: Is there an association between casual sex and mental health among emerging adults? *J Sex Res*, 51, 43-51.
- Bond, L., Butler, H., Thomas, L., Carlin, J., Glover, S., Bowes, G., Patton, G. (2007). Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. *J Adolesc Health*, 40, 357.e9-18.
- Calsyn, D.A., Cousins, S.J., Hatch-Maillette, M.A., Forcehimes, A., Mandler, R., Doyle, S.R., Woody, G. (2010). Sex under the influence of drugs or alcohol: common for men in substance abuse treatment and associated with high-risk sexual behavior. *Am J Addict*, 19, 119-127.
- Carney, T., Myers, B.J., Louw, J., Okwundu, C.I. (2016). Brief school-based interventions and

- behavioural outcomes for substance-using adolescents. *Cochrane Database Syst Rev*, 2016, CD008969-CD008969. [https://doi.org/ 10.1002/14651858.CD008969.pub3](https://doi.org/10.1002/14651858.CD008969.pub3)
- CDC.(2020). WISQARS (Web-based Injury Statistics Query and Reporting System)|Injury Center|CDC [WWW Document]. URL <https://www.cdc.gov/injury/wisqars/index.html> (Accessed 8.3.21).
- CDC Tobacco Free.(2021). Best Practices for Comprehensive Tobacco Control Programs-2014 [WWW Document]. Centers for Disease Control and Prevention. URL [https://www.cdc.gov/tobacco/stateandcommunity/best\\_practices/index.htm](https://www.cdc.gov/tobacco/stateandcommunity/best_practices/index.htm) (Accessed 8.1.21).
- CDC HIV Surveillance (n.d.) | Reports | Resource Library | HIV/AIDS | CDC [WWW Document]. URL <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html> (Accessed 8.3.21).
- Crosson-Tower, C. (2003). The Role of Educators in Preventing and Responding to Child Abuse and Neglect 77.
- Das, J.K., Salam, R.A., Arshad, A., Finkelstein, Y., Bhutta, Z.A. (2016). Interventions for Adolescent Substance Abuse: An Overview of Systematic Reviews. *J Adolesc Health*, 59, S61-S75.
- DeLamater, J., Friedrich, W.N. (2002). Human Sexual Development. *The Journal of Sex Research*, 39, 10-14.
- Diraditsile, K., Mabote, O. (2019). Children, Substance Abuse and the Role of Social Work. *Southern African Journal of Social Work and Social Development*, 31, 17.
- Ebuenyi, I.D., Chikezie, U.E., Nwoke, E.A. (2021). Psychosocial correlates of risky sexual behaviour amongst students in Niger Delta University, Bayelsa. *The Pan African Medical Journal*, 38.
- Esere, M.O. (2008). Effect of sex education programme on at-risk sexual behaviour of school-going adolescents in Ilorin, Nigeria. *Afr Health Sci*, 8, 120-125.
- Fatal Injury and Violence Data | WISQARS | Injury Center | CDC [WWW Document], 2021. URL <https://www.cdc.gov/injury/wisqars/fatal.html> (Accessed 8.1.21).
- Fentahun, N., Mamo, A. (2014). Risky Sexual Behaviors and Associated Factors among Male and Female Students in Jimma Zone Preparatory Schools, South West Ethiopia: Comparative Study. *Ethiopian Journal of Health Sciences*, 24, 59-68.
- Gaidhane, A.M., Sinha, A., Khatib, M.N., Simkhada, P., Behere, P.B., Saxena, D., Unnikrishnan, B., Khatib, A., Ahmed, M., Syed, Z.Q. (2018). A systematic review on effect of electronic media on diet, exercise, and sexual activity among adolescents. *Indian Journal of Community medicine*, 43.
- Griswold, M.G., Fullman, N., Hawley, C., Arian, N., Zimsen, S.R.M., Tymeson, H.D. et al. (2018). Alcohol use and burden for 195 countries and territories, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*, 392, 1015-1035.
- Guilamo-Ramos, V., Bouris, A., Lee, J., McCarthy, K., Michael, S.L., Pitt-Barnes, S., Dittus, P. (2012). Paternal Influences on Adolescent Sexual Risk Behaviors: A Structured Literature Review. *Pediatrics*, 130, e1313-e1325.
- Guo, J., Chung, I.-J., Hill, K.G., Hawkins, J.D., Catalano, R.F., Abbott, R.D. (2002). Developmental relationships between adolescent substance use and risky sexual behavior in young adulthood. *Journal of Adolescent Health*, 31, 354-362.
- Holland, M., Hawks, J., Morelli, L.C., Khan, Z. (2021). Risk Assessment and Crisis Intervention for Youth in a Time of Telehealth. *Contemp School Psychol*, 25, 12-26.
- Houck, C.D., Hadley, W., Lescano, C.M., Pugatch, D., Brown, L.K. (2008). Suicide attempt and sexual risk behavior: relationship among adolescents. *Arch Suicide Res*, 12, 39-49.
- J. Shivananda Manohar. (2020). Healthy Sexuality, in: Suman S. Rao (Ed.), T.S. Sathyanarayana Rao ED1 - Floriana Irtelli ED2 - Federico Durbano ED3 - Simon George Taukeni (Tran.), *Quality of Life*. IntechOpen, Rijeka, p. Ch. 3.
- Jiloha, R.C. (2017). Prevention, early

- intervention, and harm reduction of substance use in adolescents. *Indian Journal of Psychiatry*, 59, 111-118.
- Kar, S.K., Choudhury, A., Singh, A.P. (2015). Understanding normal development of adolescent sexuality: A bumpy ride. *J Hum Reprod Sci*, 8, 70-74.
- Khatib, M.N., Sinha, A., Gaidhane, A.M., Simkhada, P., Behere, P.B., Saxena, D., Unnikrishnan, B., Khatib, A., Ahmed, M., Syed, Z.Q. (2018). A Systematic Review on Effect of Electronic Media among Children and Adolescents on Substance Abuse. *Indian J Community Med*, 43, S66-S72.
- Kirby, D. (2002). The impact of schools and school programs upon adolescent sexual behavior. *Journal of Adolescent Health*, 39, 27-33. [https://doi.org/ 10.1080/00224490209552116](https://doi.org/10.1080/00224490209552116)
- Kirby, D., Short, L., Collins, J., Rugg, D., Kolbe, L., Howard, M., Miller, B., Sonenstein, F., Zabin, L.S. (1994). School-based programs to reduce sexual risk behaviors: a review of effectiveness, Database of Abstracts of Reviews of Effects (DARE): Quality-assessed Reviews [Internet]. Centre for Reviews and Dissemination (UK).
- Lander, L., Howsare, J., Byrne, M. (2013). The Impact of Substance Use Disorders on Families and Children: From Theory to Practice. *Soc Work Public Health*, 28, 194-205.
- Larney, S., Peacock, A., Mathers, B.M., Hickman, M., Degenhardt, L. (2017). A systematic review of injecting-related injury and disease among people who inject drugs. *Drug and Alcohol Dependence*, 171, 39-49.
- Li, Y., Zhang, W., Liu, J., Arbeit, M.R., Schwartz, S.J., Bowers, E.P., Lerner, R.M. (2011). The role of school engagement in preventing adolescent delinquency and substance use: a survival analysis. *J Adolesc*, 34, 1181-1192.
- Lopez, C., Gilmore, A.K., Moreland, A., Danielson, C.K., Acierno, R. (2020). Meeting Kids Where They Are At-A Substance Use and Sexual Risk Prevention Program via Telemedicine for African American Girls: Usability and Acceptability Study. *J Med Internet Res*, 22, e16725.
- Luseno, W.K., Field, S.H., Iritani, B.J., Odongo, F.S., Kwaro, D., Amek, N.O., Rennie, S. (2021). Pathways to Depression and Poor Quality of Life Among Adolescents in Western Kenya: Role of Anticipated HIV Stigma, HIV Risk Perception, and Sexual Behaviors. *AIDS Behav*, 25, 1423-1437.
- Malvaso, C.G., Proeve, M., Delfabbro, P., Cale, J. (2020). Characteristics of children with problem sexual behaviour and adolescent perpetrators of sexual abuse: a systematic review. *Journal of Sexual Aggression*, 26, 36-61.
- Malhotra, S. (2008). Impact of the Sexual Revolution: Consequences of Risky Sexual Behaviors. - London School of Hygiene and Tropical Medicine [WWW Document]. london school of hygiene and tropical medicine. URL <https://discover.lshtm.ac.uk> (Accessed 8.3.21).
- National Institute on Drug Abuse.(2015). Available at:<<https://www.nih.gov/about-nih/what-we-do/nih-almanac/national-institute-drug-abuse-nida>> (Accessed 1.4.21).
- Ofurum, I.C. (2021). Sexual Behaviour, Needs and Concerns Regarding Sexual and Reproductive Health among Adults Living with HIV in Sub-Saharan Africa- A Systematic Review. *Journal of Advances in Medicine and Medical Research*, 113-132. [https:// doi.org / 10.9734/jammr/2021/v33i1130931](https://doi.org/10.9734/jammr/2021/v33i1130931)
- Oswalt, A.n.d. Developmental Stages and Milestones of Child Development - Child & Adolescent Development: Overview [WWW Document]. Grace point. URL [https://www.gracepointwellness.org/28-child-adolescent-development-overview/ article /7922-developmental-stages-and-milestones-of-child-development](https://www.gracepointwellness.org/28-child-adolescent-development-overview/article/7922-developmental-stages-and-milestones-of-child-development) (Accessed 5.4.21).
- Penedo, F.J., Dahn, J.R. (2005). Exercise and well-being: a review of mental and physical health benefits associated with physical activity. *Curr Opin Psychiatry*, 18, 189-193.
- Powers, R. (2007). Alcohol and Drug Abuse Prevention. *Psychiatric Annals*, 37. [https:// doi.org/10.3928/00485713-20070501-04](https://doi.org/10.3928/00485713-20070501-04)
- Pringle, J., Mills, K.L., McAteer, J., Jepson, R., Hogg, E., Anand, N., Blakemore, S.-J. (2017). The physiology of adolescent sexual behaviour:

- A systematic review. *Cogent Soc Sci*, 3, 1368858-1368858.
- Radford, L., Allnock, D., Hynes, P. (2015). Promising programs to prevent and respond to child sexual abuse and exploitation. 91.
- Ramo, D.E., Anderson, K.G., Tate, S.R., Brown, S.A. (2005). Characteristics of relapse to substance use in comorbid situation. *Addictive Behaviors*, 30, 1811-1823.
- Ritchwood, T.D., Ford, H., DeCoster, J., Sutton, M., Lochman, J.E. (2015). Risky Sexual Behavior and Substance Use among Adolescents: A Meta-analysis. *Child Youth Serv Rev*, 52, 74-88.
- Savioja, H., Helminen, M., Fröjd, S., Marttunen, M., Kaltiala-Heino, R. (2018). Adolescent sexual behavior-family characteristics, parental involvement, and associated mental disorders. *Journal of Adolescent Health*, 63, 295-308. <https://doi.org/10.1080/19317611.2018.1494077>
- Sayegh, M., Fortenberry, J., Anderson, J., Orr, D. (2005). Relationship quality, coital frequency, and condom use as predictors of incident genital Chlamydia Trachomatis infection among adolescent women. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, 37, 163.
- Schmiege, S.J., Magnan, R.E., Yeater, E.A., Feldstein Ewing, S.W., Bryan, A.D. (2021). Randomized Trial to Reduce Risky Sexual Behavior Among Justice-Involved Adolescents. *Am J Prev Med*, 60, 47-56.
- Sharma, S.K., Vishwakarma, D. (2020). Transitions in adolescent boys and young Men's high-risk sexual behaviour in India. *BMC Public Health*, 20, 1089. <https://doi.org/10.1186/s12889-020-09191-6>
- Shashikumar, R., Das, R.C., Prabhu, H.R.A., Srivastava, K., Bhat, P.S., Prakash, J., Seema, P. (2012). A cross-sectional study of factors associated with adolescent sexual activity. *Indian Journal of Psychiatry*, 54, 138.
- Skeen, S., Laurenzi, C.A., Gordon, S.L., du Toit, S., Tomlinson, M., Dua, T., Fleischmann, A., Kohl, K., Ross, D., Servili, C., Brand, A.S., Dowdall, N., Lund, C., van der Westhuizen, C., Carvajal-Aguirre, L., Eriksson de Carvalho, C., Melendez-Torres, G.J. (2019). Adolescent Mental Health Program Components and Behavior Risk Reduction: A Meta-analysis. *Pediatrics*, 144, e20183488.
- Slymaker, E., Walker, N., Zaba, B., Collumbien, M. (2004). Unsafe sex, in: *Comparative Quantification of Health Risks: Global Burden of Disease*. WHO, Geneva, pp. 1177-254
- Srahbzu, M., Tirfeneh, E. (2020). Risky Sexual Behavior and Associated Factors among Adolescents Aged 15-19 Years at Governmental High Schools in Aksum Town, Tigray, Ethiopia, 2019: An Institution-Based, Cross-Sectional Study. *BioMed Research International*, 2020, e3719845. <https://doi.org/10.1155/2020/3719845>
- Srivastava, N.M. (2016). Adolescent health in India: Need for more interventional research. *Clinical Epidemiology and Global Health*, 4, 101-102.
- Substance Abuse and Mental Health Services Administration, 2014. *Substance Use and Misuse in Rural Areas Overview - Rural Health Information Hub [WWW Document]*. URL <https://www.ruralhealthinfo.org/topics/substance-use> (Accessed 8.3.21).
- Substance Abuse and Mental Health Services Administration (US), Office of the Surgeon General (US) (2016). *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health*, Reports of the Surgeon General. US Department of Health and Human Services, Washington (DC).
- Sussman, S., Skara, S., Ames, S.L. (2008). Substance abuse among adolescents. *Subst Use Misuse*, 43, 1802-1828.
- Tulloch, T., Kaufman, M. (2013). Adolescent Sexuality. *Paediatrics in Review*, 34, 29-38. DOI: <https://doi.org/10.1542/pir.34-1-29>
- Waldron, H.B., Turner, C.W. (2008). Evidence-based psychosocial treatments for adolescent substance abuse. *J Clin Child Adolesc Psychol*, 37, 238-261.
- Weinstock, H., Berman, S., Cates, W. (2004). Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. *Perspect Sex Reprod Health*, 36, 6-10.

---

Wells, E.A., Kristman-Valente, A.N., Peavy, K.M., Jackson, T.R. (2013). Social Workers and Delivery of Evidence-Based Psychosocial Treatments for Substance Use Disorders. *Soc Work Public Health*, 28, 279-301.

WHO/UNFPA/UNICEF Study Group on Programming for Adolescent Health (1995: Saillon S., World Health Organization, 1999. Programming for adolescent health and development: report of a WHO/UNFPA/UNICEF Study Group on Programming for Adolescent Health. *Santé et développement de l'adolescent: pour une programmation efficace: rapport d' un-Groupe d' étude OMS/ FNUAP/UNICEF sur la programmation*

relative à la santé des adolescents, WHO technical report series; 886.

WHO.(2017). Good Policy and Practice in Health Education: Education sector responses to the use of alcohol, tobacco and drugs [WWW Document]. World Health Organization. URL <https://www.who.int/publications-detail-redirect/9789231002113> (Accessed 05.06.21).

Winters, K.C., Botzet, A.M., Fahnhorst, T. (2011). Advances in adolescent substance abuse treatment. *Curr Psychiatry Rep*, 13, 416-421.

United Nations. (2019). International Youth Day, 12 August 2019 Ten key messages.