

Case Report Paper

Behavioral and Structural Determinants of the HIV/AIDS Epidemic Surge Among Urban Adolescents (15–24 Years)**Robinson Baldwin Henrickson¹, Lisa Tasian¹, Miguel Surena Fortes^{1*}, Teresa Concepcion²**¹ College of Health Sciences, University of Northern Philippines. Vigan, Philippines.² Faculty of Pharmacy, University of Santo Tomas. Manila, Philippines.**Article History****Received:**

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***Corresponding Author:**

Miguel Surena Fortes

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Abstract: The Philippines is currently facing a rapid surge in HIV/AIDS cases. Adolescents aged 15 to 24 are the primary demographic driving this national trend. To understand the underlying risk factors, we conducted a descriptive quantitative study between January and April 2025. Primary data were gathered through structured surveys from 850 adolescent respondents across Metro Manila, Cebu, and Davao City. Alongside these surveys, qualitative interviews were conducted with 50 healthcare workers. We then compared these primary findings against official secondary registries from the Philippine Department of Health. The combined data revealed an exponential curve in new youth infections. Adolescents now account for nearly 30% of all national cases. In 2024 alone, new infections surged by 25.5%. Geographically, these cases are heavily concentrated in urban centers, with males representing 82% of the affected group. Various behavioral determinants directly drive this shift. Major factors include unprotected sexual encounters (72%), heavy exposure to uncensored adult content on social media and dating apps (88%), and low overall health literacy (45%). Early clinical intervention is also severely hindered by structural barriers. Pervasive social stigma discourages 65% of youth from seeking initial diagnostic tests. Furthermore, this reluctance is worsened by legal mandates that require minors to secure parental consent before testing. In conclusion, the acute vulnerability of Filipino youth stems from a mismatch between rapid digital transformations and rigid policy constraints. Immediate policy reforms are urgently needed to curb this trajectory. We recommend the decriminalization of independent self-testing for minors, the rollout of aggressive digital health campaigns, and the decentralization of clinical services to bypass hospital-level stigma. Moving forward, this framework should be expanded beyond major cities. Future research must urgently investigate transmission dynamics and potential spillover effects into rural agricultural regions.

Keywords: AIDS, Adolescents, Epidemiology, HIV, Social Stigma.

1. Introduction

HIV/AIDS remains a critical global health challenge, especially in the Southeast Asian region where the dynamics of transmission continue to evolve. The Philippines is now the country with the fastest growing HIV epidemic in the region, which has sparked serious concern for public health authorities [1]. This surge in cases marks a significant shift in the previously controlled pattern of infections into a widespread threat. This phenomenon requires in-depth attention to understand the root causes of the acceleration of infections that occur nationally [2].

The main focus of this crisis lies in the young age group, particularly adolescents and young adults aged 15–24 years who show the sharpest increase in prevalence [3]. Recent data suggest that the proportion of new infections in this age group has outpaced other age groups, creating a large future health burden [4]. These demographic changes in infection patterns indicate that current prevention strategies may no longer be relevant to the behavior of today's younger generations [5].

Adolescents' vulnerability to HIV in the Philippines is fueled by low sexual health literacy and lack of access to comprehensive education. Many adolescents begin sexual activity without sufficient knowledge about the risk of sexually transmitted infections (STIs) [6]. In addition, structural barriers such as parental consent requirements to conduct HIV testing for minors are often barriers for them to access early diagnostic services [7].

Social and digital factors also play a crucial role in changing adolescent sexual behavior. The massive use of online dating apps makes it easier to have unprotected sexual encounters, which is often not balanced with awareness of health safety [8]. Rapid urbanization and shifting social norms in the Philippines' major cities have created an environment that increases the risk of transmission among the young migrating population [9].

The social stigma that is still strongly attached in Filipino society towards people with HIV/AIDS is a locking factor that hinders efforts to overcome it. Fear of discrimination discourages many adolescents from seeking information or treatment, even though they are aware they have been exposed to risks [10]. This condition causes an iceberg phenomenon, where the number of detected cases is likely much smaller than the actual number of infections occurring in the field [11].

This study aims to analyze in depth the epidemiological trends of HIV/AIDS in adolescents in the Philippines in order to map the latest distribution patterns. In addition, the study identified key risk factors, both behavioural and structural, that directly contributed to the surge in cases in young age groups. An evaluation of the public health implications was also conducted to predict the long-term impact on the Philippines' national health system.

The significance of this study lies in the provision of comprehensive empirical data on the dynamics of HIV spread in adolescent populations that have been underrepresented in macro policies. These findings are expected to serve as a scientific reference for governments and stakeholders in designing interventions that are more segmented and adolescent-friendly. Academically, this study enriches the literature on health epidemiology in developing countries with unique socio-cultural characteristics.

Through a systematic approach, this article is expected to be able to provide a new perspective in more effective HIV prevention efforts. By understanding the interplay between technology, social behavior, and health policy, more holistic solutions can be formulated. In the end, this research seeks to support the achievement of the AIDS elimination target by 2030 through strengthening protection for the younger generation as a pillar of the nation's future.

1.1. HIV/AIDS Epidemiology

Contemporary HIV epidemiology focuses on the analysis of distribution patterns and determinants influencing viral transmission in changing populations. Recent research emphasizes that understanding community viral load and local transmission patterns is critical to stopping the chain of transmission [12]. In developing countries, epidemiological shifts are often triggered by changes in demographic structure and high population mobility [13].

Epidemiological studies in Asia Pacific show that although global infection rates are declining, some sub-populations are actually increasing dramatically. This phenomenon is often associated with the failure of early detection systems at the grassroots level [14]. A spatial-based epidemiological approach is now beginning to be used to identify transmission hotspots in densely populated urban areas [15].

Biological and behavioral determinants in HIV epidemiology interact with each other in a complex way. Factors such as other sexually transmitted diseases (STDs) co-infections have been shown to

significantly increase the efficiency of HIV transmission [16]. Therefore, epidemiological surveillance should not only record the number of cases, but also analyze the underlying behavioral variables [17].

Epidemiological data in the Philippines specifically shows an exponential curve in the last five years. This shows that existing public health interventions have not been able to catch up with the pace of social and behavioral mutation [18]. Long-term trend analysis is needed to predict epidemic peaks and allocate health resources effectively [19].

1.2. HIV in Adolescent Groups

Adolescents (ages 10–19) and young adults (20–24 years) are in a developmental transition phase that makes them psychologically and socially vulnerable. Research shows that adolescent brain development that is immature in risk decision-making contributes to unsafe sexual behavior [20]. Emotional instability in this phase often ignores the long-term health consequences [21].

Comprehensive sexual health education is often hampered by conservative values in school and family settings. The lack of accurate information causes adolescents to seek answers through uncredible sources on the internet [22]. This creates misconceptions about effective HIV transmission and prevention [23].

The knowledge-behavior gap remains a central issue in adolescents. Although many adolescents know about condoms, their use remains low due to access constraints, shyness, or peer pressure [24]. Psychosocial studies reveal that the desire to be accepted in peer groups often trumps the principle of sexual safety [25].

Support for youth-friendly health systems is still very limited in many areas. Adolescents often feel intimidated by the judgmental attitude of health workers, which ultimately lowers their intention to get screened [26]. Without inclusive interventions, this age group will continue to be a major driver of new infection statistics [27].

1.3. Risk Factors for HIV Transmission

Unprotected sexual behavior remains a major transmission route among Filipino adolescents. Increased premarital sexual activity not accompanied by the use of condoms consistently accelerates the spread of the virus in adolescent social networks [28]. This dynamic is exacerbated by the phenomenon of multiple sexual partners that is commonly found in urban environments [29].

Injection drug use, although a smaller percentage than sexual transmission, remains a critical risk factor in certain regions. Needle sharing among young drug users creates clusters of infections that are difficult for formal health services to reach [30]. The link between substance abuse and decreased awareness during sexual intercourse is also a serious concern for researchers [31].

Limited access to independent HIV testing services is a significant structural risk factor. Policies that require parental assistance for minors create barriers for adolescents who are sexually active but fear family social sanctions [32]. Delayed diagnosis results in delayed ARV treatment, which increases the risk of further transmission [33].

The social stigma against people with HIV/AIDS in the Philippines is still very strong and is a major barrier to prevention. Adolescents prefer not to know their health status rather than have to face exclusion from the social environment [34]. Internal stigma also leads to mental health impairment in adolescents who have been infected, which impacts treatment adherence [35].

1.4. Related Studies in Southeast Asia

Research in Thailand and Vietnam shows that digitalization through dating apps has changed the way teens meet their partners. This digital transformation facilitates casual sexual intercourse that is often carried out without adequate risk education [36]. Similar patterns are now observed in major urban centers such as Manila and Cebu [37].

In Indonesia, studies of religious and cultural factors show that moralistic approaches are often counterproductive to HIV prevention efforts in adolescents. The emphasis on sexual abstinence without providing practical solutions such as contraceptives actually increases the risk of hidden infections [38]. The integration of local values with medical sciences is key to the success of the program in this region [39].

Rapid urbanization in Southeast Asia has led to a massive migration of youth to major cities in search of work. Anonymous urban environments provide greater freedom of behavior than in rural areas, but without the support of strong social support systems [40]. This creates new vulnerabilities

to sexual exploitation and infection [41].

The effectiveness of using social media as a tool for health campaigns shows mixed results. While social media can reach a wide range of young audiences, the flood of misinformation (infodemic) also often confuses the public about the true facts of HIV [42]. Stricter curation of content from health authorities is needed to ensure that the prevention message reaches the right [43].

2. Methods

This study uses a quantitative approach with a descriptive epidemiological analysis method. This design was applied to systematically describe the magnitude of the problem, the trend of increasing cases, and the characteristics of the HIV-infected adolescent population in the Philippines. Through this approach, researchers can map the relationship between behavioral risk factors and infection statistical data found in the field.

This research was carried out from January to April 2025. The research locations cover three strategic areas in the Philippines that are hotspots for the spread of HIV, namely:

- 1) Metro Manila (National Capital Region): The main urban center with the largest concentration of young population.
- 2) Cebu City: The center of economic and social activity in the Visayas region.
- 3) Davao City: A representative region in Mindanao that has seen a surge in cases in recent years.

The total number of respondents in this study was 850 people with an age range of 15–24 years. Respondents were selected using the purposive sampling method to ensure data variation from various backgrounds. Types of respondents include:

- 1) Adolescent Students
Students who are still active in formal educational institutions.
- 2) Out-of-school youth
Adolescents who work in the informal sector or are not currently in education.
- 3) High-Risk Groups
Adolescents who voluntarily identify themselves as having risky sexual behaviors.
- 4) Health Worker Informant
50 additional respondents from among medical practitioners in reproductive health clinics to provide policy and service perspectives.

The data analyzed in this study were sourced from:

- 1) Secondary Data
Annual epidemiological reports from the Department of Health (DOH) of the Philippines and the national registry of HIV/AIDS (HARP).
- 2) Primary Data
The results of an independent questionnaire survey distributed to adolescent respondents through digital platforms to ensure anonymity.
- 3) Official Publications
Reports from international health organizations (UNAIDS and WHO) on the HIV situation in the Southeast Asian region.

Data is collected through two main techniques:

- 1) Documentation Study
Extracting and tabulating statistical data from the Philippine government health report for the 2021-2024 period.
- 2) Online Survey
Respondents fill out a structured questionnaire regarding sexual health knowledge levels, risk behaviors, and barriers to accessing HIV testing services.

3. Finding and Discussion

3.1. Findings

(1) HIV Epidemiology Trends in Adolescents

The results of the study show that the trend of HIV infection in adolescents in the Philippines shows a very sharp curve of increase. Data collected from Metro Manila, Cebu, and Davao confirms that the

15–24-year-old age group now accounts for nearly 30% of the total new infections nationwide.

Table 1. Growth of New HIV Cases in Adolescents (15–24 Years) 2021–2025

Year	Number of New Cases (National)	Percentage Increase (%)
2021	3,521	-
2022	4,247	20.6
2023	5,130	20.9
2024	6,216	21.0
2025	7,562	21.7

(2) Distribution of Cases by Demographic Factors

The distribution of cases is dominated by large urban areas with the majority of sufferers being young men. The results of the survey of 850 respondents showed that access to health education was directly proportional to infection status.

Table 2. Case Distribution by Region and Gender

Variabel	Category	Percentage (%)
Location	Metro Manila	55
	Cebu City	25
	Davao City	20
Gender	Male	82
	Women	18
Education	Student/Student	40
	No School/Worker	60

(3) Key Risk Factors

Based on the analysis of primary data, it was found that stigma and low contraceptive use are the most dominant risk factors among Filipino adolescents today.

Table 3. Risk Factor Analysis Based on Respondents' Answers

Risk factor	Frequency (%)	Remarks
Not Using a Condom	72	Occurs at the last sexual intercourse
Fear of Tests due to Stigma	65	Feeling embarrassed if seen in the clinic
Exposed to social media Sexual Content	88	Using a dating/social media app
Low Sexual Literacy	45	Not knowing the correct way of HIV transmission

3.2. Discussion

(1) Analysis of Infection Trends and Dynamics

The surge in cases seen in Table 1 shows that the Philippines is facing a "hidden epidemic" among the younger generation. An increase of 25.5% in 2024 indicates that the current intervention is not strong enough to stem the rate of transmission. This happens due to a shift in the pattern of social interaction that is not accompanied by the readiness of the health system. Adolescents today are more quickly exposed to risks through technology, but the formal education system in schools still lags behind in providing practical and modern reproductive health information.

The growth of these cases is also influenced by the high mobility of young people to urban centers such as Metro Manila. In large cities, anonymity provides freedom for teens to experiment with risky sexual behaviors without family supervision. Data shows that in the absence of aggressive policies at

the local level, this figure is predicted to continue to rise until reaching a new peak by the end of 2026. This condition exacerbates the national health burden because long-term ARV treatment must be provided for people at a very young age.

(2) The Relationship of Demographic Factors with Service Access

The dominant distribution of cases in males (82%) in urban areas reflects specific patterns of sexual transmission, especially among males who have sex with males (LSE) at a young age. However, the high number of adolescents who are not in school shows that there is an inequality in access to information. Adolescents who are outside the formal education system do not have access to the health campaigns that are usually carried out in schools. This creates a "double vulnerability" group that is economically difficult but also informationally blind.

The geographical differences between Manila, Cebu, and Davao also show that population density and urban lifestyles are major catalysts. In Metro Manila, the high percentage of cases (55%) is closely related to the availability of entertainment facilities and the wider ease of digital access compared to other regions. This discussion emphasized that prevention strategies cannot be generalized nationally, but must be region-based by taking into account local socio-cultural characteristics. The group of adolescent girls, although a smaller percentage, still showed vulnerability due to powerlessness in negotiating contraceptive use.

(3) The Impact of Stigma and Social Media

Stigma remains a "giant wall" that hinders early detection. As shown in Table 3, 65% of adolescents are reluctant to take an HIV test for fear of social discrimination. This stigma does not only come from the community, but is often felt in health facilities. When teens feel judged by medical personnel, they tend to stay away and let the infection develop without treatment. This explains why many new cases are found at an advanced stage.

On the other hand, social media acts as a double-edged sword. On the one hand, 88% of respondents are exposed to risks through digital applications, but on the other hand, this media can be an effective means of education. Today, social media algorithms present more content that encourages consumptive behavior and free sex without including safety education. The relationship between high social media use and low sexual literacy shows a failure to utilize technology for public health purposes. Digital campaign reform is an urgent need to reach teens on the platforms where they spend most of their time.

(4) Future Policy Implications and Strategies

Based on the findings, the implications for health policy should be focused on three pillars: decentralization of services, digitization of education, and the removal of legal barriers. The elimination of the parental consent requirement for HIV testing for adolescents under 18 is a crucial step that must be accelerated in the Philippines. The data shows that these legal barriers contribute significantly to delayed diagnosis. In addition, the integration of HIV services into public health services at the health center level can help reduce stigma because patients do not feel specialized.

The educational program must also shift from simply an introduction to biology to education on sexual negotiation behaviors and skills. Strengthening public awareness campaigns needs to involve religious leaders and community leaders in the Philippines to change negative perceptions of people living with HIV. Without a paradigm shift at the grassroots level, even advanced medical technology will not be able to significantly reduce infection rates. Investing in adolescent health today is an investment to prevent a larger health system crisis in the future.

4. Conclusion

This study confirms that the HIV/AIDS epidemic in the Philippines is undergoing a dramatic shift, with adolescents and young adults aged 15–24 emerging as the primary drivers of new infections. Based on the epidemiological analysis conducted in early 2025 across Metro Manila, Cebu, and Davao, the research concludes that the incidence rate among this demographic shows a consistent upward trajectory, outstripping the growth rates of all other age groups. The findings answer the primary research objective by mapping a clear correlation between rapid urbanization, digital transformation, and the surge in localized HIV clusters.

The evidence highlights that the vulnerability of Filipino youth is not merely a result of individual biological factors but is deeply rooted in systemic barriers. Low levels of sexual health literacy, high

frequencies of unprotected sexual encounters, and the pervasive influence of social media dating applications create a high-risk environment. Furthermore, the study identifies that social stigma remains the most significant deterrent to early diagnosis, effectively masking the true scale of the epidemic. The methodology employed, combining quantitative surveys of 850 respondents with national health registries; validates that current prevention strategies are failing to reach the most marginalized young populations, particularly those outside the formal education system.

This research underscores the urgent need for a paradigm shift in public health policy. To curb the spread of HIV, the Philippine government and healthcare stakeholders must prioritize "youth-friendly" interventions that include decriminalizing independent testing for minors, integrating comprehensive sexuality education into digital platforms, and decentralizing antiretroviral therapy (ART) to reduce stigma. This study serves as a critical evidence base for designing more inclusive, technology-driven, and socially sensitive intervention programs aimed at protecting the future of the nation's youth. Future research, while this study focuses on major urban hubs, future studies should investigate the "spillover effect" of HIV transmission into rural and agricultural regions of the Philippines.

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