

## HIV Infection, Adolescence and Risk

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### Abstract

**Introduction:** HIV/AIDS infection is considered a global public health problem and Cuba is no stranger to this phenomenon and work continues to halt the progress of the epidemic in the country. Adolescence, a period of turbulence with affective ambivalence, which together with the early onset of sexual intercourse and its unprotected practice make them a vulnerable stage and at risk of HIV/AIDS infection.

**Objective:** deepen the problem of HIV infection in adolescents as a stage of vulnerability and risk towards these diseases.

**Method:** A bibliographic review was carried out where the databases included in the LILACS, EBSCO and HINARI services were consulted, and very good coverage was achieved, both in Cuba, in Latin America and the Caribbean, as well as in the rest of the World.

**Development:** The general characteristics of healthy adolescents and risk factors that make them vulnerable to HIV infection are exposed, allowing reflection on the subject to contribute to their prevention. Conclusion: HIV infection in adolescents is a serious health problem that must be addressed by different elements of society as individual factors of the family and the community are involved.

**Keywords:** HIV Infection; AIDS; Adolescence; Risk Factors

### Introduction

According to new HIV data, it remains one of the world's largest public health problems, which has claimed more than 35 million lives. In 2016, one million people died worldwide from causes related to the virus and by the end of 2016 there were approximately 36.7 million people infected with HIV worldwide, and in that year 1.8 million new infections occurred [1].

The African region is also the hardest hit, with nearly two-thirds of the world's new HIV infections [2].

Between 2000 and 2016, the number of new HIV infections fell by 39% and deaths associated with the virus decreased by one-third as a result of the enormous efforts made under national HIV programmes, with the help of the ad civil and a set of development partners [1].

Worldwide, in 2014 there were 220 000 new HIV infections among adolescents, of whom more than 60% were girls and women, a figure that is higher in sub-Saharan Africa. However; Despite these events, adolescents are less likely to be screened than adults [3].

It is estimated that one-seventh of new HIV infections around the world occur during adolescence and often affected people do not know their problem and it is proposed that "adolescents face difficult social and emotional pressures, and often confused, while going

from children to adults, they need HIV prevention medical services tailored to their situation," according to the WHO, as well as saying that this population group is less likely to be tested than adults and they need more help to monitor their health and pursue antiretroviral therapy. In this regard, it is noted in surveys conducted by this organization in 2011 and 2012, that adolescents around the world expressed their concerns and the difficulties they face; including a lack of sufficient access to HIV testing, counselling and treatment [4,5].

The World Health Organization (WHO) reports that more than two million adolescents between the ages of 10 and 19 live with the human immunodeficiency virus (HIV), figures that show that the number of infected has increased by one-third in the last decade, a phenomenon that it is due to the lack of education programs on the subject aimed at this age group and because they do not receive the care or support they need and sometimes do not even know their status as infected, so millions more adolescents are at risk of infection. The entity proposed a guide to addressing this situation based on advice, including recommendations to governments to revise their laws to make it easier for young people to obtain HIV testing without the need for parental consent as well as the importance of creating health services in improving the quality of care and social support for the infected [6]. The international community is committed to ending the AIDS epidemic as a public health threat by 2030 [7].

### Method

To carry out this review and provide readers with an update on the subject in question, the databases included in the LILACS, EBSCO and HINARI services were consulted and very good coverage was achieved, both in Cuba, in Latin America and the Caribbean, as well as in the rest of the world. Also visited websites on the Internet of obligatory consultation for their prestige and leadership on the subject.

To inform this research work, a theoretical review has been carried out, collecting different aspects: Concept of adolescence, its characteristics as well as the factors that expose them to STI-HIV/AIDS.

For the elaboration of the search strategies, the DeCS controlled language was consulted and the corresponding Boolean operators were included. Documents for the period 2005 - 2018 were selected.

### Development

#### Characteristics of teens

Adolescence is a transcendental stage of human life after childhood and the beginning of puberty, characterized by continuous changes in biological, psychological development, sexual and social. Its duration range varies according to different medical, scientific and psychological sources and opinions, but it is usually framed between the ages of 10 to 12, and its completion at 19 or 20 [8].

For the World Health Organization, adolescence is the period between the ages of 10 and 19 and falls within the youth period - between the ages of 10 and 24. Puberty or early adolescence is the first phase, usually starting at age 10 in girls and 11 in boys and reaching 14 - 15 years. The middle and late adolescence extends, until the age of 19 [8].

Adolescence is a stage of discovery of one's identity (psychological identity, sexual identity) as well as that of individual autonomy and essentially a time of change.

During the adolescence stage, different attitudes are assumed in relation to psychological, physiological, sociocultural and biological aspects; independence is gained; family relief is achieved and some behaviors are generated that negatively affect the family and social environment, which can become sources of stress and unhealthy lifestyles.

Sexuality in this stage [9] understood in its broadest sense, will have an essential role in the development as a person, will be structured throughout life and will be shown in different ways depending on the age or time of the Evolution. But when adolescence begins, sexuality, in all its body and emotional dimension, is going to play a key role. There is little doubt that, in this day and age, the experience

and expression of sexuality will be one of the most important issues. During the teenage years, the psychic constitution of sexual identity and loving choice will be at stake.

The process of body changes, new and disconcerting feelings and feelings often leads teenage boys and girls to constant experimentation and to be surprised at their own behaviors. They are trained for reproductive function and to channel their "sexual impulses" through co-intercourse long before achieving an affective balance and a sufficient level of psychological evolution. This mismatch often places them against unrecognized and unforeseen risks [10].

From a biological point of view it is known that there is currently an earlier pubertal development in this group. The psychosocial aspects, of great importance, are: early initiation of sexual relations, motivated mainly by curiosity, sexual desire and interest in acquiring experiences, those that are practiced anywhere where possible, which it encourages irresponsible sexual behavior that also exposes them to conceiving unwanted pregnancies and acquiring sexually transmitted infections [10].

Adolescents are especially vulnerable to HIV infection [3] as they are in a transition period where they are no longer children but have not reached adulthood, their social, emotional and psychological development is incomplete and these tend to experiment with dangerous forms of behavior, often without realizing the danger. On the other hand, for the most part, young people have only limited HIV/AIDS knowledge, largely because society does not make it easier for them to obtain information. Social policies often highlight intolerance and discrimination against youth, such as when they limit access to and care for health information. Public health responses to the needs of these adolescents are often contradictory and lead to confusion, as well as social norms and expectations, along with the opinion of adolescents, strongly influence their usually in such a way that they contribute to increasing health risks [11].

### Adolescence and sexuality

Sexuality produces in many young people anxiety and turmoil, partly because it is common for society itself to react in this way to this issue. Even young people who know how to protect themselves against HIV/AIDS often lack the skills to do so, anxiety and apprehension often prevent young people from using condoms because it requires the partner's knowledge and cooperation. Adolescents who deny the personal risk they face from HIV/AIDS may ignore prevention messages, dismiss their importance, or think they are not responsible for protection.

Adolescents are vulnerable to acquiring STIs and HIV/AIDS from risk factors such as ignorance, early sex, drug addiction, social and gender inequality and myths.

Bravo Galarza [12] in his article states that the age of onset of sex life of adolescents around the world population are presented results, in which there is an increasing tendency to have sex at younger ages, in his study in concon in their study found that 60.7% of adolescents claimed to have had sex and that 37.2% of adolescents surveyed started sex life between the ages of 13 and 15, 24% between the ages of 16 - 18, 4% between 10 - 12 years, and 39.3% deny having had re-sexual lations. Other studies indicate that the age-of-onset of sex life rate fluctuates before about 15 - 16 years in South America, while in some Caribbean countries, they start sex life as early as 10 - 12 years. What can be a biological de facto product such as puberty increasingly presents at younger ages in both men and women, the pressure of the social group or family problems especially if they are children of parents who lived from a teenage pregnancy [12].

The communication of HIV/AIDS in adolescence mostly adolescents are considerably sensitive, regarding the opinion of their peers, the perception of what peers think has the most influence on sexual behavior or any other type of risky behavior, compared to the opinions of parents and other adults. Thus, studies have observed that 29.5% of young people prefer to talk to their friends about HIV/AIDS, while 18.5% turn to their teachers, and 15.7% prefer not to talk about it. It should be noted that reference is made that only 4.4% talk with their parents [11].

### Perception of sexuality and HIV/AIDS in adolescence

In the beginning, an attractive aspect of discovering in the perception of adolescents, is that there is not the same argument about what is conceived as sexuality, however, the generality of young people plainly agree that the word sexuality is linked with sex. On the contrary, the emergence of an expression that will reason sexuality from a more extensive and complete framework is rare.

Likewise, sexual practices in adolescents, and their particularities and the experience of sexuality are only acceptable to be illustrated by them, in alluding to other young people. This is evidence that sexual relations in our culture, and especially concerning young people, especially if they are women, are a question taboo, vigorously akin to criticism, intimidation, reproach and stealth. On the other hand, when reference is made when talking about the love, affection and effectiveness they feel about another person, those feelings are valued regarding the relationship of couple.

Thus, it is feasible to conceive a barrier on sexuality, which is related to intimate life, which emerges undercover, and somehow, forged in the experiences of other adolescents; which has an impact on a less threatening situation when talking about what they do or don't do, and which involves avoiding personally committing to the subject.

As for the perception of risk of contracting the HIV virus, there are two perspectives that seem to be linked. One of them supports that this can happen to everyone at any time, while the thought that it is unlikely to happen to themselves remains. In this sense, both arguments are polarized.

It follows that contracting the virus is revealed in a fortuitous issue, which occurs without people predicting a risk scenario and conducting behaviour designed to prevent the transmission of the virus. HIV transmission manifests itself as such an insubordinate fact that it emanates the conjecture that it does not care what is done to get around it, this can happen at any time, remaining this situation in the hands of fate or chance. From this perspective, young people do not have sufficient knowledge of the fact that people can take an active role in preventing this condition.

### Adolescence and HIV/AIDS infection

HIV continues to be a threat to global public health. 76.1 million people have contracted HIV infection since the beginning of the epidemic and 35.0 million people have died from AIDS-related diseases since the beginning of the epidemic (UNAIDS 2017). According to figures from the Joint United Nations Programme on HIV/AIDS (UNAIDS), 36.7 million people were living with HIV in 2016 worldwide, resulting in 1.8 million new infections in 2016. Similarly, in 2016, one million people died worldwide from causes related to the virus [13].

The 20.9 million people living with HIV had access to antiretroviral therapy (ART) in June 2017, an increase from 17.1 million in 2015 and 7.7 million in 2010. Despite this, efforts to expand treatment coverage, mainly for children and adolescents, are still needed, as in 2016 only 43% of them were included in ART programmes. In this regard, the World Health Organization (WHO) supports countries to accelerate their efforts to diagnose and treat these vulnerable population groups in a timely way. The African region remains the hardest hit, with nearly two-thirds of new HIV infections in the world and Cuba excels among countries in the region and the world that have a consolidated cross-sectoral HIV/AIDS response, which enables the care and surveillance of patients in their community, where they receive free treatment. These services are offered as part of an equitable, accessible and universal health system, in which maternal and child health programmes are integrated with programmes for HIV and sexually transmitted infections [13].

The chance of contracting a sexually transmitted infection (STI) is higher in adolescents than in adults, favored by early onset of sexual intercourse, the high number of different sexual partners, or the lack of use of preventive methods like the condom. Ignorance of STIs can also be considered a risk factor for STIs [7]. From the point of view of adolescents they are more susceptible to infection and, although clinical pictures of STIs are similar to those of adults, they have an increased risk of morbidity and long-term sequelae. When complications of STIs are not detected in a timely and appropriate manner, they can have significant health impacts from human papillomavirus (HPV)-induced neoplastic transformation to infertility upper genital tract affecting in gonococcal or Chlamydia infections [14].

HIV is among the top 10 health threats in 2019, and WHO has proposed that to address these and other threats, a new five-year strategic plan: the 13<sup>th</sup> General Programme of Work, will begin in 2019. According to this organization and that will be the ten priority health challenges for 2019 including HIV [15].

It believes that the progress made was enormous in terms of increasing the number of people being tested by providing them with antiretrovirals (22 million are in treatment) and have access to preventive measures, such as pre-prophylaxis (PrEP, which is when people at risk of HIV take antiretrovirals to prevent infection). The article states that reaching out to people as sex workers, people in prison, men who have sex with men or transgender people is a great challenge and that these groups are often excluded from health services. The increasingly HIV-affected group is girls and young women (15 to 24 years of age), who are at particularly high risk and are responsible for 1 in 4 HIV infections in sub-Saharan Africa, despite being only 10% of the population [15].

WHO says that more than two million young people between the ages of 10 and 19 are infected with HIV [9] and that they are especially exposed to HIV infection and death from virus-related causes and that one-seventh of the new HIV infections around the world occur during adolescence and often affected people do not know their problem and it is proposed that "Adolescents face difficult, and often confusing, social and emotional pressures as they move from children to children adults, so they need HIV prevention medical services tailored to their situation," said WHO, while saying that this group is less likely to be tested than adults committed to antiretroviral therapy [16].

It is necessary to set out the report, that in HIV-infected adolescents their consent should be taken into account and not that of their parents, that screening should be accessible at a younger age, that information more adapted to young people is needed antiretroviral treatment and side effects among others reveal in their responses that in many countries and settings young people lack sufficient access to HIV testing, counselling services and treatment that WHO has highlighted the urgent need to better adapt HIV-fighting services to adolescents as mortality rates among adolescents with HIV are not declining to the same extent as in other population groups. Although the total number of HIV-related deaths fell by 30% between 2005 and 2012, deaths from the virus among adolescents increased by 50% during the same period [16].

### The new guidelines on HIV and adolescents

WHO in its HIV and Adolescents report: a guide to HIV testing and counselling and care for adolescents living with HIV/HIV/AIDS [17] highlights that adolescents (10 - 19 years) and young people (20 - 24 years) continue to be both socially and economically vulnerable to HIV infection despite efforts to date. This is particularly true for adolescents, especially girls, who live in environments with a widespread HIV epidemic or who are members of key populations at higher risk of acquiring or transmitting HIV through sexual transmission and the use of injectable drugs. In 2012, there were approximately 2.1 million adolescents living with HIV. About one-seventh of all new HIV infections occur during adolescence.

These guidelines provide specific recommendations and expert suggestions for national policymakers and program managers and their partners and stakeholders on prioritization, planning and delivery of HIV testing, counseling, treatment and adolescent care services [17].

When asked, how does most children get HIV infection?

- HIV can be transmitted from an HIV-positive mother to her child during pregnancy, childbirth or breastfeeding (this is called mother-to-child transmission of HIV infection). In the United States, the most common way for children under the age of 13 to get HIV is through mother-to-child transmission of HIV.
- Most young people who get HIV during adolescence become infected through sex.

Most of the people who contracted HIV infection were through mother-to-child transmission in the United States are now adolescents or young adults. Almost all young people who develop this infection during adolescence have contracted it through sex. Many adolescents with HIV have contracted the infection in recent times and do not even know they are HIV-positive.

Factors that increase the risk of HIV infection in adolescents<sup>14</sup> Because several factors cause HIV infection are difficult to prevent in adolescents many of them lack basic information about the virus and how prevent that infection [18].

Here are some factors that expose adolescents to the risk of HIV infection:

- Low condom usage rates. Correct use of condoms whenever you have vaginal, anal or oral sex reduces the risk of HIV infection.
- High rates of sexually transmitted infections (STIs) among young people. An STI increases the risk of contracting or spreading HIV infection.
- Consumption of alcoholic beverages or drug use. Teens who are under the influence of alcohol or drugs are more likely to engage in risky behaviors, such as condomless sex.

### How does HIV affect children and adolescents?

The Centers for Disease Control and Prevention (CDC) National Survey on Youth Risk Behaviors and other CDC data have identified factors that may increase adolescents' risk of HIV and young adults without the use of the condom as:

- Unprotected sexual activity can lead to new infections. Sex man with man. Young men who have sex with men, especially African Americans and Latinos, have high rates of new HIV infections. This could be because members of this group are less likely to know that themselves or others are infected with the virus, compared to other HIV-positive youth. Another reason may be that these young people are less likely to receive effective and appropriate preventive education and interventions.
- Precocious sex. At age 16, nearly 34% of males and 30% of women had sex.
- Sex with older or multiple partners. This could increase the risk of infection in adolescents.
- Alcohol or drug use before sex. This can affect decision-making about whether to have sex or not and about using protection during sex.
- Not knowing if you have HIV. In the United States, most undiagnosed HIV infections are seen in 13 - 24 year olds. Young people at higher risk of infection (men who have sex with men and young people from minority groups) are not only more likely to get the infection, but are also more likely not to get tested for HIV. This puts their own health and health at risk for people with whom they have sex [12-15].

According to UNICEF, Every three minutes, a teenage girl gets HIV from the HIV/AIDS epidemic [14]. Around 30 adolescents between the ages of 15 and 19 contracted HIV every hour in 2017. A new UNICEF report says that two-thirds of the total were girls. "This is both a health crisis and the capacity to act" In most countries, women and girls lack access to information, services, or even the ability to say no to unsafe sex. HIV spreads among the most vulnerable and marginalized, leaving adolescent girls at the very heart of the crisis".

The report presented at the 14<sup>th</sup> International Conference on AIDS says that adolescents remain the people most affected by the epidemic and that the lack of attention to this group is slowing the progress the world had made in the past two decades in the fight against the AIDS epidemic. The report notes that:

- Adolescent girls between the ages of 10 and 19 account for nearly two-thirds of the 3 million young people aged 0 to 19 living with HIV.
- Although mortality in all other age groups, including adults, has declined since 2010, deaths among older adolescents (15 to 19 years) have not decreased.
- In 2017, some 1.2 million young people aged 15 to 19 were living with HIV, 3 out of 5 of whom were girls. Factors that explain the spread of the epidemic among adolescent girls include early sex, even with older men, forced sex, impotence to negotiate the possibility of sex poverty and lack of access to confidential counselling and screening services.

"To help curb the spread of the epidemic, UNICEF, in close collaboration with UNAIDS and other partners, launched a number of initiatives, including:

- "All together to end AIDS among adolescents," which aims to reach adolescents in 25 priority countries where the world's largest number of HIV adolescents live.
- "Start free, stay free, AIDS free", a framework aimed at reducing the number of new HIV infections among adolescent and young women to less than 100,000 by 2020.
- The 2020 Roadmap for HIV Prevention, an action plan to accelerate HIV prevention by focusing on structural obstacles, such as punitive laws and lack of adequate services, and highlighting the role of communities.

HIV spreads among the most vulnerable and marginalized, leaving adolescents at the center of the crisis. In most countries, women and girls lack access to information, services or even the possibility of saying 'no' to unsafe sex, as they lament from this Organization.

UNICEF also warns that adolescents remain the people most affected by the epidemic. In fact, girls and adolescents between the ages of 10 and 19 make up nearly two-thirds of the 3 million young people aged 0 to 19 living with HIV. In 2017, some 1.2 million young people between the ages of 15 and 19 were HIV-positive, 3 out of 5 of whom were girls.

Although mortality in all other age groups, including adults, has declined since 2010, deaths among older adolescents (15 to 19 years) have not decreased.

Among the factors that explain the spread of the epidemic among adolescent girls, UNICEF highlights early sex, including with older men, forced sex, helplessness in negotiating about the possibility of have sex, poverty and lack of access to confidential counseling and screening services.

Making girls and women sufficiently financially secure that they are not forced to resort to sex work is a necessity. We need to make sure they have the right information about how HIV is transmitted and how they should be protected. And, of course, we need to make sure they have access to all the services or medications they need to stay healthy.

### Conclusion

HIV infection in adolescence remains a global health problem, it is clear that individual, sociocultural and socioeconomic determination in the different regions of the world, exposes them to risk levels, which must be addressed comprehensive progress to advance HIV reduction and elimination targets by 2030. Deepening the study of the factors of social determination and socializing the methods and procedures for their approach will contribute to HIV-free populations at this stage of life.

### Prevention

UNICEF [14] To help stem the spread of the epidemic, UNICEF, working closely with UNAIDS and other partners, launched a number of initiatives, including:

- "All together to end AIDS among adolescents," which aims to reach adolescents in 25 priority countries where the world's largest number of HIV adolescents live.
- "Start free, stay free, AIDS free", a framework aimed at reducing the number of new HIV infections among adolescent and young women to less than 100,000 by 2020.
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## Bibliography

1. WHO. Complete WHO report on aids virus (2nd part). Data and figures (2018).
2. Cuba. National Medical Science Information Center. National Medical Library. HIV/AIDS. World Statistics. Fact-Fact Health 4.2 (2018): 13.
3. World Health Organization. Self-analysis helps fight HIV in adolescents [Reportaje]. WHO (2015).
4. Gomez S. "Two million adolescents worldwide live with HIV". Time (2013).
5. World Health Organization. "Dealing with HIV in adolescence". WHO (2013).
6. Infomed. National Medical Science Information Center, Ministry of Public Health: More than two million adolescents have HIV, WHO reveals (2013).
7. Republic of Cuba. Ministry of Public Health. National Directorate of Epidemiology (2013) National Strategic Plan for the Prevention and Control of STIs and HIV/AIDS 2014 (2018).
8. Adolescence. Wikipedia.
9. Sánchez Aguilar, *et al.* "Pregnancy in adolescence: coping and sexuality". *Journal of Sexology and Society* 23.1 (2017) 94 -105.
10. Toirac Castellanos Y, *et al.* "Sex education and sexually transmitted infections in adolescents". *Polyclinic Jimm Hirtzel* 11.1 (2007).
11. María Teresa Ramos Cavazos and Pedro César Cantú Martínez. "HIV/AIDS and adolescence. Faculty of Public Health and Nutrition". Universidad Autónoma de Nuevo León (Mexico) 4.4 (2003).
12. Bravo Galarza and Ivonne Paulette. URI: Age of onset of sex life of third-year-high school teens from a secular school, a religious school and a military college in the city of Quito and the relationship that exists in their preference for contraception, sexual practices and sexual orientation" (2016).
13. Cuba. National Medical Science Information Center. National Medical Library. HIV/AIDS World Statistics. Factographic Health 4.2 (2018): 13.
14. UNICEF: Every three minutes, a teenage girl gets HIV. Press contact (2018).
15. M J Rodríguez Jiménez. "Diagnostic and therapeutic protocol for sexually transmitted infections in adolescence". Dialnet (2014).
16. OPS/WHO. What are the top 10 health threats in 2019.
17. WHO. Dealing with HIV in adolescence (2013).
18. OMS. HIV and adolescents: Guidance for HIV testing and counselling and care (2013).

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