Open Access Library Journal
2025, Volume 12, e13666
ISSN Online: 2333-9721
ISSN Print: 2333-9705

Determinants of the Occurrence of Self-Reported Sexually Transmitted Infections (STIS) among Adolescent Girls in the City of Goma: An Analytical Cross-Sectional Study from January to April 2025

Mishika Lukusa Patricia[1], Bukasa Tshilonda Jean Christophe[2*], Kabongo Mwamba André Guillaume[2], Ngona Mandro Claude[3], Mukulu Olivier[4], Tsongokibendelwa Zacharie[5], Wembonyama Okitotsho Stany[6], Mutombo Kabamba André[7], Mwembo Tambwe A-Nkoy Albert[1]

[1]Lubumbashi School of Public Health, Lubumbashi, Democratic Republic of Congo
[2]Higher Institute of Medical Techniques of Mbujimayi, Mbujimayi, Democratic Republic of Congo
[3]Faculty of Public Health, University of Bunia, Bunia, Democratic Republic of Congo
[4]Higher Institute of Medical Techniques of Lubumbashi, Lubumbashi, Democratic Republic of Congo
[5]Faculty of Medicine, University of Kisangani, Kisangani, Democratic Republic of Congo
[6]School of Public Health, University of Lubumbashi, Lubumbashi, Democratic Republic of Congo
[7]Faculty of Medicine, Official University of Mbujimayi, Mbujimayi, Democratic Republic of Congo
Email: *j.bukasa1966@gmail.com

How to cite this paper: Patricia, M.L., Christophe, B.T.J., Guillaume, K.M.A., Claude, N.M., Olivier, M., Zacharie, T., Stany, W.O., André, M.K. and Albert, M.T.A-N. (2025) Determinants of the Occurrence of Self-Reported Sexually Transmitted Infections (STIS) among Adolescent Girls in the City of Goma: An Analytical Cross-Sectional Study from January to April 2025. *Open Access Library Journal*, **12**: e13666.
https://doi.org/10.4236/oalib.1113666

Received: May 25, 2025
Accepted: August 12, 2025
Published: August 15, 2025

Abstract

Introduction: The aim of this study was to identify the determinants of the occurrence of self-reported sexually transmitted infections (STIs) among adolescent girls in the city of Goma. **Methodology:** This is an analytical cross-sectional study covering the period from January 5, 2024 to April 5, 2025, *i.e.*, 1 year and 3 months in the city of Goma. During this same period, we took the opportunity to determine the prevalence of STIs in the city of Goma. Of the 388 adolescent girls surveyed in the city of Goma, the prevalence of sexually transmitted infections was 48.97%, or 190 cases out of 388 adolescent girls in the city of Goma over the past 12 months. Adolescent girls who participated in the study were randomly selected at several stages in the health zones (HZ) of Goma and Karisimbi. The sample was distributed proportionally to the populations of these two health zones. Thus, five neighborhoods were randomly selected in the Karisimbi HZ based on the list of neighborhoods in this health zone. Households and respondents were selected in the same way as those in the Karisimbi HZ. Using this procedure, 137 adolescent girls were selected in

the Karisimbi HZ and 76 in the Goma HZ. A structured and pre-tested questionnaire, deployed on Kobocollect, was administered face to face to the adolescent girls. The data were analyzed with Epi info 7.2. **Results:** The determinants of STIs were the age of adolescent girls from 16 to 19 years (OR: 0.08; 95% CI: 0.03 - 0.2; p = 0.000), never having used a condom during sexual intercourse (OR: 113.1; 95% CI: 40.09 - 319.4; p = 0.000), not living with biological parents (OR: 1.8; 95% CI: 1.18 - 2.87; p = 0.006). **Conclusion:** The prevalence of sexually transmitted infections among adolescent girls in the city of Goma is high. The majority were sexually active and had only one sexual partner. The age at first sexual intercourse ranged from 15 to 17 years. A romantic relationship was the main reason for the first sexual intercourse. In addition, abnormal vaginal discharge was the most commonly reported syndromic type of STI among respondents. Age was identified as a risk factor for contracting STIs, while having previously used condoms during sexual intercourse protected against STIs. Raising awareness among adolescent girls about STIs will reduce the risk of contracting them and improve their sexual health.

Subject Areas

Gynecology & Obstetrics

Keywords

Determinant, Sexually Transmitted Infections, Adolescent, Sterility, Puberty

1. Introduction

Sexually transmitted infection (STI) is any infection transmitted through blood, semen, vaginal fluids or other bodily fluids while sexually transmitted disease (STD) refers to a disease that develops from an STI [1]-[3].

STIs are caused by more than 30 different bacteria, viruses and parasites transmitted during vaginal, anal or oral sex with an infected partner or from mother to child, during pregnancy, during childbirth and during breastfeeding [2].

Of the eight common infections, four can be cured, namely syphilis, gonorrhea, chlamydia and trichomoniasis. On the other hand, viral infections including hepatitis B, herpes simplex virus (HSV), HIV and human papillomavirus (HPV) are not curable [3].

Adolescents and young adults are the most affected by STIs, probably due to behavioral, cognitive and biological factors linked to this age. The most common STIs are of bacterial origin and therefore curable [4] [5].

STIs have a direct impact on sexual and reproductive health through stigma, infertility, cancers and pregnancy complications, and they can increase the risk of contracting the human immunodeficiency virus (HIV) [3]. Their spread is mainly due to their varied clinical presentation, which includes urogenital, pharyngeal and rectal involvement as well as a large number of asymptomatic cases [6]. The

prevalence of sexually transmitted diseases remains high worldwide, despite diagnostic and therapeutic improvements in these infectious diseases that rapidly eliminate the contagiousness of patients [7] [8].

According to the World Health Organization (WHO), more than one million people contract a curable STI every day. In 2020, an estimated 374 million people contracted one of four STIs: chlamydia (129 million), gonorrhea (82 million), syphilis (7.1 million), and trichomoniasis (156 million) [3].

In sub-Saharan Africa, estimates show that the prevalence of STIs is higher among girls aged 15 - 24 years than among women aged 25 - 49 years [9].

In Nigeria, Human papilloma virus was found in 13.2% of vaginal swabs from girls with a mean age of 14.9 (2.3) years [10].

Using detailed longitudinal observation, a study conducted in Kenya found that Kenyan adolescent girls had almost no bacterial vaginosis before first sexual intercourse and that the onset of sexual activity was the most important risk factor for both prevalent and incident bacterial vaginosis [11].

In Mali, the prevalence of STIs among adolescent girls and young women was estimated by one study to be 14.1% (95% CI = 12.3 to 16.2). Adolescent girls and young women who had already been tested for HIV, those with multiple sexual partners and those residing in urban areas were more likely to self-report STIs [12].

The third Demographic and Health Survey carried out in the Democratic Republic of Congo noted an estimated HIV prevalence of 0.8% among adolescents aged 15 - 19 years [13].

The prevalence of sexually transmitted infections (STIs) in Goma, Democratic Republic of Congo, is of concern, particularly among adolescents. A 2007 report by Radio Okapi indicated an HIV/AIDS prevalence rate of 7% among adolescents, while the national average was approximately 4%. Furthermore, 2021 data from the National Multi-sectoral AIDS Control Program (PNMLS) reveal that women are more affected by HIV than men, with 58,524 women and 34,386 men living with HIV [14]. This is what prompted us to conduct this study in this city where adolescent girls are more exposed to rape by minors.

The objective of this study was to determine the determinants of STIs among adolescent girls in the city of Goma.

2. Materials and Methods

Type and period of study: this is an analytical cross-sectional study which covers the period from January 5, 2024 to April 5, 2025, *i.e.*, 1 year and 3 months in the city of Goma.

2.1. Study Population

Adolescent girls from the city of Goma constituted the population of this study.

2.2. Inclusion Criteria

All adolescent girls living in the city of Goma at the time of the study were

included in the study.

2.3. Exclusion Criteria

Excluded from the study were adolescent girls who had been living in the city of Goma for less than three months at the time of the study and whose parents' or guardians' permission to participate in the study had not been obtained.

2.4. Sample Size Calculation and Sampling Techniques

The sample size was calculated using the following formula:

$$n \geq \frac{Z_{\alpha}^{2} * p * q}{d^{2}},$$

With *n*: the sample size, p: proportion of adolescent girls who have already contracted a sexually transmitted infection, *i.e.* 14.1% [12], q: proportion of adolescent girls who have never contracted a sexually transmitted infection, *i.e.*: $1 - p = 1 - 0.141 = 0.859$, α: risk of precision = 0.05, $Z\alpha$ = deviation corresponding to a confidence level of 95%. The minimum sample size was 186 adolescent girls. By adding 20% of expected non-respondents, the sample size was increased to 213 adolescent girls.

2.5. Sampling Method

The adolescent girls who participated in the study were randomly selected at several stages in the health zones (HZ) of Goma and Karisimbi. The sample was distributed proportionally to the populations of these two health zones. Thus, five neighborhoods were randomly selected in the Karisimbi HZ based on the list of neighborhoods in this health zone. In each neighborhood, eight avenues/streets were also randomly selected and on each avenue/street six households were randomly selected. The first plot to be selected was the first on the right from the north entrance of the avenue/street.

If a plot contained more than one household, only one was selected using the following procedure: the households were numbered, then one household was drawn using the random number generator in the Open Epi software. If there was more than one adolescent girl in the selected household, only one was drawn using the same procedure as the household.

In the Goma health zone, five neighborhoods were randomly selected from the complete list of neighborhoods. Within each neighborhood, five avenues/streets were randomly selected, and six households were selected from each avenue/street. Households and respondents were selected in the same manner as those in the Karisimbi health zone. Using this procedure, 137 adolescent girls were selected from the Karisimbi health zone and 76 from the Goma health zone.

2.6. Data Collection

A structured, pre-tested questionnaire, deployed on Kobocollect, was administered face-to-face to adolescent girls. This questionnaire included identification

questions, prevalence-related questions, and questions related to determinants. The dependent variable of this study was whether or not they had ever suffered from STIs. This research was evaluated over a twelve-month period.

The following independent variables were collected: socio-demographic characteristics, gyneco-obstetric characteristics, health characteristics,

2.7. Data Processing and Analysis

Data were analyzed using Epi info 7.2. Qualitative variables were summarized as absolute and relative frequencies, while age was summarized as median and range. Crude odds ratios (ORb) were calculated to examine associations between the dependent variables one after the other with the independent variables. All variables that showed a statistically significant association with a p-value less than 5% in the bivariate analysis were entered into a binary logistic regression model. Adjusted odds ratios were calculated to examine the determinants of STI occurrence. Any association was considered statistically significant when the p-value was less than 5%. Odds ratios were calculated with 95% confidence intervals.

2.8. Ethical Considerations

Informed consent was obtained from the parents or legal guardians of the selected adolescents, and assent was also obtained from the selected adolescents before administering the questionnaire. Parents or legal guardians were permitted to attend the interview at their request or that of the adolescents. Participation in the survey was voluntary and anonymous.

2.9. Bias

Memory bias was controlled by looking at information from the past three months.

3. Results

Of the 388 adolescent girls surveyed in the city of Goma to research the determinants of sexually transmitted infections, 190 or 48.97 (95% CI: 44.03% - 53.93%) reported having presented symptoms suggestive of a sexually transmitted infection over the past 12 months (See Table 1).

Table 1. Distribution of respondents according to socio-demographic characteristics.

Variables	Number	%
Age groups [Median age: 16 years, range: 10 – 19 years]		
10 - 12 years old	56	14.43
13 - 15 years old	111	28.61
16 - 19 years old	221	56.96
Residence		
ZS Goma	196	50.52

Continued

ZS Karisimbi	192	49.48
Religion		
Adventist	54	13.92
Christian	235	60.57
Muslim	71	18.30
Without religion	28	7.22
Education level		
None	48	12.37
Primary	97	25.00
Secondary	214	55.15
Superior	29	7.47
Family type		
Two-parent	160	41.24
Single parent	228	58.76
Social level		
Down	57	14.69
AVERAGE	94	24.23
Pupil	237	61.08
Lives with his parents		
No	114	29.38
Yes	274	70.62
Family situation		
Orphan	65	16.75
Married parents	242	62.37
Separated/divorced parents	81	20.88
Lives in an environment with common early sexual behaviors		
No	52	13.40
Yes	336	86.60

Table 2 shows that adolescent girls aged 13 to 15 were the most represented with 111 (28.61%). The median age of the respondents was 16 years with extremes of 10 - 19 years. Secondary education level was reached by 214 (55.15%), the majority were from single-parent families 228 (58.76%) and 336 (86.6%) of them lived in an environment with common early sexual behaviors.

Analysis of Table 3 showed that 221 (56.96%) had already experienced sexual intercourse and the majority, 107 (57.53%), had their first sexual intercourse between the ages of 15 and 17. It should be noted that for 172 (91.2%), the first

Table 2. Distribution of respondents according to their sexual behavior and STI clinic.

Variables	Number	%
Already has sexual intercourse		
No	167	43.04
Yes	221	56.96
Age at first sexual intercourse		
<15 years old	49	26.34
15 - 17 years old	107	57.53
18 - 19 years old	30	16.13
Older partner at first sexual intercourse		
No	17	8.99
Yes	172	91.01
Number of partners during his life		
1	129	70
2 - 3	51	28
>3	5	2
Last sexual intercourse		
<1 week	50	26.46
1 - 2 weeks	45	23.81
>2 weeks	94	49.74
Already used condom during sexual intercourse		
No	251	64.69
Yes	137	35.31
Condom supply location		
Free distribution	35	15.84
Pharmacy	177	80.09
Supermarket	9	4.07
Knowledge of the risks of multiple sexual partners		
No	99	25.52
Yes	289	74.48
Motivation for first sexual intercourse		
Financial needs	37	19.58
Personal curiosity	59	31.22
Peer pressure	27	14.29
Romantic relationship	66	34.92
STI symptoms presented		
Abnormal vaginal discharge	143	75
Genital ulcers	19	10
Venereal vegetations (condylomas)	7	4
Lower back pain	21	11

sexual partner was older, most, 129 (70%), had only had one sexual partner in their lifetime and 94 (49.74%) had their last sexual intercourse more than two weeks ago. The risk of having multiple sexual partners was known to 289 (74.48%) adolescent girls and romantic relationships were the main reason for first sexual intercourse, 59 (31.22%). discharge was the most commonly reported syndromic type of STI by 143 (75%).

Respondents cited unwanted pregnancies (96.19%) as the main risk of multiple sexual partners, the second risk cited was followed by contracting STIs (92.04) (Figure 1).

In Figure 2 below, school was the main channel through which adolescent girls heard the most about STIs (80.63%) followed by parents (63.03%).

The results of the bivariate analysis presented in Table 3 show that the risk of contracting STIs increased with age and that adolescent girls in primary school were less at risk of contracting STIs (OR: 0.08; 95% CI: 0.03 - 0.2; p = 0.000). On the other hand, lack of awareness of the risks incurred with multiple sexual

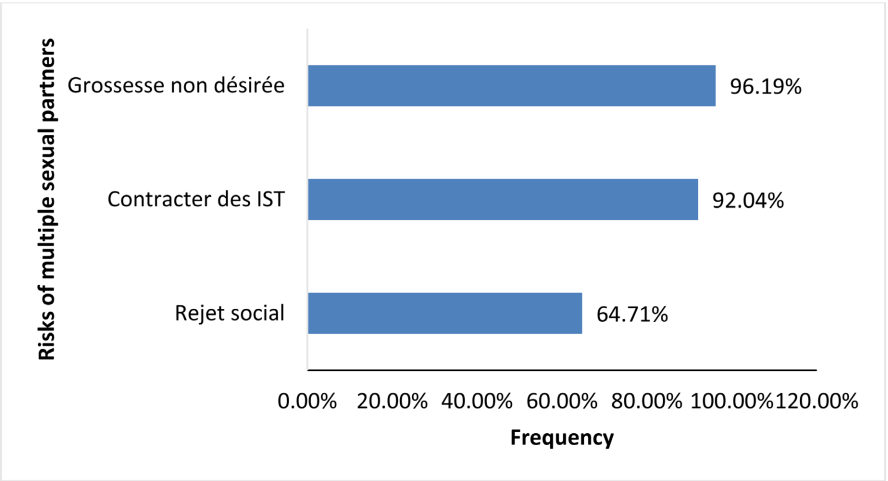

Figure 1. Risks of multiple sexual partners cited by respondents.

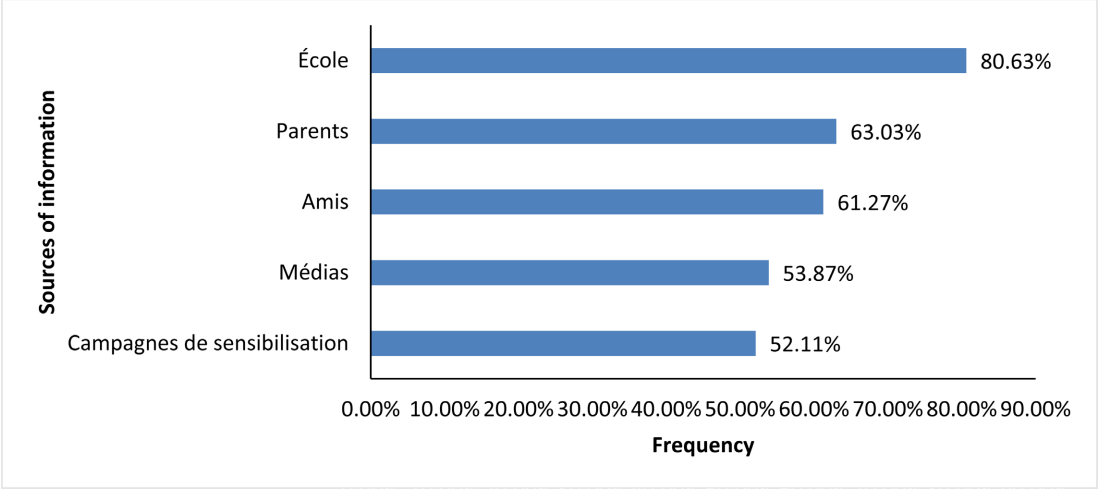

Figure 2. Sources of information on sexually transmitted infections.

Table 3. Factors associated with the occurrence of sexually transmitted infections among adolescent girls in the city of Goma.

Variables	IST		Odds ratio	95% CI		p
	Yes n (%)	No n (%)				
Age groups						
10 - 12 years old	1(0.53)	55 (27.78)	1			
13 - 15 years old	26 (13.68)	85 (42.93)	16.65	2.992	354.5	**0.000**
16 - 19 years old	163 (85.79)	58 (29.29)	153.9	29.01	3198	**<0.000**
Residence						
ZS Karisimbi	96 (50.53)	96 (48.48)	1.08	0.72	1.61	0.687
ZS Goma	94 (49.47)	102 (51.52)	1			
Education level						
None	29 (15.26)	19 (9.6)	0.58	0.20	1.58	0.299
Primary	18 (9.47)	79 (39.9)	0.08	0.03	0.22	**0.000**
Secondary	122 (64.21)	92 (46.46)	0.50	0.20	1.17	0.116
Superior	21 (11.05)	8 (4.04)	1			
Family type						
Single parent	116 (61.05)	112 (56.57)	1.20	0.80	1.80	0.369
Two-parent	74 (38.95)	86 (43.43)	1			
Social level						
Down	28 (14.74)	29 (14.65)	1.09	0.61	1.96	0.757
AVERAGE	51 (26.84)	43 (21.72)	1.34	0.83	2.18	0.226
Pupil	111 (58.42)	126 (63.64	1			
Knowledge of the risks of multiple sexual partners						
No	151 (79.5)	138 (69.7)	1.68	1.05	2.67	**0.027**
Yes	39 (20.5)	60 (30.3)	1			
Already used condom during sexual intercourse						
No	151 (70)	138 (2.02)	113.1	40.09	319.4	**0.000**
Yes	39 (30)	60 (97.98)				
Lives with his biological parents						
No	68 (35.8)	46 (23.2)	1.8	1.18	2.87	**0.006**
Yes	122 (64.8)	152 (76.8)				

partners (OR: 1.6; 95% CI: 1.05 - 2.67; p = 0.027), never having used a condom during sexual intercourse (OR: 113.1; 95% CI: 40.09 - 319.4; p = 0.000), not living with biological parents (OR: 1.8; 95% CI: 1.18 -2.87; p = 0.006) were associated with the occurrence of STIs.

Multivariate analysis identified the age group of 16 to 19 years (ORa: 48.39; 95% CI: 5.72 - 408.85; p = 0.0004) as risk factors for the occurrence of STIs and having ever used condoms during sexual intercourse (ORa: 0.014; 95% CI: 0.004 - 0.041; p = 0.0000) reduced the risk of contracting STIs (See Table 4).

Table 4. Determinants of the occurrence of sexually transmitted infections among adolescent girls.

Variables	ORa	95% CI		P-value
Age groups (13-15 years/10-12 years)	6.95	0.82	58.77	0.0748
Age groups (16 - 19 years / 10 - 12 years)	48.39	5.72	408.85	**0.0004**
Education Level (Primary/None)	0.80	0.23	2.77	0.7327
Education Level (Secondary/None)	0.76	0.27	2.15	0.6118
Education Level (Higher/None)	0.45	0.09	2.07	0.3078
Knowledge of the risks of multiple sexual partners (Yes/No)	1.33	0.65	2.72	0.4291
Lives with parents (Yes/No)	0.61	0.30	1.23	0.1716
Have ever used condoms during sexual intercourse (Yes/No)	0.014	0.004	0.041	**0.0000**

4. Discussion

In our series, the prevalence of STIs was 48.97% while the study of Tae Hoon Oh *et al.* found a prevalence of 17.4%. This difference could be due to the fact that our study was conducted in the community while that of Tae Hoon Oh *et al.* [14] was conducted in a medical training limiting the possibility of including people suffering from STIs.

The majority of our respondents lived in an environment where early sexual behaviors were common. This is explained by the fact that social media and television content to which adolescent girls are exposed place them in an environment where early sexual behaviors are very common and no longer taboo.

Most of the adolescents had already had sexual intercourse and were between 15 and 17 years old at the time of the incident. These results are similar to those of Marie N. Esther Destil [15].

This could be explained by the fact that Haiti, where she conducted her study, and the Democratic Republic of Congo, where we conducted ours, are both resource-limited countries.

The main source of information about STIs was the school. Indeed, current school curricula emphasize courses that cover topics related to sexuality and related subjects.

Our study shows that the risk of contracting sexually transmitted infections increased with age. This result is similar to that of C Duval [16]. We believe that the older the adolescent girls, the more they engage in sexual experiences, sometimes without protection, thus exposing them to STIs.

Non-use of condoms has emerged as a risk factor for STIs. A study conducted among adolescent girls in Bouake reached similar conclusions. Indeed, it is scientifically proven that the correct use of condoms protects against STIs [17].

Lack of knowledge about the risks of STIs incurred during sexual intercourse with multiple sexual partners has been identified as a risk factor. Grondin found similar results [18]. Practicing sexual relations with multiple partners does indeed expose people to the risk of contracting STIs.

Not living with biological parents was a risk factor for STI risk. It appears that children not living with their biological parents benefit less from supervision in a family setting that can provide them with a good education. Grondin showed in his study that the absence of dialogue with parents on subjects related to sexuality encourages risky sexual practices among adolescent girls [18].

5. Conclusions

The prevalence of sexually transmitted infections among adolescent girls in the city of Goma is high. The majority were sexually active and had only one sexual partner. The age of first sexual intercourse ranged from 15 to 17 years. Romantic relationships were the main reason for first sexual intercourse. In addition, abnormal vaginal discharge was the most commonly reported syndromic type of STI among respondents. Age was identified as a risk factor for contracting STIs, while having previously used condoms during sexual intercourse protected against STIs.

Raising awareness among adolescent girls about STIs will reduce the risk of contracting them and improve their sexual health.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] MSD Manuals Consumer Version (2025) Overview of Sexually Transmitted Infections (STIs)—Infections.

[2] (2025) Sexually Transmitted Diseases and Infections. https://www.ameli.fr/assure/sante/themes/mst-ist/maladies-infections-sexuellement-transmissibles

[3] WHO (2025) Sexually Transmitted Infections (STIs). https://www.who.int/fr/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis)

[4] Shannon, C.L. and Klausner, J.D. (2018) The Growing Epidemic of Sexually Transmitted Infections in Adolescents: A Neglected Population. *Current Opinion in Pediatrics*, **30**, 137-143. https://doi.org/10.1097/mop.0000000000000578

[5] Flandrin, J. and Duranteau, L. (2018) Les infections sexuellement transmissibles des adolescentes: Diagnostic, traitement et prévention. *Perfectionnement en Pédiatrie*, **1**, 249-256. https://doi.org/10.1016/j.perped.2018.10.006

[6] Buder, S., Schöfer, H., Meyer, T., Bremer, V., Kohl, P.K., Skaletz-Rorowski, A., *et al.* (2019) Bacterial Sexually Transmitted Infections. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*, **17**, 287-315. https://doi.org/10.1111/ddg.13804

[7] Cannovo, N., Bianchini, E., Gironacci, L., Garbati, E., Di Prospero, F., Cingolani, M., *et al.* (2024) Sexually Transmitted Infections in Adolescents and Young Adults: A Cross Section of Public Health. *International Journal of Environmental Research and Public Health*, **21**, Article 501. https://doi.org/10.3390/ijerph21040501

[8] Zhang, J., Ma, B., Han, X., Ding, S. and Li, Y. (2022) Global, Regional, and National Burdens of HIV and Other Sexually Transmitted Infections in Adolescents and Young Adults Aged 10-24 Years from 1990 to 2019: A Trend Analysis Based on the Global Burden of Disease Study 2019. *The Lancet Child & Adolescent Health*, **6**, 763-776. https://doi.org/10.1016/s2352-4642(22)00219-x

[9] Biddlecom, A.E., *et al.* (2008) Protecting the Next Generation in Sub-Saharan Africa: Learning from Adolescents to Prevent HIV/AIDS and Unintended Pregnancy. Guttmacher Institute.

[10] Cosmas, N.T., Nimzing, L., Egah, D., Famooto, A., Adebamowo, S.N. and Adebamowo, C.A. (2022) Prevalence of Vaginal HPV Infection among Adolescent and Early Adult Girls in Jos, North-Central Nigeria. *BMC Infectious Diseases*, **22**, Article No. 340. https://doi.org/10.1186/s12879-022-07215-7

[11] Roxby, A.C., Mugo, N.R., Oluoch, L.M., Tapia, K., Wang, M., Selke, S., *et al.* (2023) Low Prevalence of Bacterial Vaginosis in Kenyan Adolescent Girls and Rapid Incidence after First Sex. *American Journal of Obstetrics and Gynecology*, **229**, 282.e1-282.e11. https://doi.org/10.1016/j.ajog.2023.06.044

[12] Appiah, C.K., Dowou, R.K., Balame, S.K., Adzigbli, L.A., Yeboah, P.A., Aboagye, R.G., *et al.* (2023) Self-Reported Sexually Transmitted Infections among Adolescent Girls and Young Women in Mali: Analysis of Prevalence and Predictors. *BMJ Open*, **13**, e069226. https://doi.org/10.1136/bmjopen-2022-069226

[13] DRC-National Institute of Statistics, Kinshasa School of Public Health and ICF (2024) Democratic Republic of Congo Demographic and Health Survey 2023-2024: Final Report. Kinshasa, DRC and Rockville, Maryland, USA: ICF.

[14] Oh, T.H., Baeck, J.H., Lee, S.R., Park, D.S. and Yu, Y.D. (2021) The Prevalence of Sexually Transmitted Infections and Sociosexual Behaviors in the South Korean Military before and during the COVID-19 Pandemic. *Military Medicine*, **188**, e1285-e1292. https://doi.org/10.1093/milmed/usab479

[15] Mne, D. (2013) Determinants of Sexual and Reproductive Health of Rural Haitian Adolescents: A Case Study in Fond des Blancs. Master's Thesis, University of Montreal.

[16] Duval, C., Anthony, N., Thore-Dupont, E., Jaubert, J., Camuset, G., Von Theobald, P., Franco, J.M., Poubeau, P., Bruneau, L and Bertolotti, A. (2021) Prevalence and Risk Factors of Chlamydia Trachomatis Infection among Women Consulting at the Sexually Transmitted Infection Centre in Reunion: A Cross-Sectional Study. *Médecine tropicale et santé internationale*, **1**, 1-7.

[17] Hilaire, M.G. (2014) Risky Sexual Behavior of Young Schoolchildren: An Analysis of the Social Determinants of Non-Use of Condoms among Students of the Modern High School II of Bouake. *European Scientific Journal*, **10**, 117-119.

[18] Grondin, C., Duron, S., Robin, F., Verret, C. and Imbert, P. (2013) Knowledge and Behavior of Adolescents Regarding Sexuality, Sexually Transmitted Infections and Vaccination against Human Papillomavirus: Results of a Cross-Sectional Survey in a High School. *Archives de Pédiatrie*, **20**, 845-852. https://doi.org/10.1016/j.arcped.2013.05.012