

# HIV integrated biological and behavioural surveillance survey among young people

Suriname



# HIV integrated biological and behavioural surveillance survey among young people - Suriname.

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**Produced for:**



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## Abbreviations / definitions

ABS	General Bureau of Statistics ( <i>Algemeen Bureau voor de Statistiek</i> )
ART	Antiretroviral Therapy
AIDS	Acquired Immune Deficiency Syndrome
BOG	Bureau for Public Health ( <i>Bureau voor Openbare Gezondheidszorg</i> )
CBvS	Central Bank of Suriname ( <i>Centrale Bank van Suriname</i> )
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IBBSS	Integrated Biological and Behavioural Surveillance Survey
IDB	Inter-American Development Bank
KAPB	knowledge, attitudes, practices and behaviour
MoH	Ministry of Health
MZ	Medical Mission ( <i>Medische Zending</i> ) Primary health Care Suriname
NAP	National AIDS Program
PPMTCT	Prevention of mother to child transmission
RDT	Rapid Diagnostic Test
RGD	Regional Health Service ( <i>Regionale Gezondheidsdienst</i> )
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programs on HIV/AIDS
USD	United States Dollars
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
Young people	People aged 15–24 years (UNAIDS definition), also referred to as youth

## Summary

**The Project:** This report presents the HIV Integrated Biological and Behavioural Surveillance Survey (IBBSS) among young people ages 15-24 in Suriname. The objectives were to (1) Measure HIV sero-prevalence among young people using rapid tests and providing professional counselling services, and (2) Conduct interviews about sexual (risk) behaviour, HIV/STI knowledge, attitudes toward condom use and uptake of health services with young people. The Project was executed by Social Solutions consultancy for the Suriname Ministry of Health (MoH), with financial support from the Global Fund to Fight AIDS, Tuberculosis and Malaria. Ethical clearance was obtained from the *Commissie Mensgebonden Wetenschappelijk Onderzoek* (CMWO) of the Ministry of Health, Suriname.

**Methods:** The IBBSS research design combined a quantitative survey with the application of an HIV rapid test. The survey was conducted with 515 young people in the ages 15-24. The stratified purposive sample reflected the actual population composition in terms of sex, age and geographic region. It included 264 men (51.3%) and 251 women (48.7%). Young people were mostly approached in the street and through schools. HIV testing was performed with 296 young people: 147 women and 149 men. Six persons participated in the prevalence study, but did not take part in the interview.

**Results:** *HIV prevalence:* All 296 young people who were tested on HIV were tested HIV negative. Main reasons for not wanting to test were that the person had never had sex; had no time; or did not feel like it. Among those who were tested, 80.3% (232/289) reported that they had never tested for HIV before.

*Knowledge:* Young people had mostly been educated on Sexually Transmitted Infections (STIs) and HIV at school. One quarter of respondents were unable to describe what an STI is (26.6%, 137/515). Common misperceptions about HIV transmission include that HIV is transmitted by a mosquito and through saliva. Using the UNAIDS definition, only 23.5% (121/514) of young people aged 15-24 had comprehensive knowledge of HIV.

*Attitudes:* Discriminatory attitudes towards people living with HIV are widespread. Using the UNAIDS definition, 43.7% of young people displayed discriminatory attitudes towards people living with HIV. Almost one third of respondents believed they had no chance of becoming infected with HIV (30.9%, 159/514).

*Behaviour:* In the total sample, 71.3% of respondents had had sex, with no significant difference between women and men. As compared to women, on average, men started relatively earlier with sex, had more sex partners, and were more likely to have engaged in high-risk sex in the year prior to the interview. Women were significantly less likely than men to have used a condom the last time they had sex. The large majority of surveyed young people had never performed an HIV test.

*Indicators:* International HIV indicators are summarized in Table 1 below.

**Conclusions:** The researchers conclude that knowledge about STIs and HIV transmission and prevention among young people is dramatically lacking. Data on discriminatory attitudes sketch a sad picture of the social ostracization and daily-life challenges faced by people living with HIV in Suriname. The results call for a meaningful intervention from the Ministry of Health and its partners, starting with extended and improved HIV education for this target group. In addition, bringing HIV testing to places where young people congregate has the potential to dramatically increase HIV test rates.



Table 1. HIV-IBBS young people indicators

Indicator	Women			Men			All
	Age 15-19 N=152	Age 20-24 N=99	All N=251	Age 15-19 N=163	Age 20-24 N=101	All N=264	N=515
% of young people (aged 15-24) with comprehensive, correct knowledge of HIV, as defined under *	23.7% (36/152)	23.5% (23/99)	23.6% (59/251)	20.9% (34/163)	27.7% (28/101)	23.5% (62/264)	23.5% (121/514)
* % of young people aged 15-24 who:							
- correctly identify the two ways of preventing the sexual transmission of HIV	77.6% (118/152)	77.0% (77/99)	77.7% (195/251)	77.3% (126/163)	76.2% (77/101)	76.9% (203/264)	77.3% (398/515)
- who know that a healthy-looking person can be HIV positive	82.9% (126/152)	80.8% (80/99)	82.1% (206/251)	83.4% (136/163)	86.1% (87/101)	84.5% (223/264)	83.3% (429/515)
- who reject the two most common misconceptions about HIV transmission	32.2% (49/152)	30.6% (30/98)	31.3% (79/250)	28.8% (47/163)	36.6% (37/101)	32.1% (85/265)	31.7% (163/514)
% of young people aged 15-24 who agree that always using a condom when having sex is an effective way of reducing the risk of HIV infection.	87.5% (133/152)	83.8% (83/99)	86.1% (216/251)	87.1% (142/163)	86.1% (87/101)	86.7% (229/264)	86.4% (445/515)
% of young people aged 15-24 who agree that having sex with only one uninfected partner who has no other sex partners is an effective way of reducing the risk of HIV infection.	86.8% (132/152)	86.9% (86/99)	86.9% (218/251)	82.8% (135/163)	88.1% (89/101)	84.8% (224/264)	85.9% (442/515)
% of young people aged 15-24 who reject the misperception that HIV is transmitted by a mosquito (Misperception 1)	62.5% (95/152)	60.6% (60/98)	62.0% (155/250)	60.1% (98/163)	57.4% (58/101)	59.1% (156/264)	60.5% (311/514)
% of young people aged 15-24 who reject the misperception that HIV is transmitted by saliva or kissing (Misperception 2)	45.4% (69/152)	42.4% (42/99)	44.2% (111/251)	42.3% (69/163)	50.5% (51/101)	45.5% (120/264)	44.9% (231/515)
% of young people who reject the misperception that HIV may be transmitted by sharing food with someone who is infected.	68.4% (104/152)	68.7% (68/99)	68.5% (172/251)	71.2% (116/163)	68.3% (69/101)	70.1% (185/264)	69.3% (357/515)

Indicator	Women			Men			All
	Age 15-19	Age 20-24	All	Age 15-19	Age 20-24	All	
<b>Sexual activity</b>							
Had sex (oral, vaginal or anal)	55.3% (84/152)	88.9 (88/99)	68.5% (172/251)	63.2% (103/163)	92.1% (92/101)	73.9% (196/265)	71.3% (367/515)
<b>High risk sex and condom use</b>							
% of young people (aged 15-24) who report discriminatory attitudes towards people living with HIV, as defined under* (Excluding rural-interior Sipaliwini)	47.8% (64/134)	40.9% (36/88)	45.0% (100/222)	38.8% (59/152)	48.4% (46/95)	42.5% (105/247)	43.7% (205/469)
* % of young people aged 15-24 who respond "no" to either of the two questions:							
- Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV? %No	44.0% (59/134)	36.4% (32/88)	41.0% (91/222)	33.6% (99/152)	40.0% (38/95)	36.0% (89/247)	38.4% (180/469)
- Do you think that children living with HIV should be able to attend school with children who are HIV negative? %No (Excluding rural-interior Sipaliwini)	17.2% (23/134)	20.5% (18/88)	18.5% (41/222)	17.8% (27/152)	26.3% (25/95)	21.1% (52/247)	19.8% (93/469)
<b>Age of sexual debut</b>							
Age of first sexual activity: oral, vaginal or anal sex (range).	15.4 (age 8-18) N=82	16.7 (age 13-21) N=88	16.1 (age 8-21) N=170	15.3 (age 9-19) N=103	15.5 (age 7-23) N=92	15.4 (age 7-23) N=195	15.7 (age 7-23) N=365
Median age of first sexual activity	16	17	16	15	16	15	16
% Early sexual debut (having had first sexual encounter at or before age 14), complete sample	12.6% (19/151)	12.1% (12/99)	12.4% (31/250)	23.2% (38/163)	28.7% (29/101)	25.4% (67/264)	19.1% N=514 (98/514)

Indicator	Women			Men			All
	Age 15-19	Age 20-24	All	Age 15-19	Age 20-24	All	
<b>Number of sex partners</b>							
Mean number of sex partners in past 12 months <sup>1</sup> (range).	1.3 (0-10) N=82	1.4 (0-7) N=86	1.4 (0-10) N=169	2.2 (0-10) N=103	2.6 (0-10) N=92	2.4 (0-10) N=194	1.9 (0-10) N=363
Median number of sex partners in past 12 months, among those who were sexually active	1	1	1	1	2	1	1
% of young people (15-24) who have had sex with more than one partner in the last 12 months, of all young people surveyed	11.3% (17/151)	20.4% (20/98)	14.9% (37/249)	26.4% (43/163)	49.0% (49/100)	35.0% (92/263)	25.2% (129/513)
<b>High risk sex and condom use</b>							
% of young people (15-24) who had high risk sex <sup>2</sup> in the last 12 months, of all respondents reporting sexual activity in the last 12 months.	84.8% (67/79)	62.8% (54/86)	73.3% (121/165)	97.8% (87/89)	87.2% (75/86)	92.6% (162/175)	83.2% (283/340)
% of young people (15-24) who say they used a condom the last time they had sex with a non-marital, non-cohabiting partner, of those who have had sex with such a partner in the last 12 months	41.2% (28/68)	28.8% (15/52)	35.8% (43/120)	42.5% (37/87)	49.3% (37/75)	47.7% (74/162)	41.5% (117/282)
% of young people (15-24) who had more than one sexual partner in the past 12 months, reporting the use of a condom during their last sexual contact (oral, vaginal, anal)	35.3% (6/17)	36.8% (7/19)	36.1% (13/36)	34.9% (15/43)	44.9% (22/49)	40.2% (37/92)	39.1% (50/128)

<sup>1</sup> For the sake of calculating the mean number, each response >10 was set at 10.

<sup>2</sup> High risk sex is defined as sex with a non-marital, non-cohabiting partner.



Indicator	Women			Men			All
	Age 15-19	Age 20-24	All	Age 15-19	Age 20-24	All	
<b>HIV test behaviour</b>							
% of young people (15-24) aged 15-49 who received an HIV test in the last 12 months and who know their results	7.9% (12/152)	24.2% (24/99)	14.3% (36/251)	1.2% (2/163)	7.9% (8/101)	3.8% (10/264)	8.9% (46/515)





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## Key statistics

Variable	Value
<b>General</b>	
Total Population Suriname, 2019 (Mid-year population)	598,000 (ABS 2021)
Land area	163,820 km <sup>2</sup>
<b>Demographics</b>	
Number of young people ages 15-19 (% of population)	48,700 (50.7%)
Number of young people ages 20-24 (% of population)	47,400 (49.3%)
Urban population, N (% of population)	61,700 (64.2%)
Rural-coastal population, N (% of population)	19,500 (20.3%)
Rural-interior population, N (% of population)	14,900 (15.5%)
<b>Economic (World Bank data, accessed 2022)</b>	
GDP, current USD (* billion USD)	USD 3.52 billion (IMF, 2022 data)
Annual GDP growth, 2020	1.3% (IMF, 2022 data)
Per capita GDP, current USD (* thousand USD)	USD 5.71 (IMF, 2022 data)
Inflation rate, annual	42.7% (IMF, April 2023)
<b>National HIV/AIDS indicators (UNAIDS, 2022 estimates<sup>3</sup>)</b>	
Adults and children living with HIV	6100 [5000 – 7500]
Adult aged 15 to 49 HIV prevalence rate	1.6 [1.3 – 1.9]
Women aged 15 to 49 HIV prevalence rate	1.5 [1.2 – 1.8]
Men aged 15 to 49 HIV prevalence rate	1.6 [1.3 – 2.0]
HIV prevalence among young women, 15-24 yr.	0.3 [0.2 – 0.4]
HIV prevalence among young men, 15-24 yr.	0.2 [0.1 – 0.3]
Coverage of pregnant women who receive ARV for PMTCT (%)	79 [62 – 95] (2021 data)
Percentage of adults (15-49) who responded No to the question: Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV?	41.8% (MICS 2018)
Percentage of adults (15-49) who responded No to the question: Do you think that children living with HIV should be able to attend school with children who are HIV negative?	45.1% (MICS 2018)
% of people diagnosed with HIV, who are linked to care	80.3% (Steinberg et al., 2022)
% initiating ART among those diagnosed with HIV and linked to care	67.0% (Steinberg et al., 2022)
<b>Medical services</b>	
Number of Medical Mission Primary Health Care clinics in the Interior.	52 (pers. com., 2023)
Voluntary counselling and testing (VCT) sites	All MZ clinics in the interior; some of the Regional Health Service (RGD) clinics, Lobi Foundation, the Dermatological Service, Tropclinic.

<sup>3</sup> See UNAIDS website: <https://www.unaids.org/en/regionscountries/countries/suriname>

# 1 Introduction

## 1.1 Background

This report presents the results of the *HIV Integrated Biological and Behavioural Surveillance Survey among young people in Suriname*, hereafter referred to as the “IBBSS young people”. This survey was commissioned by the Suriname Ministry of Health (MoH) National AIDS Program (NAP) and executed by the Suriname consultancy firm Social Solutions. Financial support was provided by the Global Fund to Fight AIDS, Tuberculosis and Malaria, in the context of its project *Joining Efforts: Supporting vulnerable populations in the move towards 90-90-90*<sup>4</sup>.

In recent years the Ministry of Health Suriname has carried out IBBSS activities among key populations at higher risk for HIV infection to provide important information about the risk of HIV and sexually transmitted infections (STI) and inform prevention, care, and treatment programs in these groups. The latest studies conducted in Suriname focussed on men having sex with men (MSM) and transgender persons, and another one on female sex workers. The present IBBSS young people targets Surinamese young people. In defining this target group, we follow the UNAIDS definition of young people as people in the ages 15-24. In some studies, this group is also referred to as youth. For the past decade, globally, HIV prevalence in this group has been about 0.3% (Figure 1). For Suriname, estimates of HIV prevalence among young women and men are, respectively, 0.3% and 0.2% (UNAIDS, 2023).

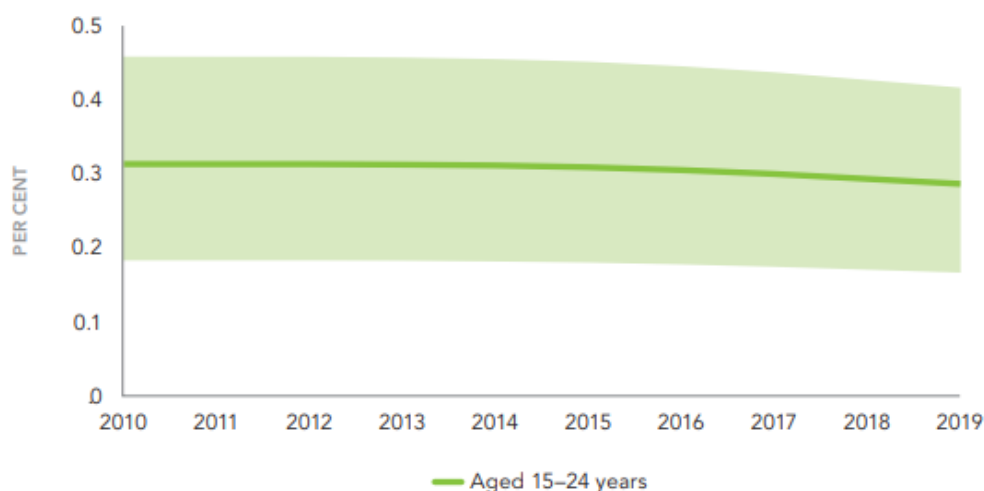


Figure 1. World wide trend in the HIV prevalence among young people in the past 10 years.

Source: UNAIDS, 2021

Suriname never conducted an IBBSS among this target group before. A Knowledge, Attitudes, Practices and Behaviour (KAPB) study has been conducted among young people, but this was more than 15 years ago. Most recent data for this target group derive from the Suriname Multiple Indicator Cluster Survey

<sup>4</sup> 90% of people living with HIV (PLHIV) knowing their HIV status, 90% of diagnosed persons on ART, and 90% of those on ART reaching viral suppression.

(MICS, 2018), which includes, among others, data on sexual behaviour and on discriminatory attitudes (Ministry of Social Affairs and Public Housing, 2019).

Implementing an IBBSS among young people is urgently necessary for several reasons. Most important is the lack of national data which makes a targeted approach impossible. Globally, every day, 4000 people—including 1100 young people (aged 15 to 24 years)—become infected with HIV. If current trends continue, 1.2 million people will be newly infected with HIV in 2025—three times more than the 2025 target of 370000 new infections (UNAIDS, 2022). MICS data from 2018 shows that about half of young men and women (15-24 years old) had sex in the last 12 months, while 1.7% of girls and 11.1% of boys had multiple partners. Meanwhile knowledge of HIV was low: only one third (33.0%) of the 15 to 24 years olds answered all 5 HIV knowledge questions correctly, with little difference between boys (34.5%) and girls (32.3%) (Ministry of Social Affairs and Public Housing, 2019).

## 1.2 IBBSS goals and objectives

The overall objective of the proposed project is to implement an IBBSS among young people (ages 15-24) in defined areas of Suriname, including the urban area, the rural-coastal area, and the rural-interior. The specific objectives are;

- 1) Measure HIV sero-prevalence among young people ages 15-24 using rapid tests and providing professional counselling services.
- 2) Conduct interviews about sexual (risk) behaviour, HIV/STI knowledge, attitudes toward condom use, discriminatory attitudes, and uptake of health services among young people in defined areas of Suriname.

The data will inform the policy of the MoH regarding HIV/STI prevention, treatment and care of young people. These findings can also be used by the government and NGO's working with these populations to strengthen interventions.

## 1.3 Report lay-out

The remainder of this report proceeds as follows.

- The next chapter, Chapter 2, presents the research design and methods.
- Chapter 3 contains the data on the numbers tested and HIV prevalence.
- Chapter 4 analyses data related to knowledge of STIs and HIV transmission and prevention.
- In Chapter 5, we discuss stigma and discrimination towards people living with HIV/AIDS.
- Chapter 6 presents data on sexual risk behaviour and risk perception.
- Chapter 7 analyses access to care and experience with HIV testing.
- The Conclusions, in Chapter 8, synthesize the finds and recommend directions for policy interventions.

## 2 Study design and methodology

### 2.1 Approach

The IBBSS research design combined a quantitative survey with the application of an HIV rapid test. Based on earlier experience with similar research, it was most efficient to perform these project components simultaneously.

Prior to conducting field missions, permission was obtained from the *Commissie Mensgebonden Wetenschappelijk Onderzoek / Medisch-ethische Cie* (Medical Ethical Committee, CMWO) of the Ministry of Health, Suriname. The Medical Ethical Committee reviewed ethical issues related to both the medical and social components of the proposal, including the study approach and the survey form.

Given the sensitivity of the subject, participant protection was key in the study approach. No names of study participants were recorded. Each study participant received a small card with a randomly generated number that had no relation to the person's name or other identifying information. The person obtained this number from the surveyor and would subsequently show it to the HIV-tester.

Throughout project preparation and implementation, the consultant worked in collaboration with MoH staff, particularly the MoH Monitoring & Evaluation Manager.

### 2.2 Study design

The study took place in three phases (Figure 1).

#### 4.1.1. Phase 1

In **Phase I**, the consultant conducted exploratory work, which involved, among others, a review of existing reports and data. In this phase, the consultant had discussions with the Suriname Ministry of Health M&E coordinator, Drs. Stijnberg and with Ms. Debora Hordijk, who is HIV/ STD Counsellor & Tester, and head of the Department of Counselling and Testing. These discussions served to select and fine-tune the questions in line with relevant UNAIDS and GF indicators.

The lead researcher and the field survey coordinator tested the draft survey form with five persons from the target population (ages 19-24). This test served to detect hiatus, inconsistencies and other errors in the survey, and to improve the survey structure and individuals questions. The tested and adjusted survey instrument was submitted to the MoH and the CMWO.

#### 4.1.2. Phase II: Field data collection

Phase 2 started with the selection and training of surveyors. All surveyors followed a three-day training, which covered the study in general, ethical considerations, HIV/STI facts, and all survey questions. After two training days, the surveyors participated in a pilot, where each surveyor conducted two survey interviews with young people at a popular hang-out spot in Paramaribo. During the final training day, the team discussed the results and made final adjustments to the wording of some questions.

Once the surveyors had a good understanding of the survey and were able to conduct it without errors, fieldwork started. The lead researcher and/or survey supervisor accompanied surveyors during all fieldwork missions to supervise and monitor surveyor behaviour and work ethic, and to correct output as soon as possible. On location, each survey was, after completion, immediately checked by the lead

researcher and/or the field survey coordinator. This approach allowed for returning to a respondent when answers were inconsistent or unclear. Data entry took place simultaneous with field data collection.

All respondents received an SRD 50- (~USD 1.43) mobile calling credit top-up card as compensation for their time and participation.

#### 4.1.3. Phase III: Data analysis, sharing, and validation

Phase III started with data analysis and compilation of the draft report. The draft report was shared with the MoH M&E coordinator, and after approval presented to the MoH and other stakeholders. On September 7, 2023, the Ministry of Health organized an online meeting to present the results to a broad selection of public health stakeholders. Based on feedback, the document was revised and submitted.

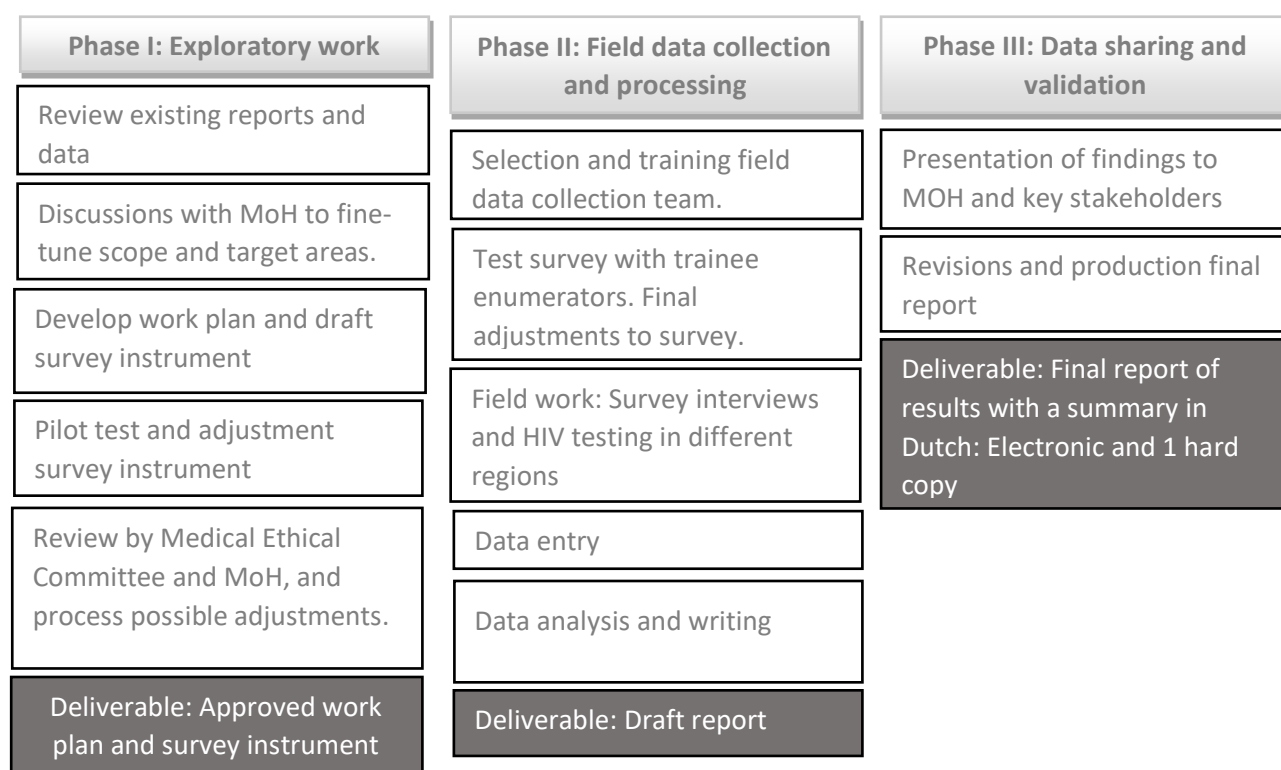


Figure 2. Overview of study phases and activities.

## 2.3 Study population, eligibility criteria and sampling method

The study population included young people who met the following eligibility criteria:

- At least 15 years of age and not older than 24.
- Live in Suriname.

Young people who were not sexually active or who never had an intimate partner, were also eligible for participation.

Taking a random sample of young people was not possible, for two reasons. In the first place, there is no national register of all young people (15-24) with their contact information. Secondly, it would be too



expensive to visit every single village or region in the country. Instead, the researchers used a stratified purposive sample, which reflected the actual population composition in terms of sex, age and geographic region. For geographic regions, we used the place where the person lived (i.e. not the place where the person was interviewed), using the following sub-division:

- Urban : Greater Paramaribo (Paramaribo, Wanica and Commewijne)
- Rural – coastal: Nickerie, Coronie, Saramacca, Para, Marowijne
- Rural – interior: Sipaliwini and Brokopondo

Based on ABS 2019 mid-year population estimates, our targets for sample composition were;

- The ratio male : female in the ABS data is 1:0.96. We aimed for about equal numbers of men and women.
- The ratio between the age groups 15-19 and 20-24 in the ABS data is 1:0.97. The study aimed to include equal numbers of the two age cohorts.
- The ratio urban: rural-coastal : rural-interior in the ABS data is 1 : 0.31 : 0.25. These same ratios were sought after in the sample (Table 2).

The study aimed for a sample size of 500 young people (15-24). By including different types of locations and young people from different districts, ethnicities and backgrounds, this sample frame was adequate to captures the diversity in experiences and knowledge of adolescents and young adults in Suriname.

A total of 515 valid interviews<sup>5</sup> were conducted, and 296 persons were tested for HIV. Table 2 below shows the targeted sub-populations population by sex, age cohort and region (ABS, 2019), as well as the actual realized sizes of the sample sub groups. With regard to sex and region, the sample approximates the actual population composition well. With regard to age cohorts, there is slight overrepresentation of the age cohort 15-19 years. This discrepancy may in part be due to part of the interviews having been conducted at schools.

*Table 2. Estimated Mid-Year Population by sex, 2019*

	National estimates		Survey sample	
	N	%	N	%
Male	49,100	51.1%	264	51.3%
Female	47,000	48.9%	251	48.7%
Age 15-19	48,700	50.7%	315	61.2%
Age 20-24	47,400	49.3%	200	38.8%
Urban	61,700	64.2%	301	58.4%
Rural – coastal	19,500	20.3%	123	23.6%
Rural - interior	14,900	15.5%	97	18.8%
Total	96,100	100%	515	100%

*Source of national estimates: ABS 2019*

<sup>5</sup> The total number of interviews was 518, but two interviewees did not meet the eligibility criteria (25 and 26 years of age) and one person's answers were believed to be unreliable.

Because large differences were noticed between young people from Brokopondo and Sipaliwini, the data for these two locations are, where relevant, separated in the analysis.

Just over half of those who participated in the survey took an HIV test (56.1%, 289/515). In addition, six persons took the HIV test, but did not want to be surveyed. The numbers are presented in Table 3.

Table 3. Number of IBBSS participants in the survey and the HIV test

	HIV test	No HIV-test	Total
Survey	290 (56.3% of those surveyed)	225 (43.9%)	515 (100%)
No survey	6		
Total	296		

## 2.4 Survey locations

Young people were approached in different types of locations: mostly in the street and through schools (Table 4). In Paramaribo and Nickerie, participating schools included NATIN and HAVO/VWO schools. In Brokopondo Centrum, the surveyors interviewed students from the highest classes of the LBO and MULO schools.

Table 4. Number of completed surveys per location

	City/village where interview was conducted				
	Urban	Rural - coastal	Rural – Interior		
Interview location	Paramaribo N=309	Nickerie N=112	Kwamalasamutu N=44	Brokopondo-Centrum N=40	Klaaskreek N=10
In the street/ public space	194	21	2	-	4
Vocational or middle school (LBO/MULO)	-	-	-	40	-
High-school (HAVO/VWO/NATIN)	115	91	-	-	-
Door to door	-	-	22	-	6
Community centre	-	-	20	-	-

## 2.5 HIV testing and counselling

Rapid HIV testing was conducted by two trained and certified testers. Testing included;

- Pre-test/Risk Reduction Counselling
- Rapid HIV testing
- Post-test counselling and referral to medical and non-medical services

Testing took place in a suitable space close to the survey location. When conducting surveys at a location where no space with sufficient privacy was available, the testers used a minivan that was turned into a mobile VCT site.

### 3 HIV Prevalence

Indicator: HIV prevalence among young people: 0% (0/295)

Two-hundred and ninety-six (296) young people in the ages 15-24 were tested on HIV: 147 women and 149 men. Table 6 displays the number of women and men tested per region and by age group. All young people who tested for HIV were tested negative.

The group of people who took the HIV test was proportionally distributed across the regions and age groups. For example, 57.6% of the survey sample was from urban areas (greater Paramaribo), and a same share of those who were tested came from the urban areas. Relatively many men from the urban area had conducted the HIV test, and relatively few men from the interior. This finding may be related to the fact that in Paramaribo, students from NATIN were very enthusiast to get tested – and they are mostly men. At the LBO and MULO schools in Brokopondo Centrum, by contrast, the student population was mostly female, and hence more women were tested in this location.

Table 5. Numbers of young people tested by sex, region and age group\*.

	Women (N= 147)		Men (N= 149)		Total (N= 296)	
	n/N	% of women in that group	n/N	% of men in that group	n	% of N
Urban	74/138	53.6%	96/163	58.9%	170/301	57.6%
Rural, coastal	30/53	56.5%	36/70	51.4%	66/123	22.3%
Rural, interior	43/63	68.3%	17/34	50.0%	60/97	20.3%
Ages 15-19	86/154	55.8%	91/164	55.5%	177/318	59.7%
Ages 20-24	61/100	61.0%	58/103	56.3%	119/203	40.3%
Total	147	100%	149	100%	296	100%

\* All persons tested HIV-negative

A total of 225 surveyed persons (43.7%, 225/515) did not perform the HIV test, 107 women and 118 men. The reasons to not get tested are listed in Table 6 below. The three main reasons to not take the HIV test that was offered during the study were: The person never had sex (oral, anal or vaginal); the person had no time or was busy doing something else; and the person was simply not interested, or did not find it necessary.

People who reported that they had no time, included people who were at work when they were approached. They were unable to leave their workplace to visit the test bus. Four persons reported that they did not want to test because they were afraid to get a bad result. One woman, for example, reported that if the test would turn out HIV positive, she would be afraid to bring the news to her parents and her partner. Others, on the other hand, were overconfident. Even though they were sexually active, they asserted that it was not necessary to test because they simply knew that they were not infected (Table 6).

In the village of Klaaskreek, a small number of surveys was performed to balance the number of surveys from the interior, but no test was offered. These persons were provided with the contact information of the VCT professional at the Dermatological Service, and were told that if they were in town and wanted to test, they could perform their free HIV test at that location.



Table 6, Reasons to not participate in the HIV prevalence study (N=226).

Reason	N	%
Never had sex	87	38.5%
No time	38	16.8%
Just doesn't feel like it / Not necessary	42	18.6%
Afraid to do it/fear for testing	10	4.4%
Knows his/her status; Knows that he/she is not infected	9	4.0%
No test was offered in Klaaskreek	8	3.5%
Fear that information will not be treated confidentially	4	1.8%
Fear for the result	4	1.8%
Not ready to test	4	1.8%
Always has safe sex / has not been unsafe	3	1.3%
No consent from parent	2	0.9%
Other (Has been ill a lot so too much testing; do not feel comfortable; do not want to know my status; is with family; do not know enough about it; has a stable partner; "my girlfriend is a virgin and I am not too sexually active"	6	2.7%

Among those who performed the HIV test, 80.3% (232/289<sup>6</sup>) reported that they had never tested for HIV before; i.e. this was the first time they were ever tested. This finding suggests that there is a large unmet need among young people to be tested for HIV. Many young people want to perform an HIV test, but for a variety of reasons they do not find their way to a Voluntary Counselling and Testing (VCT) location. Enhancement of HIV prevalence monitoring among young people would benefit from bringing VCT opportunities to the target group: at schools, in youth centres, and in other places where young people congregate.

<sup>6</sup> Only those who also performed the interview.

## 4 Knowledge

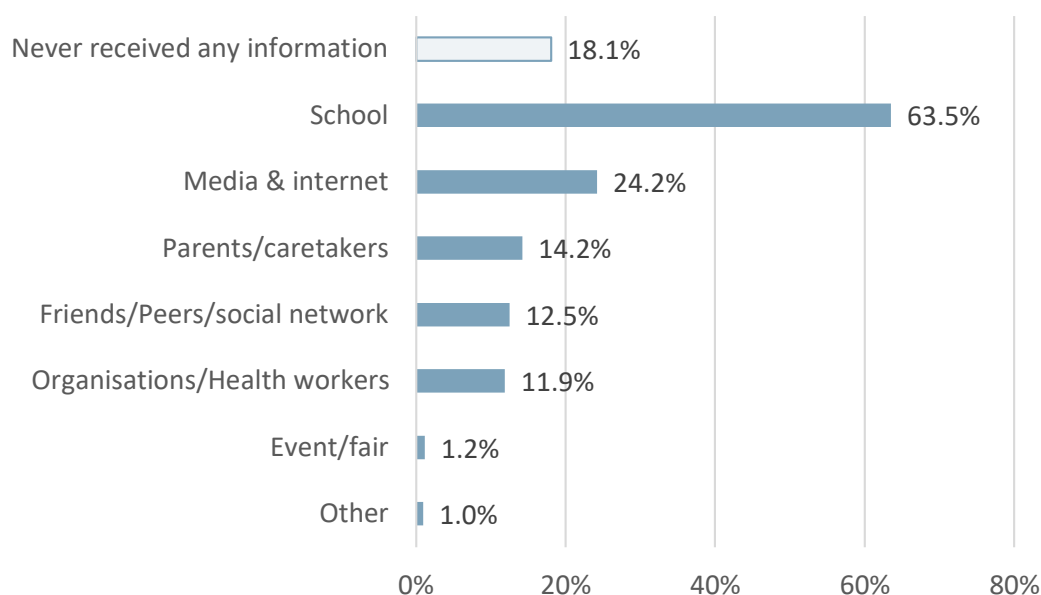
Table 7. UNAIDS indicators

Indicator	Women			Men			All
	Age 15-19 N=152	Age 20-24 N=99	All N=251	Age 15-19 N=163	Age 20-24 N=101	All N=264	N=515
% of young people (aged 15-24) with comprehensive, correct knowledge of HIV, as defined under *	23.7% (36/152)	23.5% (23/99)	23.6% (59/251)	20.9% (34/163)	27.7% (28/101)	23.5% (62/264)	23.5% (121/514)
* % of young people aged 15-24 who:							
- correctly identify the two ways of preventing the sexual transmission of HIV	77.6% (118/152)	77.0% (77/99)	77.7% (195/251)	77.3% (126/163)	76.2% (77/101)	76.9% (203/264)	77.3% (398/515)
- who know that a healthy-looking person can be HIV positive	82.9% (126/152)	80.8% (80/99)	82.1% (206/251)	83.4% (136/163)	86.1% (87/101)	84.5% (223/264)	83.3% (429/515)
- who reject the two most common misconceptions about HIV transmission	32.2% (49/152)	30.6% (30/98)	31.3% (79/250)	28.8% (47/163)	36.6% (37/101)	32.1% (85/264)	31.7% (163/514)
% of young people aged 15-24 who agree that always using a condom when having sex is an effective way of reducing the risk of HIV infection.	87.5% (133/152)	83.8% (83/99)	86.1% (216/251)	87.1% (142/163)	86.1% (87/101)	86.7% (229/264)	86.4% (445/515)
% of young people aged 15-24 who agree that having sex with only one uninfected partner who has no other sex partners is an effective way of reducing the risk of HIV infection.	86.8% (132/152)	86.9% (86/99)	86.9% (218/251)	82.8% (135/163)	88.1% (89/101)	84.8% (224/264)	85.9% (442/515)
% of young people aged 15-24 who reject the misperception that HIV is transmitted by a mosquito (Misperception 1)	62.5% (95/152)	60.6% (60/98)	62.0% (155/250)	60.1% (98/163)	57.4% (58/101)	59.1 (156/264)	60.5% (311/514)
% of young people aged 15-24 who reject the misperception that HIV is transmitted by saliva or kissing (Misperception 2)	45.4% (69/152)	42.4% (42/99)	44.2% (111/251)	42.3% (69/163)	50.5% (51/101)	45.5% (120/264)	44.9% (231/515)
% of young people who reject the misperception that HIV may be transmitted by sharing food with someone who is infected.	68.4% (104/152)	68.7% (68/99)	68.5% (172/251)	71.2% (116/163)	68.3% (69/101)	70.1% (185/264)	69.3% (357/515)

## 4.1 Knowledge about Sexually Transmitted Infections

Respondents were asked whether they had ever obtained information about Sexually Transmitted Infections (STIs) and HIV, and if so, from whom. Most (81.9%, 420/513) young people had obtained some form of STI or HIV information during their lifetime, with no significant differences between women and men, and between 15-19 year olds and 20-24 year olds. The most common source of STI and HIV information was the school, followed by media/internet and parents (Figure 3). “Other” places where people had obtained information included information from a flyer or other written sources, and information from people in another place or village.

Figure 3. Share of persons who had ever obtained STI and/or HIV information, with the information source



We asked people to explain what an STI is. One out of every six persons reported they had never heard about STIs (16.1%, 83/515), and another 10.5% (54/515) conveyed that they had heard about it but could not explain it (Table 9). The study revealed quite some regional differences. In greater Paramaribo (urban region) and Nickerie (rural-coastal), respectively 18.4% (54/294) and 13% (16/123) of interviewees either had never heard of STIs or could not explain what it was. In the rural-interior this figure was much higher: 68.4% (67/98) of respondents was unable to say anything about STIs (i.e. had never heard about it or could not give any explanation). Knowledge about STIs was particularly poor in Kwamalasamutu, where 81.8% (36/44) of respondents had never heard of an STI and another 11.4% (5/44) reported that they had heard of it but could not explain what it was. The remaining three persons from that location provided incorrect answers.

In the total sample, just over half of respondents provided an answer that reflected that they knew that an STI is an illness or infection that may be transmitted through (unprotected) sex (51.7%, 266/515). Some people provided more details, though not always correct. For example:

- Virus that is transmitted from one person to another person via blood, saliva, or sexual contact (Female, 16, Paramaribo)
- Incurable disease you can get through sex with an infected person (Female, 17, Nickerie).
- Viruses than can be transmitted though unprotected sex or wounds (Male, 19, Wanica).

Table 8. Reported descriptions of what is a Sexually Transmitted Infection (N=515)

	N	%
Illness or infection you can get through (unprotected) sex	266	51.7%
Something you can get through sex/some answer related to sex	82	16.0%
Some sort of disease (but cannot explain cause or symptoms)	9	1.7%
Something to do with HIV/AIDS	6	1.2%
Something you get from sex with multiple partners	4	0.8%
Other (mentioned by 1 or 2 persons)	20	3.9%
Heard about it, but cannot explain it	54	10.5%
Never heard about this	83	16.1%

Other people provided an answer indicating that an STI had something to do with sex, but they did not say that it was an illness, infection or virus, and were unclear about the relation between sex and an STI (16.0%, 82/515). Yet others described an STI as some form of illness, but did not make the relation with sexual transmission. They reported, among others:

- It is a dangerous disease of which you do not know that you have it and may transmit it (Female, 18, Nickerie)
- Maybe you just get it; it is an illness and illnesses can just pop up (Male, 19, Kwamalasamutu)
- Illness you cannot see (Female, 18, Paramaribo)
- An illness, but I do not know what kind of illness (Female, 23, Kwamalasamutu)

Six respondents could not describe STIs in general, but believed it had something to do with HIV/AIDS:

- It is a virus, if you cannot cure it, it is AIDS (Female, 16, Nickerie)
- When you have AIDS in you, and you transmit it via sex (Female, 18, Nickerie)

“Other” answers were all mentioned just once, unless indicated otherwise, and included: “Disease you get through blood contact”(N=2), “Smell or bacteria in/on the genitals”(N=2), “A disease you get from breast feeding”, “When you are unhygienic”, “anal sex”, “When it hurts after sex”, “It can be inherited, from mother to child”, “When you get an itchy feeling”, “A disease that can be transmitted when certain bodily fluids get in touch with one another”, “a deadly disease”, “illness you can get through oral sex”, “fungi or something on your lip”, “When you get sex with someone and you do not wash your genitals”, “oral sex”, and “a disease you get when two men have sex”.

Respondents also were asked to list all STIs they knew by name. The results are presented in Figure 4. By far the best known STI is HIV, which was named by 80.8% (416/515) of respondents. In the Maroon villages of the rural-interior (Brokopondo Centrum and Klaaskreek), all but two individuals named HIV (95%, 48/50). In the Trio Indigenous community Kwamalasamutu, by contrast, only 18.2% (8/44) referred to HIV (Figure 4). The next most familiar STIs are gonorrhoea (in Suriname also known as *droipi*) and herpes.

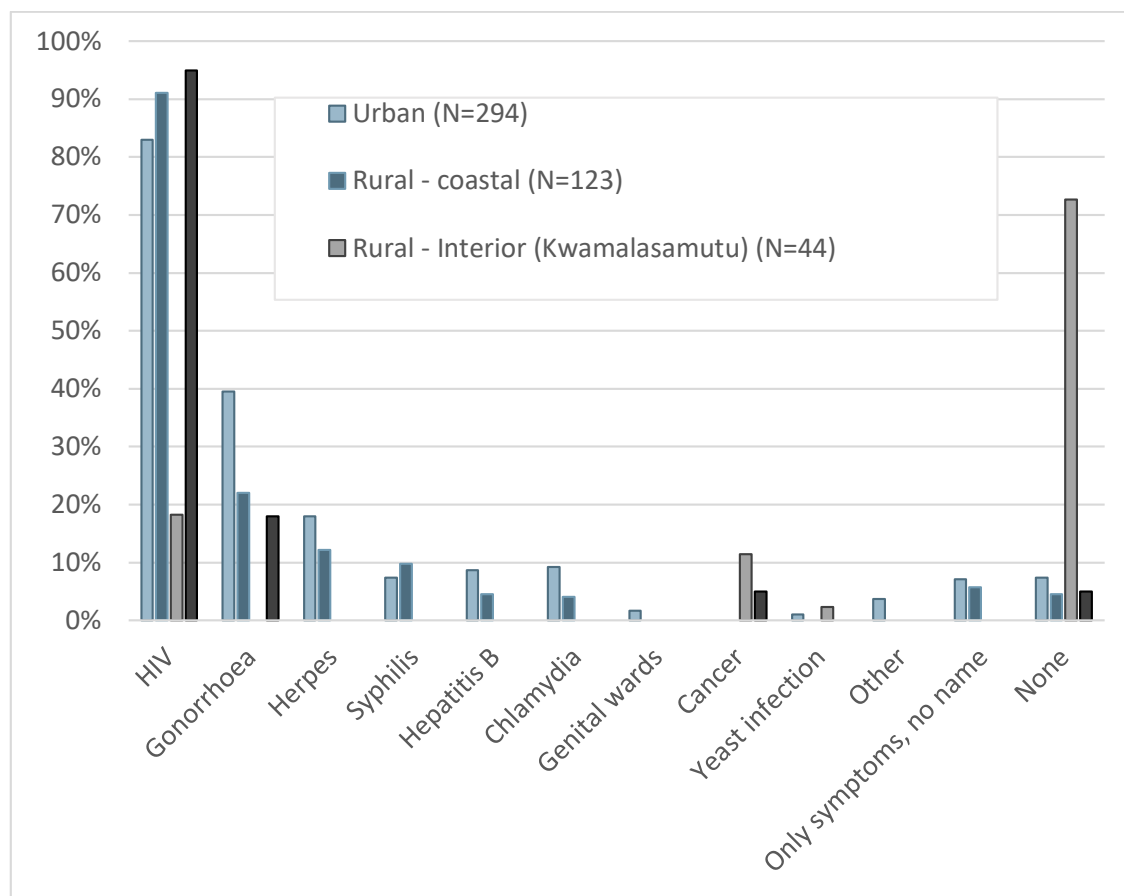


Figure 4. STI names provided by respondents (N=515)

Other presumed “STIs” were only mentioned in Paramaribo, and included: trichomoniasis (2x), blue cheese, crabs, hemeroids, Hepatitis A (2x), headache, eye infection, sickle cell disease, and vaginal disease. Only this first ailment, trichomoniasis, is an STI.

In Kwamalasamutu (rural-interior Sipaliwini), no-one named an STI other than HIV. In fact, almost three-quarters of Trio respondents reported that they could not name any STI (72.7%, 32/44). In all other locations relatively fewer respondents were unable to name any STI. In the urban area (greater Paramaribo), 14.5% of respondents were unable to provide the name of any STI, though some of them were able to name symptoms.

Five respondents from the rural-interior Sipaliwini (11.4%, 5/44) and two persons from the rural-interior Brokopondo villages (5.0%, 2/50) named cancer as an STI, versus none of the respondents from the urban or rural-coastal locations. It is not clear how this idea emerged; it is possible that information surrounding the Human Papillomavirus (HPV) vaccination campaign has been misinterpreted. There were no significant differences between women and men, or between the age groups (15-19 vs. 20-24), with regard to their knowledge of STIs.



Finally, people were asked whether it was possible to get an STI by not washing one's genitals well, or by washing them with dirty water. More than half of the respondents erroneously answered that yes, it is possible to contract an STI this way (54.6%, 281/515). Thirty-eight percent of the research population were aware that one cannot contract an STI by not washing one's genitals well (38.3%, 197/515). The remaining persons did not know. Men were relatively more likely than women to believe that one might become infected with an STI by not washing one's genitals well (62.9%, 166/264 vs. 45.8%, 115/251,  $X^2$ ,  $p < 0.005$ ). There was no significant difference between the age groups or between the different regions.

## 4.2 Knowledge about HIV transmission

### 4.2.1 Ability to identify means of HIV transmission

When asked about the ways in which HIV can be transmitted, the best known way is through (unprotected) sex. Table 10 displays the wide variety of answers that were provided, ranked from most to least named items. Correct answers are shaded green – though many of the “correct” answers were incomplete. For example, if someone reports that HIV may be transmitted through anal sex that is technically correct, but if the person believes that this is the only way through which HIV is transmitted the answer is incomplete. Also, it is correct that one might get HIV infected by having sex with multiple sex partners, but one could be infected by one single partner as well. Yellow shaded areas indicate transmission ways that are theoretically possible, but there are no recorded cases of transmission through these venues. The large number and wide variety of incorrect answers reflects inadequate HIV transmission knowledge among young people ages 15-24.

Almost all persons who provided incorrect answers also gave one or more correct answers. Only 23 persons (4.5%, 23/515) were unable to provide any correct answer. There were large regional differences. In the urban region and the rural-coastal area, respectively 1.0% (3/295) and 0.8% (1/123) of respondents could not name any valid transmission ways, versus almost one in every five persons from the rural-interior (19.6%, 19/97). Particularly in the rural-interior Sipaliwini, HIV transmission knowledge was poor: 38.6% (17/44) of respondents could not name any way through which HIV is transmitted. One woman from Kwamalasamutu conveyed for example: “I heard about it, that there is HIV in the world, but they did not explain what HIV was” (Female, 16, Kwamalasamutu). In this same community, four persons said that they had never heard about HIV.

Table 9. Mentioned ways by which young people believe that HIV is transmitted (N=515)

Transmission way	N	%
Unprotected sex	274	53.2%
Sex	191	37.1%
Blood transfusion	92	17.9%
Blood-blood contact	86	16.7%
Infected needles (drugs users, tatoo)	37	7.2%
Mother to child transmission	22	4.3%
Breast feeding	14	2.7%
Oral sex	8	1.6%
Sex with multiple partners	7	1.4%
Anal sex	6	1.2%
Bodily fluids (sperm, precum, vaginal discharge)	3	0.6%
Sharing sex toys	2	0.4%
Kissing infected person with wound in the mouth	5	1.0%
<b>Through medical or hairdresser/barber instruments that are not properly sterilized</b>	<b>4</b>	<b>0.8%</b>
Saliva/kissing	57	11.1%
Sharing tooth brush	12	2.3%
Rubbing a wound/ wound to wound contact with infected person	13	2.5%
Sharing food/drink with infected person	7	1.4%
Mosquito	6	1.2%
Sweat	2	0.4%
When an infected person sneezes on you	1	0.2%
Swimming in water where an infected person has been swimming	1	0.2%
Drinking HIV-infected blood	1	0.2%
Sex with a person who did not bath	1	0.2%
If infected person has touched his genitals and then touches other without washing hands	1	0.2%
Through DNA, if parent is infected	1	0.2%
Swallowing saliva of infected person	1	0.2%
Not properly washing genitals	1	0.2%
HIV+ person sneezes near you	1	0.2%
Someone can place HIV in your drink	1	0.2%
Sharing underwear	1	0.2%
Being unhygienic	1	0.2%
Sex with animals	1	0.2%
Sex without birth control pill	1	0.2%
Snot	1	0.2%
Hugging infected person	1	0.2%
Being in contact with urine of infected person	1	0.2%
Sitting in chair where HIV+ person was sitting before	1	0.2%
Don't know	20	3.9%

#### 4.2.2 Misperceptions about HIV transmission

Respondents were presented with six popular misperceptions about HIV transmission:

1. HIV can be transmitted by a mosquito
2. One can be infected with HIV through saliva, e.g. French kissing
3. One cannot be infected with HIV through oral sex
4. HIV can be transmitted through sweat
5. HIV can be transmitted by sharing a meal with someone who is HIV+
6. If another STI remains untreated, it may turn into HIV

Respondents were asked whether they agreed or disagreed with the statements, or did not know. The results for the total sample are displayed in Figure 5 below.

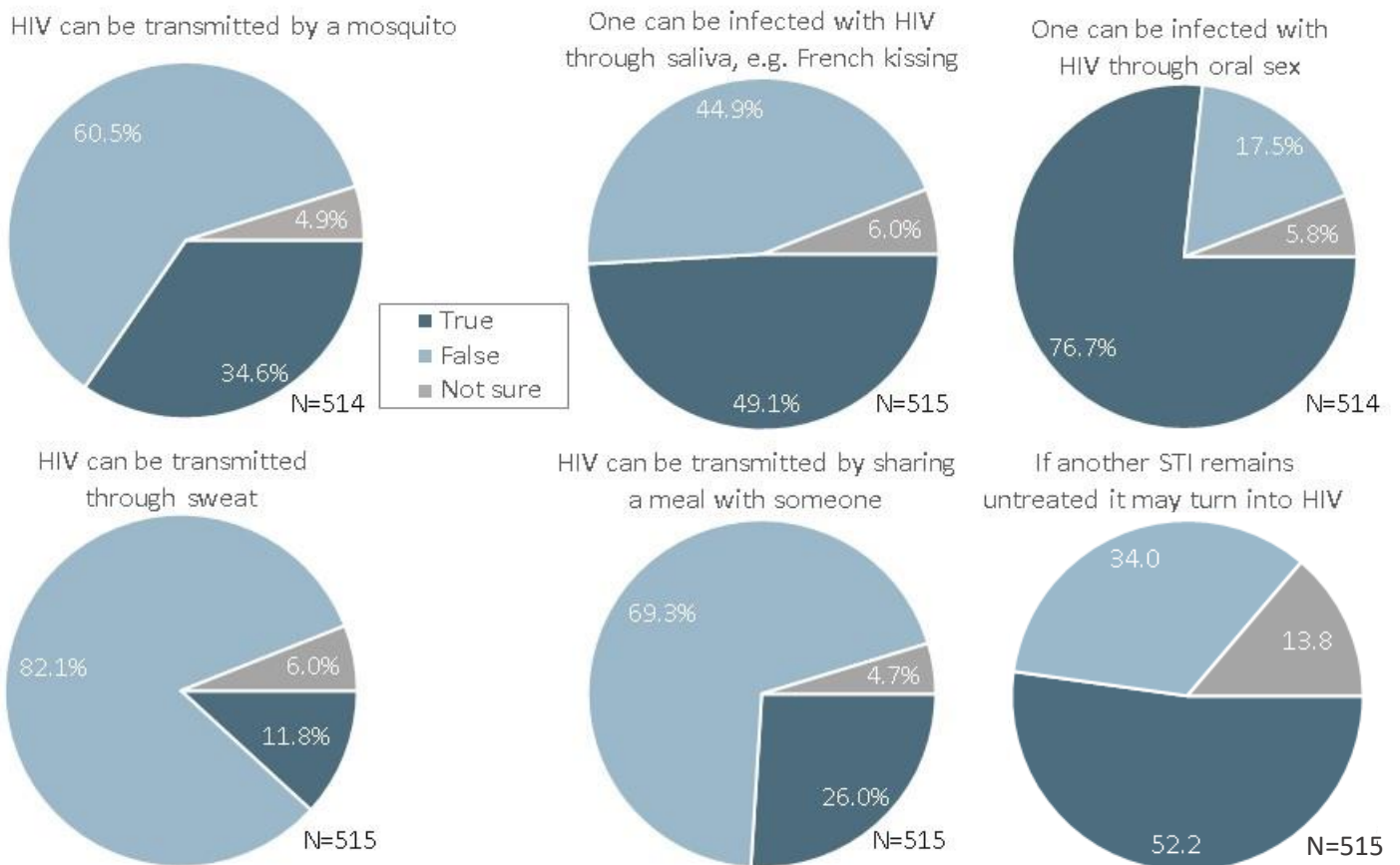


Figure 5. Responses to popular misconceptions about HIV transmission

The results of the true-false questions confirm that among young people (15-24), misperceptions about HIV transmission are widespread. The most common misperception is that HIV can be transmitted through saliva, e.g. French kissing. Understandably, it is confusing that HIV cannot be passed to other people through kissing, because HIV can be detected in saliva and oral swaps are used to test for HIV<sup>7</sup>. Less than half of respondents (44.9%, 231/515) rejected the true/false statement: “HIV can be transmitted through saliva, e.g. French kissing”.

Also many young people were uncertain about the possibility of a mosquito transmitting HIV. They started reasoning that the mosquito could draw blood from an infected person, and next fly to another person and insert its sting with infected blood there, so that there would be an exchange of blood. In a country like Suriname, where mosquito-borne diseases are widespread, this reasoning is logical. If a mosquito can transmit yellow fever, malaria, dengue, chikungunya and zika, why not HIV?<sup>8</sup>

The results suggest that HIV-related knowledge is fragile, i.e., people doubt about many answers. For example, to an open question on how HIV is transmitted, only seven persons (1.4%) named sharing food or drinks with an infected person, and two (0.2%) persons named contact with sweat from an infected person (Table 10). Yet when confronted with true/false statements, respectively 26.0% (134/515) and 11.8% (61/515) of surveyed young people answered in the affirmative that yes, HIV can be transmitted through these venues.

The sixth statement read: “If another STI remains untreated, it may turn into HIV”. This statement was not taken from existing HIV/AIDS studies, but added because the team’s HIV specialist had noticed that several young people who visited the STI clinic at Suriname’s Dermatological Service (*derma*) expressed this thought. One third of respondents erroneously believed this statement to be true (34.0%, 175/515).

The two most popular misperceptions were that one can be infected with HIV through saliva, e.g. French kissing, and that a mosquito can transfer HIV. In total, 31.7% of young people (163/514) rejected both most common misperceptions about HIV transmission. There was no significant difference between women and men, or between younger (15-19) and older (20-24) people.

For all statements, young people from the rural-interior Sipaliwini were least likely, as compared to young people from the three other regions, to know the correct answer.

### 4.3 General knowledge about HIV

More than three-quarters of respondents had never met someone living with HIV (77.4%, 397/513). One person was not sure, and the remaining 22.4 percent of respondents (115/513) knew someone or had met someone living with HIV. People in the ages 20-24 were significantly more likely to know or have met someone living with HIV than young people aged 15-19 (resp. 29.8%, 59/198 versus 17.8%, 56/315,  $X^2$ ,  $p < 0.005$ ). Also, women were more likely than men to know or have met someone living with HIV (27.5%, 69/250 versus 17.5%, 46/263  $X^2$ ,  $p < 0.05$ ). There was no significant difference between the regions, but there was a large difference between the Indigenous community (rural-interior Sipaliwini) and the Maroon communities (rural-interior Brokopondo) in the rural-interior. Very few persons in Sipaliwini knew or had ever met someone living with HIV (9.1%, 4/44). Those who had met someone all referred to the one same

<sup>7</sup> A combination of antibodies and enzymes found naturally in saliva prevent HIV infecting new cells.

<sup>8</sup> HIV lives for only a short time inside an insect and, unlike organisms that are transmitted via insect bites, HIV does not reproduce (and does not survive) in insects.

case in one of the Southern Trio communities. In the Maroon communities of Brokopondo, 30.2% (16/53) of respondents had met or knew someone living with HIV.

Respondents also were presented with three true-false statements to test general knowledge about HIV (Figure 6). The grand majority of respondents knew that a healthy looking person can be HIV positive (83.3%, 429/515), 4.1% of respondents reported that they were not sure (21/515) and 12.6% refuted the statement, i.e. they believed that it is visible when a person is HIV positive (65/515) (Figure 6). There was no significant difference between the age groups 15-19 and 20-24, or between women and men. There is quite some confusion about the difference between HIV and AIDS, with almost one third of respondents believing that they are the same (31.8%, 164/515) (Figure 6).

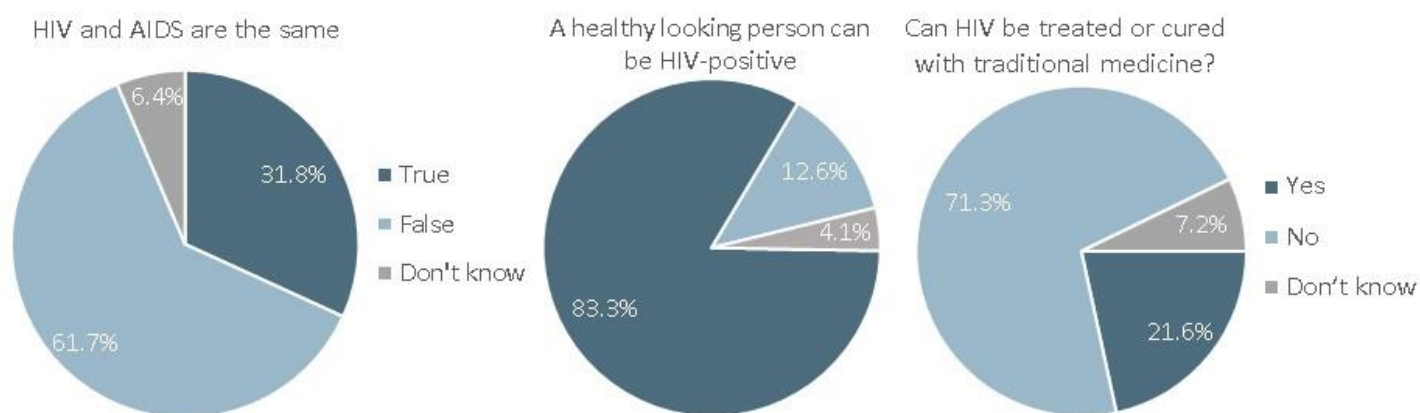


Figure 6. Answers to two general statements and one question about HIV (N=515)

When asked if HIV can be treated or cured with traditional medicine, such as home remedies (*oso dresi*) or forest medicine (*busi dresi*), one out of five respondents answered in the affirmative (21.6%, 111/515); 71.3% (367/515) of respondents reported that it was not possible to treat or cure HIV with traditional medicine; and the remaining persons did not know. Particularly in the rural-interior Sipaliwini, many respondents reported that they believed that traditional medicine can treat or cure HIV (40.9%, 18/44).

#### 4.4 Knowledge about HIV prevention

To test respondents' knowledge about HIV prevention, they were asked the question: "Is X an effective (good) way to reduce the risk of HIV infection, or to protect yourself against HIV, when you have a sexual relationship with someone?" The listed measures were:

- Washing your genitals well
- Always using a condom when having sex
- Looking whether your sex partner has wounds/ulcers in his/her genital area
- Having sex with only one partner, who is not infected with HIV and who does not have sex with others
- Praying to God that you will not get it

The results are presented in Figure 7 below. The results suggest that knowledge of measures to reduce HIV infection risk is inadequate. On the bright side, the grand majority of respondents agreed that using a condom (86.4% said "yes", 445/515) and having sex with only one partner who is not infected with HIV

and has no other partners (85.8% said “yes”, 442/515), are effective measures to protect oneself against HIV. Some of the people who disagreed that these are effective measures said, for example, that condoms can burst, or that one can never be sure about what one’s partner does.

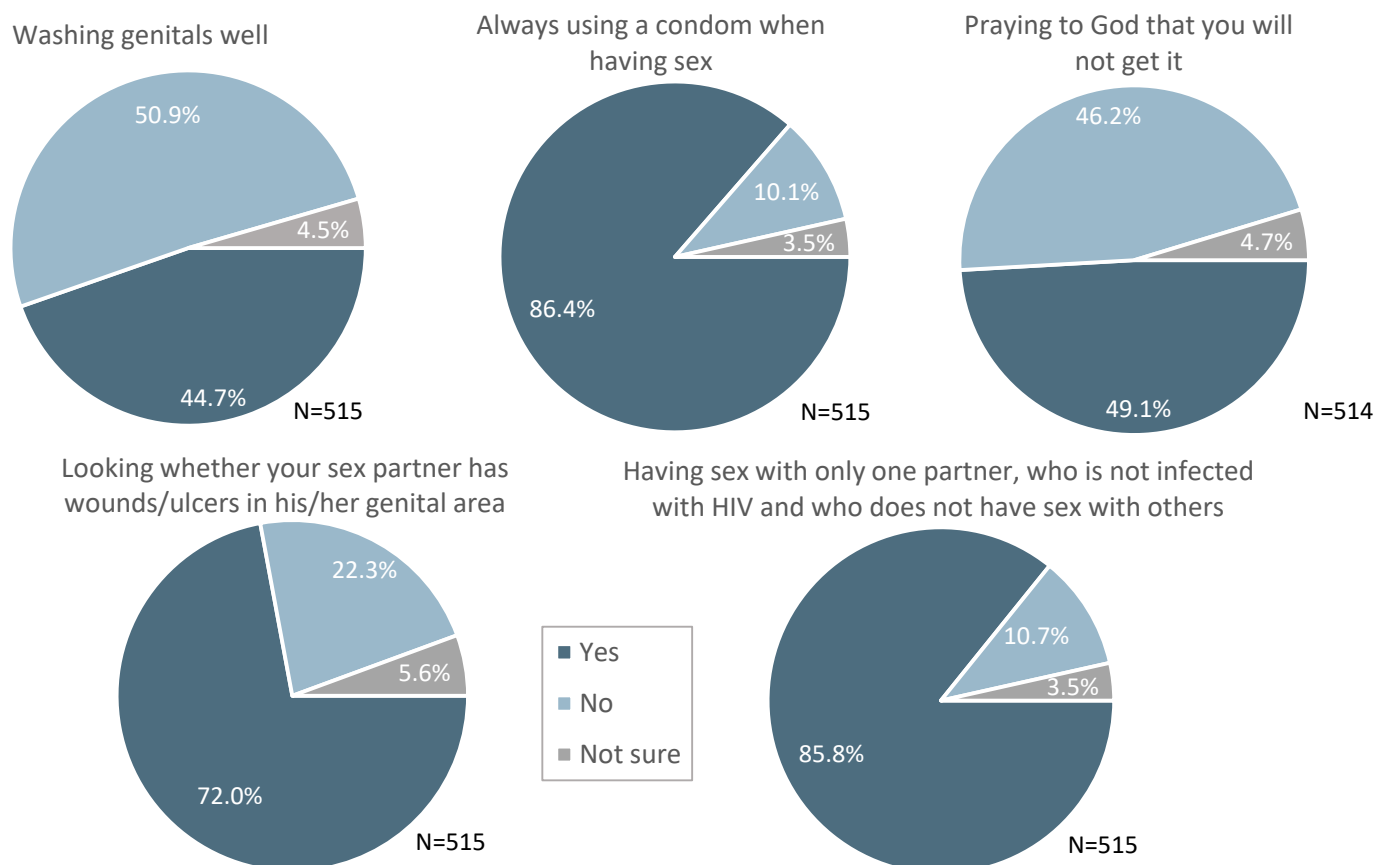


Figure 7. Is the following measure an effective way to reduce the risk of HIV infection if you have a sexual relationship with someone?

Substantial numbers of young people, however, also believed that other, not proven measures were effective in warding off HIV. Almost three-quarters of surveyed young people believed that checking whether your sex partner does not have wounds or ulcers in the genital area is an effective way to reduce the risk of getting infected with HIV (72%, 371/515); and half of respondents agreed that praying to God is an effective way to reducing infection risk (49.1%, 253/515).

There were no major differences between women and men, and between the different age groups with regard to their knowledge of protective measures. There is one exception: significantly more women than men believe that praying to God is an effective way to reduce the risk of HIV transmission (53.0%, 133/251 versus 45.5%, 120/264,  $X^2$ ,  $p < 0.05$ ).

The data show substantial regional differences in knowledge about effective (proven) measures to protect oneself against HIV. Answers provided in the urban area, the rural-coastal area, and Brokopondo district were quite similar. Meanwhile in the rural-interior Sipaliwini, relatively fewer young people displayed accurate knowledge on measures to protect oneself against HIV. The large difference between the results for Brokopondo and Sipaliwini, which are both part of the rural-interior, can be explained by differences

in acculturation and formal education. The visited Maroon communities in Brokopondo have more contact with the urban area and better access to communication means and health information than people in the remote Indigenous community that was visited in Sipaliwini.

One exception was the question: Is checking if your sex partner has wounds or ulcers in his/her genital area an effective way to protect yourself against HIV? While wounds or ulcers can be an indication of a variety of STIs, they are not signs of HIV infection. As compared to the urban and rural-coastal areas, relatively more persons in the rural-interior communities answered this question correctly (Table 11).

*Table 10. Percentage of respondents who provided correct answers to questions concerning the proven efficiency of specified measures in preventing becoming infected with HIV, by region.*

Is this an affective measure to protect yourself against HIV?	Correct answer ↓	Urban	Rural-coastal	Rural-interior	
				Brokopondo (Maroon)	Sipaliwini (Indigenous)
N		295	123	53	44
Having sex with only one uninfected partner, who does not have sex with others	Yes	88.1% n=260	91.1% n=112	84.9% n=45	56.8% n=25
Always using a condom when having sex	Yes	90.5% n=267	83.7% n=103	90.6% n=48	61.4% n=27
Washing genitals	No	56.6% n=167	52.8% n=65	45.3% n=24	13.6% n=6
Praying to God that you will not get it	No	52.5% n=128	52% n=64	32.1% n=17	4.5% n=2
Check whether your sex partner has wounds/ulcers in his/her genital area	No	21.7% n=64	17.1% n=21	28.3% n=15	34.1% n=15

## 4.5 Comprehensive knowledge

In order to calculate the share of young people (aged 15-24) with comprehensive, correct knowledge of HIV, the USAID definition was used. Having comprehensive knowledge was defined as:

% of young people aged 15-24 who

- Correctly identify the two ways of preventing the sexual transmission of HIV when you are sexually active, namely:
  - o Agree that always using a condom when having sex is an effective way of reducing the risk of HIV infection.
  - o Agree that having sex with only one uninfected partner who has no other sex partners is an effective way of reducing the risk of HIV infection.
- Know that a healthy-looking person can be HIV positive.
- Reject the two most common misconceptions about HIV transmission, namely:
  - o Know that HIV is not transmitted by a mosquito.
  - o Know that HIV is not transmitted through saliva, e.g. French kissing.

Using this definition, 23.5% (121/514) of young people aged 15-24 have comprehensive knowledge of HIV. There was no significant difference between women and men or between the age groups in the extent to which they had comprehensive knowledge of HIV (Table 7). There were quite substantial differences between the regions, which were and statistically significant at the 0.5% level ( $X^2$ ) (Figure 8).

Persons who knew someone, or had met someone, living with HIV were significantly more likely than others to have comprehensive knowledge of HIV (33.0%, 38/115 versus 21.0%, 83/396,  $X^2$ ,  $p < 0.05$ )

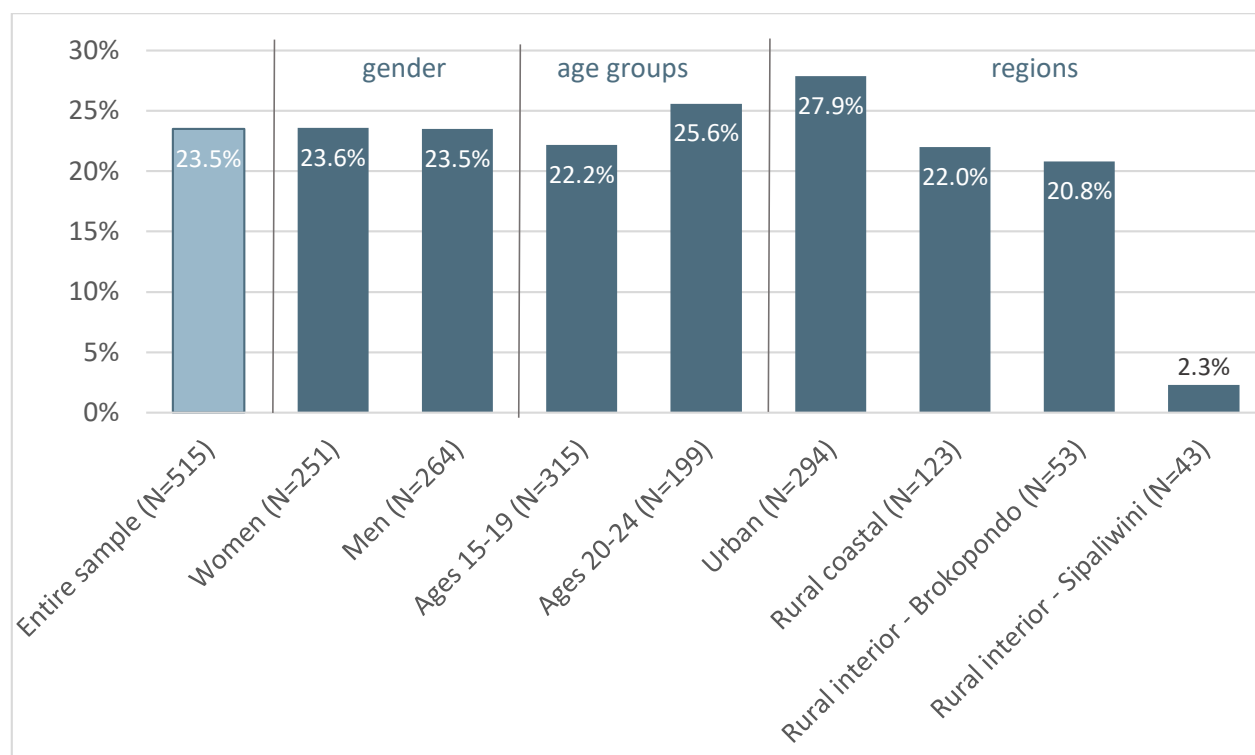


Figure 8. % of young people having comprehensive knowledge of HIV, by gender, age group and region.

#### 4.6 Knowledge of the window period

The window period for an HIV test refers to the time between HIV exposure and when a test can detect HIV in your body. The window period depends on the type of HIV test used.

In Suriname, guidelines of the Ministry of Health Dermatological Service prescribe a window period of six weeks to three months for the types of tests used by this VCT site. Twelve percent (62/515) of the sample named either 6 weeks or three months as the window period. This figure was 13.9% for respondents from greater Paramaribo (urban; 41/295), 6.5% (8/123) for respondents from the rural-coastal zone, and 13.4% (13/97) for those from the rural-interior (Figure 9). Particularly in the rural-interior Sipaliwini, and to a lesser extent in the rural-coastal zone, many people believed that one could go test immediately the day after exposure. In the total sample, almost a third of respondents reported a window period of between one and five weeks (31.8%, 164/515), particularly in Brokopondo (39.6%, 21/54).

More than a quarter of respondents reported that they did not know how long one should wait before taking an HIV test after exposure to HIV (26.8%, 138/515). Especially people in the rural-interior



Brokopondo (32.1%, 17/54) and from the rural-coastal (31.7%, 39/123) areas were likely to report that they had no idea about the window period (Figure 9).

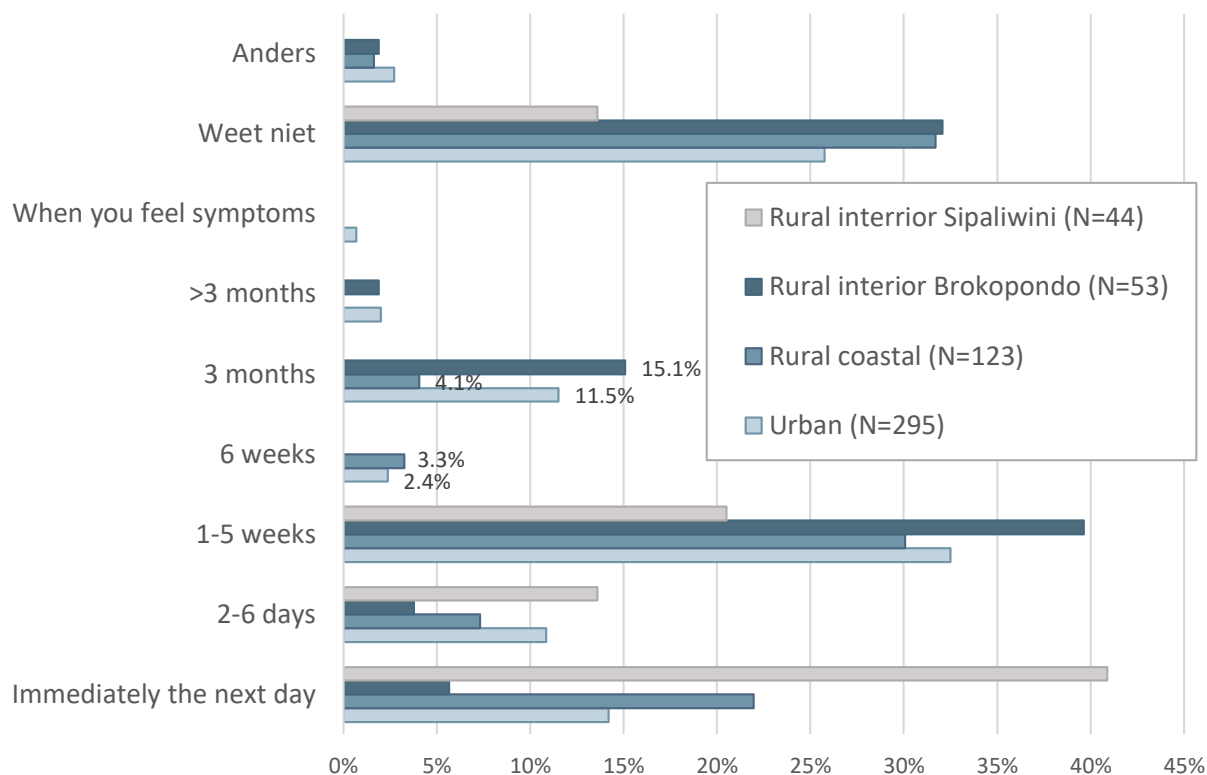


Figure 9. Answers to the question: “After exposure to HIV, how long do you need to wait before HIV could be detected by an HIV test?”

#### 4.7 Perception of own knowledge

As the final question in the survey, young people ages 15-24 were asked whether they believed that during their lives, they had received sufficient information about STIs and HIV to make well-informed decisions about their sexual lives. Just over a third of respondents reported that they had received sufficient information (36.7%, 189/515), with men being significantly more likely than women to report that they had received sufficient knowledge (40.2%, 106/264 versus 33.1%, 83/251,  $X^2$ ,  $p < 0.001$ ). Among the people who did not have comprehensive knowledge of HIV, more than one third believed that they had received sufficient knowledge for good life decisions (34.9%, 137/393). Also, 29.8% of those believing that HIV may be transmitted by a mosquito, reported that they had received sufficient information about HIV during their lives (53/178).

Considering the different regions, we see again a discrepancy between the rural-interior Sipaliwini and the other regions. In the rural-interior Sipaliwini, no-one reported having received sufficient knowledge about STIs and HIV. In the other regions, the figures were similar to each other: 42.4% of young people in the urban areas; 35.0% of young people in the rural-coastal area; and 39.6% of young people in the rural-interior Brokopondo asserted that they had received sufficient information about STIs and HIV to make good decisions about their sexual lives.

These data demonstrate that in all areas, the majority of young people feel that they have received insufficient information about STIs and HIV to make well-informed decisions about their sexual lives.



## 5 Attitudes

### 5.1 Discriminatory attitudes towards people living with HIV

Table 11. UNAIDS indicators<sup>9</sup>

Indicator	Women			Men			All
	Age 15-19 N=134	Age 20-24 N=87	All N=222	Age 15-19 N=152	Age 20-24 N=96	All N=248	
% of young people (aged 15-24) who report discriminatory attitudes towards people living with HIV, as defined under * (Excluding rural-interior Sipaliwini)	47.8% (64/134)	40.9% (36/88)	45.0% (100/222)	38.8% (59/152)	48.4% (46/95)	42.5% (105/247)	43.7% (205/469)
* % of young people aged 15-24 who respond “no” to either of the two questions:							
- Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV? %No	44% (59/134)	36.4% (32/88)	41.0% (91/222)	33.6% (51/152)	40.0% (38/95)	36.0% (89/247)	38.4% (180/469)
- Do you think that children living with HIV should be able to attend school with children who are HIV negative? %No (Excluding rural-interior Sipaliwini)	17.2% (23/134)	20.5% (18/88)	18.5% (41/222)	17.8% (27/152)	26.3% (25/95)	21.1% (52/247)	19.8% (93/469)

<sup>9</sup> The denominator for all these questions is the number of all respondents (15–24) who have heard of HIV. Because in Kwamalasamutu many persons reported that they had never heard of HIV, Kwamalasamutu respondents were excluded from this data table.

To assess young people’s attitudes towards people living with HIV, we presented respondents five hypothetical situations, and asked them what they would do. We emphasized that there were no right or wrong answers, we just wanted to know their opinions. We asked people: “Imagine yourself in the following situation. What would you do or what is your opinion?” The situations were:

1. You know that the cook of a restaurant is HIV positive. Will you go eat there?
2. You heard a friend of yours is HIV positive. You are invited to his/her birthday. Will you give him/her a hug?
3. You just started a new relationship and you are madly in love with the person. Now he/she tells you that he/she is living with HIV. Will you break up?
4. Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV?
5. Do you think that children living with HIV should be able to attend school with children who are HIV negative?

The denominator for these questions is the number of all respondents (15–24) who have heard of HIV. Because in Kwamalasamutu (rural-interior Sipaliwini) many persons reported that they had never heard of HIV, Kwamalasamutu respondents were excluded from this section. The results are displayed in Figure 10 below.

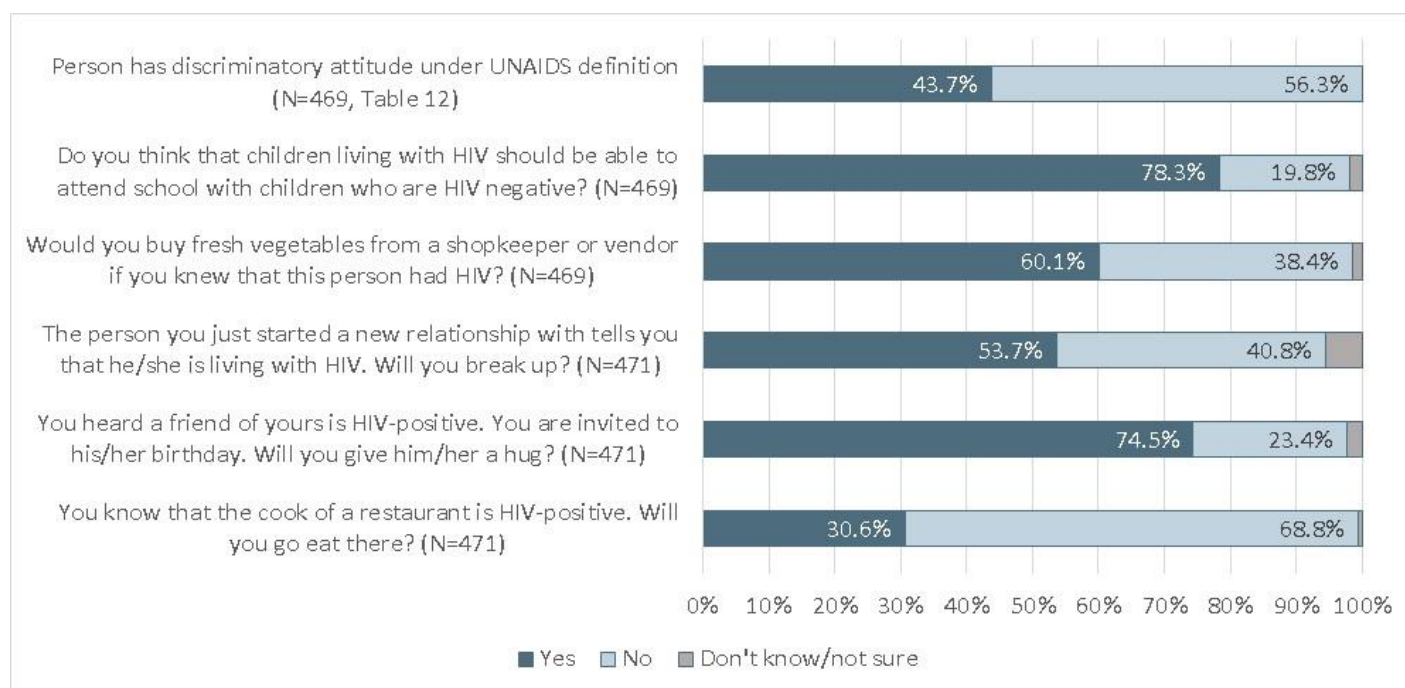


Figure 10. Share of respondents with discriminatory attitudes based on specific statements, N=471

The findings show that discriminatory attitudes towards people living with HIV are widespread. A staggering 68.8% (324/471) of young people in the ages 15-24 would not eat in a restaurant if they knew that the cook is HIV positive. One out of every five young persons is of the opinion that children living with HIV should not be allowed to attend school with children who are HIV negative (19.8%, 93/469) and almost two out of every five young people (38.4%, 180/469) would not buy fresh vegetables from a shopkeeper or vendor if they knew that this person had HIV.

There were no significant differences between women and men in their attitudes towards people living with HIV, nor between the two age groups 15-19 years and 20-24 years. We do see differences in acceptance of people living with HIV in the different regions though, with attitudes being relatively least accepting in the rural-interior (excluding Kwamalasamutu). In the rural-interior, 60.4% (32/53) of respondents displayed a discriminatory attitudes towards people living with HIV, versus respectively 41.6% (122/293) and 41.5% (51/123) in the urban area and the rural-coastal area. A staggering 84.9% (45/53) of rural-interior respondents would not eat in a restaurant if they knew the cook was HIV positive.

Persons who knew or had met someone living with HIV were significantly less likely than others to display discriminatory attitudes towards people living with HIV (31.5%, 31/111 versus 47%, 167/355,  $X^2$ ,  $p < 0.01$ )

## 5.2 Risk perception

Respondents were asked what they believed were the chance that they would, at some point in their lives, become infected with HIV. The answers are displayed in Figure 11. Almost one third of respondents believed they had no chance of becoming infected with HIV (30.9%, 159/514). Most of those who believed that there was a chance that they would ever become infected with HIV, believed that this chance was small (44.9%, 231/514).

The main reasons for believing to not be at risk included that the person was faithful to his/her partner, and/or was convinced that the partner was faithful to him/her (Table 13).

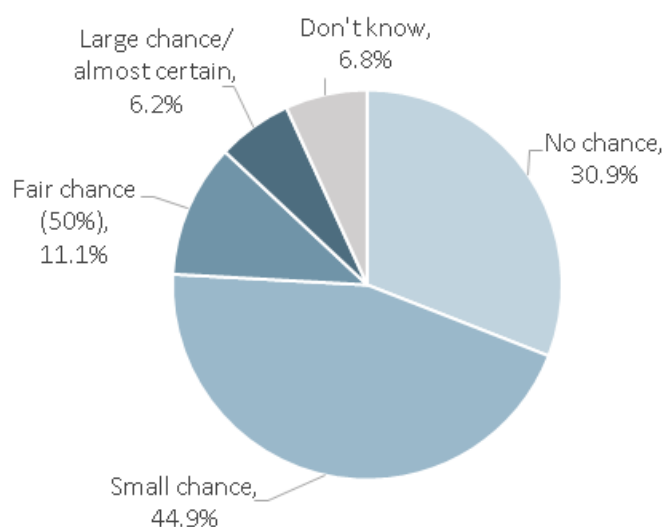


Figure 11. What do you believe are the chances that you will ever become infected with HIV? (N=514)

**Table 12. Reasons for believing that one is not at risk of becoming infected with HIV, ever (N=159)**

I am faithful to my partner	36	22.6%
I believe my partner is faithful to me	27	17.0%
I use condoms every time I have sex	27	17.0%
I will always use condoms in the future/I will always protect myself	12	7.5%
I am always careful/will always be careful	11	6.9%
I am watchful about who I have sex with/I do not just have sex with anyone	10	1.9%
I use condoms when I have sex with a casual partner	6	3.8%
I only have one partner/plan to stay with one partner	6	3.8%
I will not have sex/be in a relationship for the time being	3	1.9%
I will look/ask if the person is ill	3	1.9%
I will test my partner(s) and use condoms	2	1.3%
My partner and I are both virgins	2	1.3%
Never had sex/am not in a relationship	2	1.3%
I pray to god	2	1.3%
Other	11	6.9%
Don't know	8	5.0%

Many respondents referred to their use of condoms to explain why they believed that they were not at risk of ever becoming infected with HIV. They reported, for example, that they used or would use condoms: every time they had sex; always in the future; every time they had sex with a casual partner; or “sometimes”. Other people were less explicit; explaining that they were always, or would always be, “careful”. “Other” responses (only mentioned once) included: I will test before I have sex with someone; I will only have sex once I am married, and we will take an HIV test before we get married; I sometimes use condoms; I do not have sex with a lot of people; I only have sex with virgins; I love the mother of my baby; I want a partner without HIV, and I will be loyal to that partner; I never want to have sex in my life; I am spiritually strong; Both me and my partner have tested negative.

People who believed that they did have a chance –small or large- to ever become infected with HIV, justified this mostly by stating that one cannot know what one’s partner does (Table 14). More than half of those who believed that there was a risk, provided this answer. Related answers were that the person knew or suspected that his or her partner also had sex with other partners, and that one cannot know or see that one’s partner is HIV positive. The second and third most often mentioned reasons to acknowledge being at (some) risk of HIV infection were related to (inconsistent) condom use (Table 14).

**Table 13. Reasons to believe that there is a risk, small or large, that one might become infected with HIV at some point in one’s lifetime (N=319)**

You never know what your partner does	165	51.7%
I do not always use condoms when I have sex	54	16.9%
Condoms can burst/can fail	24	7.5%
You cannot know/see if your sex partner is HIV positive	18	5.6%
I know/suspect my partner has other sex partners	16	5.0%
I have (had) multiple partners/plan to have multiple partners	15	4.7%
Something can happen, you are not always prepared/careful	13	4.1%
Your sex partner may not tell you/may not know he or she is infected	7	2.2%
I do not know if my future sex partner will have it	6	1.9%
As long as you have unsafe sex/sex without a condom, you are at risk	3	0.9%
My sex partner has had other sex partners before	3	0.9%
It is possible that I will have sex with someone before we go test	2	0.6%
I will be more sexually active in the future	2	0.6%
In cases of rape/forced sex	2	0.6%
Other	15	4.7%
Don't know	9	2.8%

Answers that were categorized under “anything can happen/you are not always prepared/careful” included a variety of situations where people felt that things were beyond their control, including: “You can be under influence of something and not be careful”, “Sometimes you are just fired up, then you will do it without a condom”, and “If it happens that I do not have condoms with me”. “Other” answers that were only mentioned once, were very diverse and included:

- Because of the sun, anything is possible
- I may not always use a condom in the future
- If I say that there is no chance, I will actually get infected



- Through blood-contact
- I have plans to visit night clubs
- I make stupid choices
- I work in a hospital, something can go wrong
- I see that I am getting skinny, and I know my partner has another woman
- You can forget to ask your sex partner about his/her HIV status
- You cannot know if you get it, it may come as a surprise.
- You may get it from the barber (instruments)
- I am not sure if I will always have sex with just one partner
- Because I have sex
- The risk is high, but I am responsible so I keep the risk as small as possible.
- The medical doctor may use dirty needles

Both among those who did not believe to be at risk, those who believed to be at (some) risk for HIV infection, most answers reflected reasonable perceptions of HIV risk exposure. For example, people who are faithful to their partner while the partner is faithful to them, as well as people who always use condoms when having sex, are exposed to very low (or virtually no) HIV transmission risk. Meanwhile uncertainty about the actions of one's partner and not always using condoms were rational reasons to feel that one does have a risk to become infected with HIV.

Other young people, however, provided answers that suggested inadequate knowledge of HIV transmission and how to prevent it. For example, a number of individuals believed to not be at risk for HIV infection because they prayed to God, or would look or ask if the sex partner is ill. Others believed that they would be exposed to HIV through the barber (which is not a proven way of HIV infection) or as a result of rape/forced sex. The latter answer ignores that HIV is most often transmitted through consensual sex.

### 5.3 Willingness to test for HIV

Willingness to test for HIV was quite high. The grand majority of respondents reported that they would not be offended if a new partner would ask them to perform an HIV test prior to having sex (86.9%, 446/513). There was virtually no difference between women and men, or between the age groups in willingness to test for HIV if requested by a new partner.

When considering the different regions, we find that as compared to young people from other regions, respondents from the rural-interior Sipaliwini had a more negative attitude towards HIV testing. In the latter area, 61.4% (27/44) of surveyed young people reported that they would be offended if, in a new relationship prior to having sex, their partner would ask them to conduct an HIV test. In the urban area, the rural-coastal area, and the rural-interior Brokopondo, respectively 6.8% (20/294), 9%, (11/122) and 17% (9/53) of young people reported that they would feel offended if a new partner would ask to perform an HIV test prior to having sex.

## 6 Behaviour

Table 14. Sexual experience and test behaviour among young people aged 15-24

Indicator	Women			Men			All
	Age 15-19	Age 20-24	All	Age 15-19	Age 20-24	All	
Had sex (oral, vaginal or anal)	55.3% (84/152)	88.9 (88/99)	68.5% (172/251)	63.2% (103/163)	92.1% (92/101)	73.9% (195/264)	71.3% (367/515)
<b>Age of sexual debut</b>							
Age of first sexual activity (oral, vaginal or anal sex), Mean	15.4 (8-18) N=82	16.7 (13-21) N=88	16.1 (8-21) N=170	15.3 (9-19) N=103	15.5 (7-23) N=92	15.4 (7-23) N=195	15.7 (7-23) N=365
Median age of first sexual activity	16	17	16	15	16	15	16
% Early sexual debut (having had first sexual encounter at or before age 14), complete sample	12.6% (19/151)	12.1% (12/99)	12.4% (31/250)	23.2% (38/163)	28.7% (29/101)	25.4% (67/264)	19.1% N=514 (98/514)
<b>Number of sex partners</b>							
Mean number of sex partners in past 12 months <sup>10</sup> (range), only those who were sexually active.	1.3 (0-10) N=82	1.4 (0-7) N=86	1.4 (0-10) N=169	2.2 (0-10) N=103	2.6 (0-10) N=92	2.4 (0-10) N=194	1.9 (0-10) N=363
Median number of sex partners in past 12 months, among those who were sexually active	1	1	1	1	2	1	1
% of young people (15-24) who have had sex with more than one partner in the last 12 months, of all young people surveyed	11.3% (17/151)	20.4% (20/98)	14.9% (37/249)	26.4% (43/163)	49.0% (49/100)	35.0% 92/263)	25.2% (129/512)

<sup>10</sup> For the sake of calculating the mean number, each response >10 was set at 10.



Indicator	Women			Men			All
	Age 15-19	Age 20-24	All	Age 15-19	Age 20-24	All	All
<b>High risk sex and condom use</b>							
% of young people (15-24) who had high risk sex <sup>11</sup> in the last 12 months, of all respondents reporting sexual activity in the last 12 months.	84.8% (67/79)	62.8% (54/86)	73.3% (121/165)	97.8% (87/89)	87.2% (75/86)	92.6% (162/175)	83.2% (283/340)
% of young people (15-24) who say they used a condom the last time they had sex with a non-marital, non-cohabiting partner, of those who have had sex with such a partner in the last 12 months	41.2% (28/68)	28.8% (15/52)	35.8% (43/120)	42.5% (37/87)	49.3% (37/75)	47.7% (74/162)	41.5% (117/282)
% of young people (15-24) who had more than one sexual partner in the past 12 months reporting the use of a condom during their last sexual contact (oral, vaginal, anal)	35.3% (6/17)	36.8% (7/19)	36.1% (13/36)	34.9% (15/43)	44.9% (22/49)	40.2% (37/92)	39.1% (50/128)
<b>HIV test behaviour</b>							
% of young people (15-24) aged 15-49 who received an HIV test in the last 12 months and who know their results	7.9% (12/152)	24.2% (24/99)	14.3% (36/251)	1.2% (2/163)	7.9% (8/101)	3.8% (10/264)	8.9% (46/515)

<sup>11</sup> High risk sex is defined as sex with a non-marital, non-cohabiting partner

## 6.1 Sexual activity: age of sexual debut and number of sex partners

For the purpose of this study, sex was defined as oral, vaginal or anal sex. In the total sample, 71.3% of respondents had had sex. There was no significant difference between women and men in the likelihood that they had been sexually active. People in the ages 20-24 were more likely than 15-19 year olds to have had sex (Table 14). Two thirds of the interviewed young people had had sex in the past 12 months (66%, 340/515).

As compared to young women, young men start relatively earlier with sex. Women were, on average, 16.1 years of age when they first had sex (range 8-21), with a median age of first sexual experience of 16. The average age of first sexual experience for men was 15.4 (range 7-23), with a median age of 15 (Table 14). Twelve percent (12.4%, 31/150) of young women and 25.4% (67/264) of young men had had an early sexual debut; which was defined as having had first sexual encounter at or before age 14<sup>12</sup> ( $X^2$ ,  $p < 0.001$ ).

The average young man had had 2.4 sexual partners in the past 12 months, which was significantly more than the average young woman (Mean 1.4 sexual partners) (t-test,  $p < 0.001$ ). For both women and men, the median number of sexual partners in the past 12 months was 1. In all regions, the majority of sexually active young people reported to have had one sex partner in the past year (Figure 12)

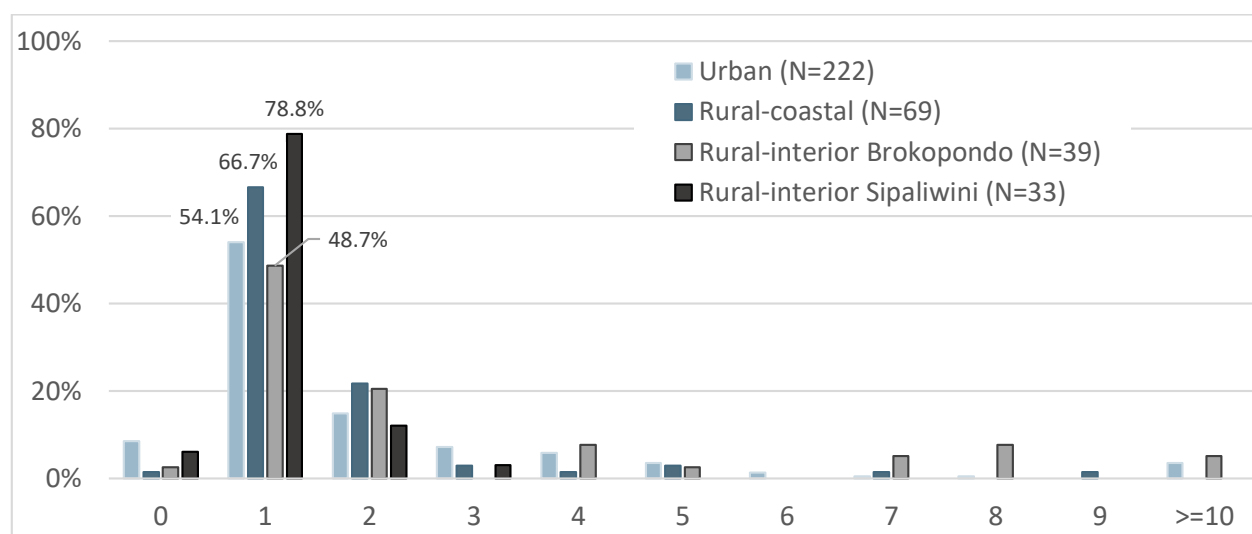


Figure 12. Number of sex partners in the past 12 months among those who are sexually active, by region

The data show significant differences in sexual activity between the regions. As compared to young people in the urban area and the rural-interior, young people in the rural-coastal region were relatively less likely to be sexually active, started later with sex, and had fewer sex partners. For example, 57.7% (71/123) of respondents from the rural-coastal area had had sex at some moment in their lives, versus respectively 75.6% (223/295) of young people in the urban area and 75.3% (73/97) of young people in the rural-interior. Also, in the rural-coastal region, 5.7% (7/123) of young people reported early sexual debut, versus 20.6% (62/301) in the urban area and 30.2% (29/96) in the rural-interior. Young people in the rural-coastal area

<sup>12</sup> In the literature, early sexual debut is commonly defined as having had first sexual *intercourse* at or before age 14. In this study, oral sex was also included, and hence “intercourse” was replaced with “activity”. It is likely that the age of first sexual intercourse was slightly higher.

not only started later with sex, they also reported fewer sex partners in the last year. Eighteen percent (18% 20/122) of young people in the rural-coastal area had had more than one sex partner in the last 12 months. In the urban area and the rural-interior, respectively 27.7% (83/300) and 25% (24/96) of young people reported having had more than one sex partner in the last year.

Sexually active young people in the rural-interior Brokopondo were relatively more likely than others to have had more than one sex partner in the 12 months preceding the interview. One out of every five young people in this district (20.5%, 8/39) reported having had five or more sex partners in the year prior to the interview, versus 9.5% (21/222) of young people in the urban area, 5.8% (4/69) in the rural-coastal area, and no-one in the rural-interior Sipaliwini,

## 6.2 High risk sex

UNAIDS and other health institutes commonly label sex with a non-marital, non-cohabiting partner as high-risk sex. In the last year, 83.2% (283/340) of respondents reporting sexual activity in the last 12 months, had engaged in high-risk sex according to this definition. Men were more likely than women to have engaged in high-risk sex in the year prior to the interview (resp. 92.6%, 162/175, versus 70.3%, 121/165;  $X^2$ ,  $p < 0.005$ )<sup>13</sup>. Relatively younger people (15-19) were significantly more likely than those aged 20-24 to have had high-risk sex in the year prior to the interview (82.9%, 155/187 versus 71.7%, 129/180;  $X^2$ ,  $p < 0.05$ ). In the village of Kwamalasamutu (rural-interior Sipaliwini), the share of young people with sexual experience who had engaged in high-risk sex in the last year, was substantially and significantly lower than in the other locations. In Kwamalasamutu, 30.2% (10/330) of young people who were sexually active had engaged in high risk sex, versus 79.4% (177/223) in the urban area, 90.1% in the rural-coastal area (64/71) and 82.5% in the rural-interior-Brokopondo ( $X^2$ ,  $P < 0.001$ ).

One explanation for this difference is that young people in Kwamalasamutu live together with their partner at a much younger age than people in the other locations. Hence their sexual activity is no longer considered high-risk.

When considering relationship status rather than marital status and cohabitation, fewer young people would be considered as having engaged in high-risk sex. Among the young people who had sex in the last 12 months, 53.7% (182/339) had had sex with just one person with whom they were in a relationship (i.e. not casual sex). Meanwhile, among the 71 persons who reported that they were married or cohabiting with someone, 21.1% reported that they had had sex with more than one person in the 12 month preceding the interview.

Apart from sex with a non-marital, non-cohabiting partner, other forms of sex that are considered higher risk sex include:

- Sex in exchange for money or goods
- Person has been deceived, lied to, or threatened in order to have sex
- Sex under the influence of alcohol
- Sex under the influence of drugs

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<sup>13</sup> Only young people who had been sexually active in the last year.

Figure 13 displays the share of persons who have been involved in these different forms of high-risk sex in the last 12 months. Since people tend to underreport involvement in high-risk sex, it is likely that true numbers are higher. The data suggest that men were significantly more likely than women to have had sex under the influence of alcohol (men: 32.6%, 57/175 versus women: 22.2%, 37/167;  $X^2$ ,  $p < 0.05$ ) and drugs (men: 13.9%, 24/173 versus women: 6.0%, 10/167;  $X^2$ ,  $p < 0.005$ ) in the last 12 months. In terms of receiving money, food or goods in exchange for sex there was no significant difference between the sexes, with 5 women and 6 men reporting this experience. It was rare for both women and men to have been deceived, lied to or threatened to have sex against one's will, with no significant difference between the sexes (Figure 11).

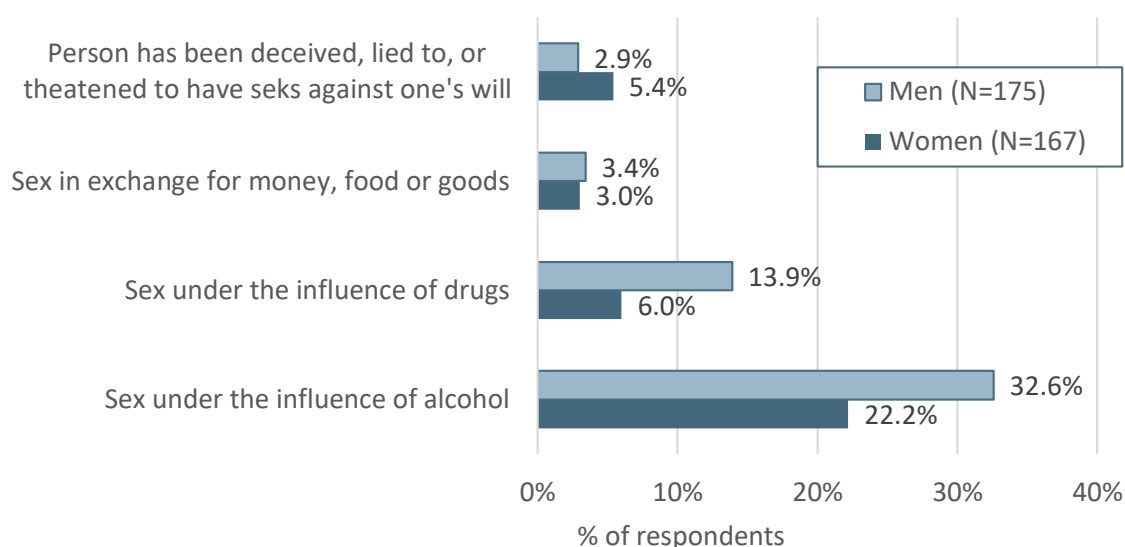


Figure 13. Share of young people ages 15-24 who have been involved in different forms of high-risk sex in the last 12 months.

### 6.3 Condom use

Among those who had had sex in the last 12 months, 37.9% (128/338) had used a condom the last time they had had sex, with no significant difference between the age groups (15-19 versus 20-24). Women were significantly less likely than men to have used a condom (30.9%, 51/165 versus 44.6%, 78/176;  $X^2$ ,  $p < 0.05$ ). Also, people who were married or cohabiting were less likely than others to have used a condom the last time they had sex (19.7%, 14/71 versus 42.8%, 115/269;  $X^2$ ,  $p < 0.001$ ). People who had had sex with someone they had a relationship with the last time they had sex, were also less likely than others to have used a condom that last time that they had sex (34.5%, 90/261 versus 50.0%, 39/78,  $X^2$ ,  $p < 0.001$ ).

There also were significant differences between the regions. Young people from Sipaliwini were least likely to use condoms, while people from the rural-coastal area were most likely to have used a condom the last time they had sex (Figure 11).

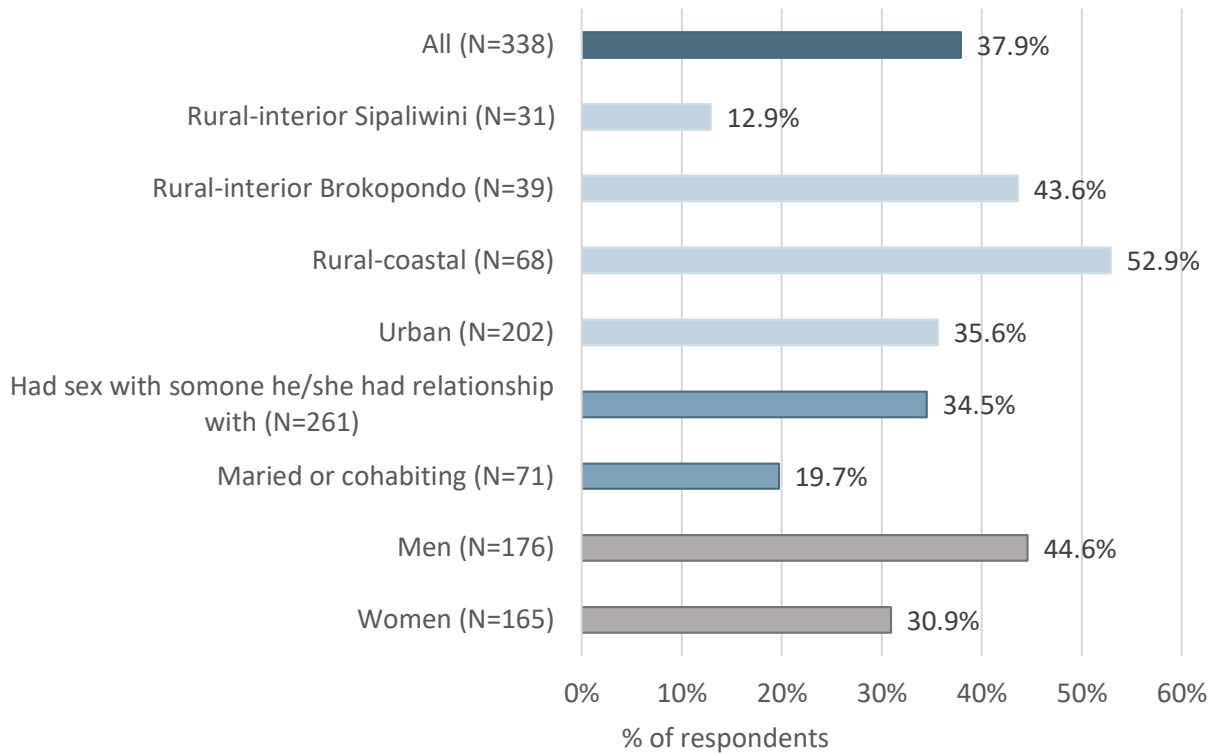


Figure 14. Share of young people ages 15-24 who used a condom the last time they had sex

### 6.4 HIV test behaviour

The large majority of surveyed young people had never performed an HIV test (81.4%, 419/515). When only considering people who had been sexually active, 25.6% had conducted an HIV test (94/367) at least once in their lives. Women were more likely than men to have performed an HIV test (Figure 16). This difference is (partly) explained by the fact that all pregnant women who receive prenatal care are tested for HIV.



Figure 15. Share of women and men who had ever performed an HIV test, only those who reported that they had had oral, vaginal or anal sex.

The data showed disparities between the regions. In the rural-interior Brokopondo, young people were relatively most likely to have been tested for HIV (28.3%, 15/53). In the rural-interior Sipaliwini, by contrast, only two out of forty-four interviewees reported that they had been tested for HIV (4.6%). It is likely that in this latter group, there is some underreporting as several of the women already had been pregnant, and all pregnant women are tested on HIV as part of the standard pre-natal care procedures. It is likely that the women in this region also had been tested, but either had not been informed about the test or did not understand or remember what kind of tests they had taken, as they did not know about HIV.

The data show the merits of bringing low threshold HIV test opportunities to young people, rather than waiting for young people to visit the VCT sites. Of the 289 persons who conducted an HIV test as part of this 2023 IBBSS among young people, 232 (80.3%) had never tested before (Figure 16).

It is likely that these persons would not have tested on their own initiative any time soon. Yet when the opportunity was there, in their neighbourhood or at their school, they were willing and eager to get tested.

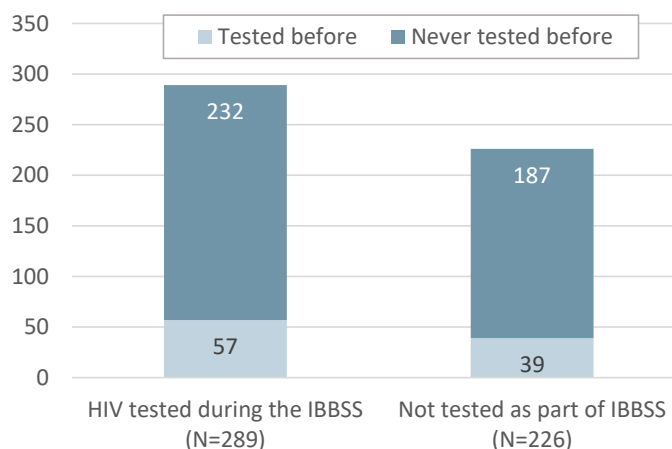


Figure 16. Number of young people who tested for HIV during the IBBSS, by previous HIV test experience

One out of every ten surveyed young persons had performed an HIV test in the last 12 months (10.5%, 54/515); 16.7% (42/251) of women and 4.5% (12/264) of men<sup>14</sup>. Of these 54 persons, 46 persons (85.2%) had received the result. In the total sample, 8.9% of men and women aged 15-49 received an HIV test in the last 12 months and know their results. A common reason to not receive the result was that the test had been ordered by a health professional as part of a series of tests, for example in the context of pregnancy, and the results were never communicated with the patient.

Generally, women were more likely than men to have been tested and know their results, and relatively older persons (20-24) were more likely than younger persons (15-19) to have been tested and know their results (Table 15).

## 6.5 Reasons to test or not test for HIV

Young people who had tested for HIV at some point in their lives, were asked why they had performed their most recent HIV test. The most common reason to test for HIV was simply that they wanted to know their status. The next three most common reasons to test for HIV all had to do with tests for medical reasons (i.e. not voluntarily): the person had been pregnant; conducted a general check-up; or fallen ill and the medical specialist wanted to rule out HIV. All mentioned reasons for the most recent HIV test are listed in Table 16 below.

<sup>14</sup> Complete sample, both those who had been sexually active and those who never had sex.

“Other” reasons included that the person did not trust her partner; the partner accused the person of having AIDS; the person wanted to protect herself; the person was sent by the mother; the person was concerned that he could be positive. These answers were related to the person wanting to know his or her status.

Table 15. Reasons for the most recent HIV test, by sex, only those who had been tested for HIV at least once\*

Reason	Women (N=63)		Men (N=32)	
	N	%	N	%
To know my status	30	47.6%	17	53.1%
Pregnancy	15	23.8%	-	-
As part of a general check-up	3	4.8%	4	12.5%
Fell ill/Had medical complications	5	7.9%	2	6.3%
Had started a new relationship	5	7.9%	1	3.1%
Had unsafe sex	3	4.8%	2	6.3%
Necessary for school/work	-	-	3	9.4%
There was an opportunity at school/work/in my neighbourhood	1	1.6%	2	6.3%
Tests regularly/habitually	2	3.2%	-	-
Other	3	4.8%	2	6.3%

\* Respondent could name multiple reasons

Vice versa, young people who had never tested for HIV were asked why not. Those reasons are listed in table 17 below. The main reason for people to not have tested for HIV, was that they never had sex (28.7%, 120/418). For many others it simply was not a priority. They reported that it had never occurred to them to go test (17.5%, 73/418), that they did not find it necessary (5%, 21/418), or that they simply did not want to go (1.4%, 6/418).

Surveyed young people provided a variety of answers that implied that they, in their minds, had not been exposed to (much) HIV infection risk. They reported, for example, that they always used condoms (6.5%, 27/418), with men being more likely than women to say so. Others felt that they had not been at risk because they did not have sex with many different persons, or had always been with just one person (4.5%, 19/418). Among the many others reasons to believe that one had not been exposed to (much) risk (1.4%, 6/418) were: I have not had blood-blood contact; my partner and I were both virgins when we started the relationship; I am always careful; I usually/often use condoms; I never had vaginal sex; and I sometimes have safe sex.

Yet others had not tested because of fear: fear for the test itself, fear for a possible positive result, and fear to ask one’s parent(s) for permission to test. A man who feared the result conveyed: “I am afraid that I can be positive, and next my health can deteriorate and I might die”. A young woman who was afraid of the test itself explained: “I was afraid that they would have to go into my vagina and I am afraid of pain”. Another women admitted: “I was afraid they would secretly give me the Corona vaccination”.

Eighteen persons from the rural-interior Sipaliwini reported that they had never tested for HIV because they had never heard of HIV or knew very little about it (42.9%, 18/42). Also two persons from the urban area reported that they knew very little about HIV, and therefore had never tested (0.9%, 2/229).

Table 16. Reasons that respondents never before performed an HIV test.

Reason	Women (N=63)		Men (N=32)	
	N	%	N	%
I never had sex	67	35.6%	53	23.0%
Never occurred to me/never thought about it	33	17.6%	40	17.3%
Don't know	19	10.2%	13	5.7%
I always use condoms	2	1.1%	25	10.9%
Not necessary	8	4.3%	13	5.7%
Never heard about HIV/AIDS/ I have little knowledge about HIV/AIDS	9	4.8%	11	4.8%
I watch out with whom I have sex/ I do not have many partners / just have one partner	6	3.2%	13	5.7%
I fear the test	9	4.8%	6	2.6%
I believe / I am certain that I do not have HIV	2	1.1%	12	5.2%
I am not ill / I am healthy	2	1.1%	10	4.3%
I trust my partner	5	2.7%	6	2.6%
I never had the time	3	1.6%	6	2.6%
I do not know where to go	5	2.7%	2	0.9%
Never had the opportunity	4	2.1%	3	1.3%
Afraid to get the result	1	0.5%	6	2.6%
Do not dare to ask parent permission	2	1.1%	5	2.2%
People never offered me a test/ asked me to do it	6	3.2%	0	0.0%
I have not be exposed to (much) risk	2	1.1%	4	1.7%
Just did not want to go	0	0.0%	6	2.6%
I was planning to do it some time	3	1.6%	2	0.9%
I have no money to go	3	1.6%	1	0.4%
No medical insurance	1	0.5%	1	0.4%
Other (I am ashamed to go; No-one in the family has it)	0	0.0%	2	0.9%



## 7 Access to HIV Voluntary Counselling and Testing

### 7.1 Knowledge of HIV Voluntary Counselling and Testing locations

In Suriname, HIV testing is widely available through Voluntary Counselling and Testing (VCT) sites and private and hospital laboratories (Stijnberg et al., 2022). Clients visiting the laboratories are usually referred by their general practitioner, while anyone can visit the VCT sites for an HIV test. The VCT sites are the non-profit organization Lobi Foundation, the governmental Dermatological Service (“Derma”), some of the Regional Health Service clinics, the Medical Mission clinics in the interior (Foundation, partly subsidized by Ministry of Health), and the Ministry of Health Tropclinic. All of these are located in Paramaribo and the coastal area. Lobi Foundation has health centres in Paramaribo, Nickerie and Lelydorp.

Surveyed young people were asked what HIV test locations they were familiar with, and where they themselves would go if they would want to test for HIV. One out of every five young people could not name any HIV test location (21.7%, 112/515). Young people ages 20-24 were more likely than teenagers ages 15-19 to name a test location (83%, 166/200 versus 75.2%. 237/315).

Lobi foundation was the best known place to go for an HIV test, named by one third of respondents (34%, 175/515), followed by the hospitals (25.2%, 130/515) (Figure 18). The private labs, named by 16.9% of respondents (87/515), provide HIV test services after referral by another medical professional. Quite some people named their general practitioner (21.9%, 13/515) as a place to test for HIV, but these only do referrals and do not provide VCT services. Other places that were erroneously mentioned included the Red Cross and the Bureau of Public Health (BOG). Places listed under “Other” were mostly incorrect and included: at school, a test bus, blood bank, pharmacy, Ministry of Health, at home (self-test), RUMAS Foundation, Foundation "Sabi yu HIV status", and vague unspecified descriptions of locations.

There are substantial differences between young people from the different regions in terms of their knowledge of locations to test for HIV (Figure 14).

Young people from the urban areas were best informed, with many individuals referring to the official VCT sites Lobi foundation (45.4%, 134/295) and Derma (9.8%, 29/295). Interviewees from the village of Kwamalasamutu (rural-interior Sipaliwini) were most familiar with the Medical Mission (MZ) clinics (54.5%, 24/44). Almost all other interviewees from this community could not name any place to test for HIV (45.5%, 20/44). Medical Mission clinics were also named by 24.5% (13/53) of interviewees from the rural-interior Brokopondo, but hardly by anyone else. Just over a quarter of young people from Brokopondo could not name any location to test for HIV. People from the rural-coastal area mostly named hospitals as places where one can test for HIV (39.8%, 49/123).

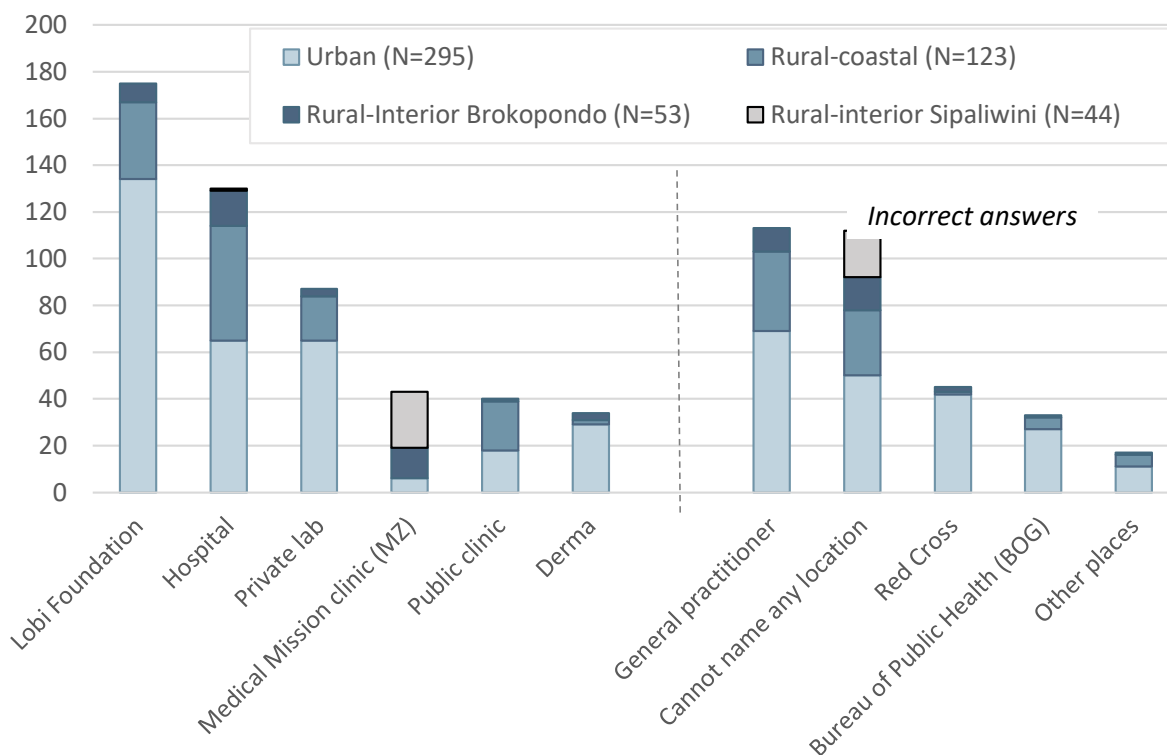


Figure 17. Locations where one can perform an HIV test named by respondents from the different regions

Young people also were asked where they would go if they would want to conduct an HIV test. In the total sample as well as in the urban area, most individuals named Lobi foundation (total: 24.2%, 124/513; urban: 33%, 97/294) and their general practitioner (total: 23%, 118/513; urban: 23.8%, 70/294). In the rural-coastal area, young people most often named the general practitioner (28.7%, 35/122) as a place where they would go, followed by the hospital (25.4%, 31/122). An important reason to name the general practitioner was that this is the health professional they knew best and he/she would know where to send the patient. Most young people living in Kwamalasamutu reported they would go the Medical Mission clinic (93.2%, 41/44) if they would want to go for an HIV test. Persons from the rural-interior Brokopondo, which is much closer to the city, named a variety of locations where they would go for an HIV test. In this location, young people reported as places where they would go to test for HIV most often: the general practitioner (24.5%, 13/54), the Medical Mission clinic (22.8%, 11/53) and the hospital (15.1%, 8/53).

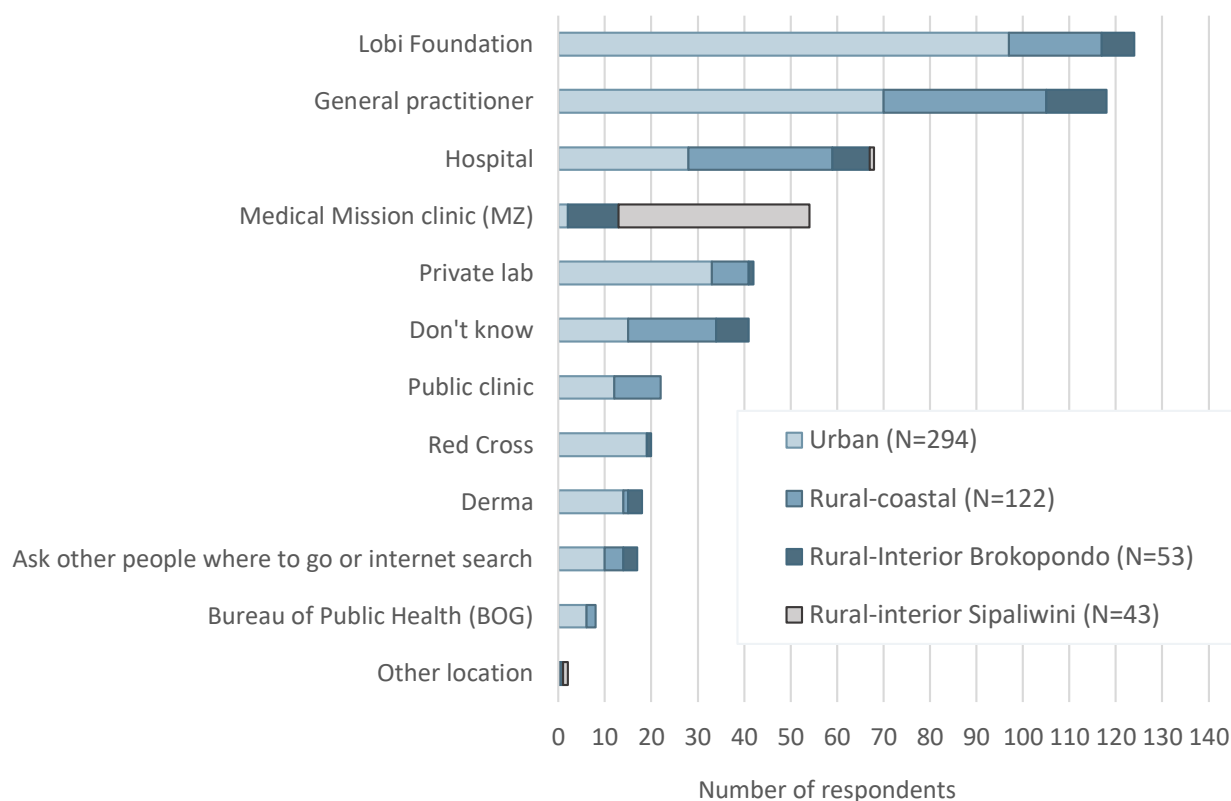


Figure 18. Location where the respondent would go if wanting to conduct an HIV test

## 7.2 Reasons to select an HIV test location

Survey respondents had different reasons for choosing a certain HIV test location. The most mentioned reason to pick a location was simply that the person knew the place (53.6%, 246/459<sup>15</sup>). Related reasons were that the person had a personal connection or good relation with the health provider at that location (2.8%, 13/459); that this was the only place the person knew about (3.2%, 15/459); that the person had often heard about this location (2.6%, 12/459); or that the place was known for HIV testing and/or sexual health care (2.6%, 12/459).

Other reasons often were related to the reputation of specified HIV test locations. Young people preferred to visit certain places because they believed these places to be professional (13.3%, 61/459); provide trustworthy results (13.7%, 63/459); provide the results rapidly (1.7%, 8/459); and treat information confidentially (6.3%, 29/459). Proximity of the location was a motive to select a certain HIV test location for 7.6% of respondents (35/459).

Many other reasons were named to visit a certain location to test for HIV, all mentioned by less than five persons, including:

- It is free/cheap
- You do not need an appointment
- The medical professionals are women
- I am registered at this location

<sup>15</sup> Only respondents who named a place where they would go for HIV testing

- I would like to first consult my family doctor before I take further steps
- Prefer this over the Medical Mission clinic in my village
- To ask for advice
- Not sure if the Medical Mission clinic provides HIV testing
- You can go for the result yourself

Looking at the four locations that people named as places where they would go for HIV testing, we find that in all locations, familiarity with the place was the main reason to select the location (Figure 16). For the Medical Mission clinic in the interior villages, this was virtually the only reason mentioned to visit this location for an HIV test.

The data suggest that the Lobi foundation has a particularly good reputation. Relatively many persons would visit this VCT site if they were to perform an HIV test because they found it professional (21.0%, 26/124) and trustworthy (21%, 26/124), and had often heard about it (8.9%, 11/124). An important reason to choose the general practitioner was that this person could refer the patient to the best place to test (11.0%, 13/118). The personal connection with one's general practitioner (6.8%, 8/118) and confidentiality (11.0%, 13/118) were other reasons that people vowed to visit this health professional if they were to perform an HIV test.

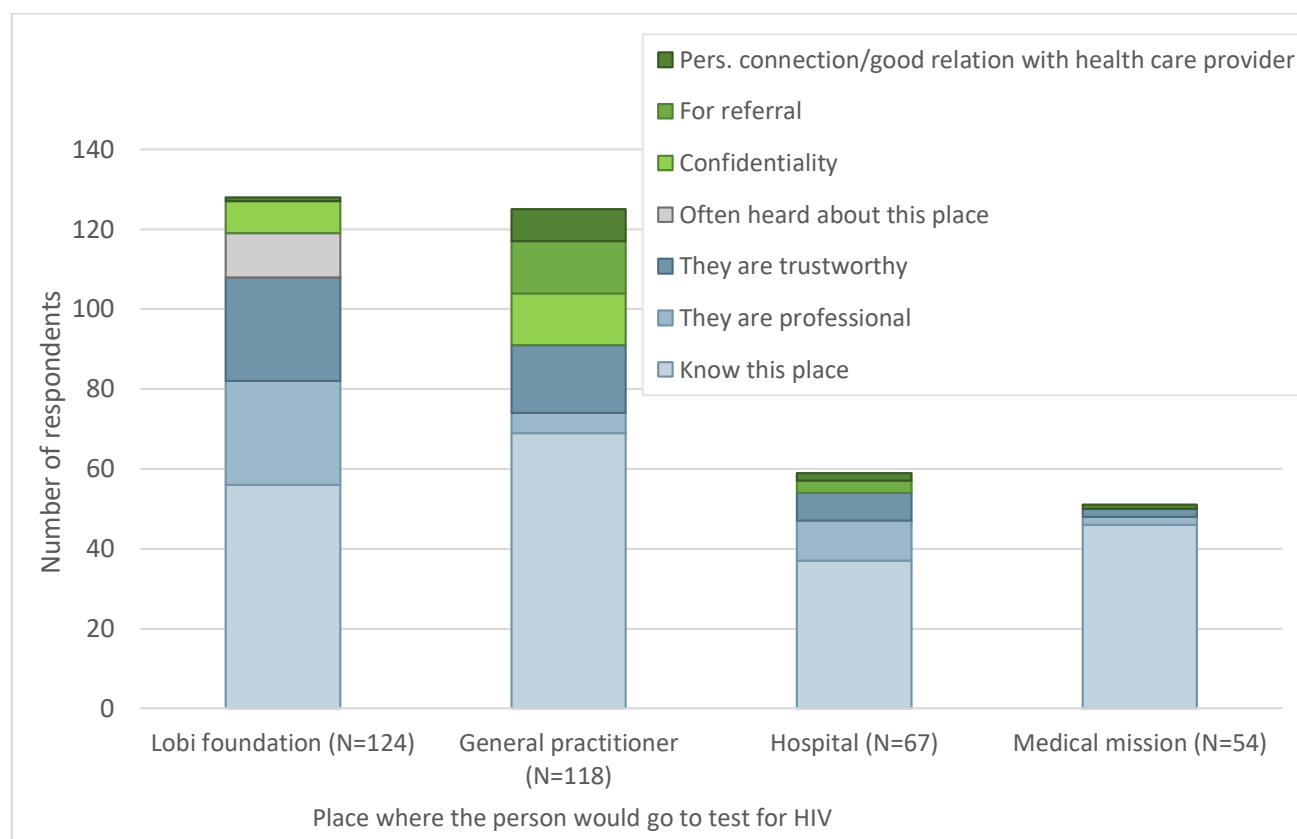


Figure 19. Reasons to visit a certain location for HIV testing, by location (only top-4 most preferred locations).

## 8 Discussion and Conclusions

This report presented an IBBSS for youth ages 15-24 in Suriname. This is the first IBBSS for this target group ever performed in Suriname. The study targeted 515 young people in different regions of Suriname, who were surveyed and offered an HIV test. In addition, seven persons who did not participate in the survey, did conduct the HIV test.

Two-hundred and ninety-six (296) young people in the ages 15-24 were tested on HIV: 147 women and 149 men. All people who were tested, tested negative. That the study did not encounter any HIV positive persons does not mean that there are no people living with HIV in this age group. The database of the National AIDS Programme (NAP) counts a total of 357 young persons (15-24) living with HIV, or 10% of the total known HIV positive population.

The survey tested young people's knowledge of STIs and HIV, assessed attitudes towards people living with HIV/AIDS, and asked about sexual risk behaviour. We find that knowledge about STIs and HIV among young people is inadequate. One quarter of respondents could not explain what an STI was, and the majority of respondents was unable to name STIs other than HIV.

The two most common misperceptions about HIV transmission were that HIV may be transmitted by a mosquito or through saliva. The two most common misperceptions about HIV prevention, were that one can effectively reduce the risk of becoming infected with HIV by washing one's genitals well, or by praying to God. On a positive note, the grand majority of respondents agreed that always using condoms when having sex, and having sex with only one partner who is not HIV infected and does not have sex with others, are good ways to reduce HIV infection risk. Less than a quarter of young people had comprehensive knowledge of HIV (23.5%), with no significant differences between women and men, or between the age groups 15-19 versus 20-24. There were quite substantial differences between the regions though. People in the rural-interior Sipaliwini were least informed about HIV, and several persons in this region even reported that they had never heard of it. Even though knowledge on STIs and HIV is poor, many young people believe that they received sufficient information about these topics to make well informed decisions about their sexual lives.

Data on discriminatory attitudes sketch a sad picture of the social ostracization and daily-life challenges faced by people living with HIV in Suriname. One out of every five young people are of the opinion that children living with HIV should not be allowed to attend school together with children who are HIV negative, and one out of every three young people would not buy vegetables from a salesperson if they knew that this person is HIV positive. A staggering two-thirds of young people would not eat at a restaurant if they would know that the cook was HIV positive, even though there is no chance of HIV infection this way. By the USAIDS definition, 43.7% of young people displayed discriminatory attitudes towards people living with HIV, with no significant difference between the sexes or age groups.

While there was virtually no difference in knowledge and attitudes among women and men, there were significant differences in behaviour. Just over two-thirds of young people had had (vaginal, anal or oral) sex, with little difference between women and men. Not surprisingly, relatively younger persons (15-19) were less likely than 20-24-year olds to have had sex. The data suggest that men start earlier with sex than women. Men were twice as likely as women to have experienced early sexual debut, and the typical male was a year younger than the typical female when first having sex. Men also are more likely than women to have more sex partners. Surveyed men were more than two times more likely than surveyed women to



have had sex with more than one partner in the last 12 months, and their average number of sex partners in the last year was significantly higher. Men also were more likely than women to have engaged in high-risk sex: 92.6% of men versus 73.3% of women had sex with a non-marital, non-cohabiting partner, in the past 12 months. As compared to women, men were also more likely to have engaged in other forms of high-risk sex, including sex under the influence of drugs or alcohol.

In the author's opinion, the USAIDS classification of sex taking place outside of a marital or cohabiting relationship as "high-risk sex", is inappropriate for many countries, especially in the global south. In countries like Suriname, young people live with their parents for much longer than in the US or European countries, simply because they cannot afford to rent a place of their own. Using the USAID criterion, a couple with a stable, monogamous relationship of several years is placed in the same category as someone with casual, non-committal relationships. Furthermore, by labelling sex taking place outside a marital or cohabiting relationship as "high-risk sex", one implies incorrectly that sex within a marital or cohabiting relationship is "safe sex". Given widespread occurrence of infidelity and extramarital relationships, one could argue that sex within a marital or cohabiting relationship is not less risky than any other sex without condoms. Indeed, among the persons who were married or cohabiting in the survey, one out of five persons reported that they also had had sex with someone else in the past year.

Young people use condoms but not consistently and certainly not at all times when having high-risk sex. Among those who had had sex in the past 12 months, 62.1% had not used a condom the last sexual contact (oral, vaginal, anal). There was no significant difference in the likelihood of condom use between those who had had multiple partners, and those who had had just one sex partner. Despite widespread sexual risk behaviour, almost one third of surveyed young people believed that they did not run any risk at all of becoming infected with HIV.

The results call for a meaningful intervention from the Ministry of Health and its partners, starting with extended and improved HIV education. HIV education at schools, as part of the curriculum, must go further than the very basic statement that HIV is mostly transmitted through sex, and one can prevent it using condoms. Young people have many uncertainties and erroneous ideas, and there are few people with whom they can have serious conversations about sex and STIs. The data show that very few young people had received any information about STIs from their parents, for example. Young people have many valid questions, such as: why can HIV not be transmitted through saliva, and yet you use an oral swap and take saliva to test for HIV? Why can a mosquito not transmit HIV, if it draws blood and can transmit so many other viruses? While information provision might occur in part through (social) media, it is essential that (peer) sexual health educators actively reach out, and are made available to answer questions and engage with young people.

Apart from the factual knowledge, HIV education should also be focussed on acceptance of people living with HIV. The data show that persons who have met, or know someone living with HIV, are significantly less likely than others to display discriminatory attitudes, and more likely to have comprehensive knowledge of HIV. These findings suggest that participation of people living with HIV in outreach to youth, can be powerful in increasing both HIV-related knowledge and acceptance among young people.

Finally, the study suggests that there is a large unmet need for HIV testing. Yes, VCT sites are available in most regions of Suriname and yes, most are free, work with walk-in, and are easily accessible. Yet young people do not go. The good news is that there appears to be little stigma on HIV testing: that is, feelings of shame, fear of disclosure, or guilt did not seem to affect willingness to test. Also, the majority of young



people reported that they would not feel offended if a new partner would ask for an HIV test prior to having sex. However, young people just do not think about HIV testing, do not feel it is “necessary”, or are afraid of the test, the test outcome, or their parents. The result is the same: very few young people who engage in (high-risk) sex go for an HIV test. When bringing HIV testing to people, on the other hand, young people were lining up to get tested: at schools, in the streets, or at popular hang-outs. Young people also were motivating each other to go, and used the test procedure as an opportunity to ask questions about sexual health. It is recommended that the Ministry of Health builds upon this experience to make (annual?) HIV test missions in public locations where young people congregate part of its routine. The days around December 1<sup>st</sup>, World AIDS Day, would be an excellent period to offer such services on multiple locations.



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