NATIONAL CENTER
FOR INFECTIOUS
DIASEAES

INTEGRATED BIO-BEHAVIORAL SURVEILLANCE SURVEYS AND KEY POPULATION SIZE ESTIMATIONS AMONG PEOPLE WHO INJECT DRUGS, FEMALE SEX WORKERS, MEN WHO HAVE SEX WITH MEN, AND TRANSGENDER PERSONS

2021р.

ACKNOWLEDGEMENTS

This study was implemented by the National Center for Infectious Diseases of the Ministry of Health of the Republic of Armenia (NCID), under the overall coordination of Mr. Kamo Davtyan, Global Fund's Projects Manager. The survey implementing core team included Dr. Hrachya Kyureghyan, IBBS Study Manager, Ms. Marine Asryan, PWID coordinator, Mr. Zori Mikayelyan, FSW coordinator, and Ms. Marieta Mirzoyan, MSM and TGW coordinator. Special thanks to Ms. Anna Harutyunyan for technical support.

The survey implementing team acknowledges the participation of all those involved in the surveys including the study participants.

Field work was implemented by the following NGOs: "New Generation" Humanitarian NGO and "Real World, Real People" Social NGO.

The data were analyzed and the report was prepared by international consultants Olga Varetska and Kostyantyn Dumchev. The team would like to give special thanks to Lisa G. Johnston, international consultant, for providing consultancy support and quality assurance in the course of the survey implementation, data analysis and report development.

The surveillance survey was implemented, and the report was developed with financial support of the Global Fund to Fight AIDS, Tuberculosis and Malaria.

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ACRONYMS

FSW	female sex workers
HBV	Hepatitis B virus
HCV	Hepatitis C virus
IBBS	integrated bio-behavioral surveillance
KP	key populations
MSM	men who have sex with men
NCAP	National Center of AIDS Prevention of the Republic of Armenia
NCID	National Center for Infectious Diseases of the Ministry of Health of the Republic of Armenia
PLHIV	people living with HIV
PrEP	pre-exposure prophylaxis
PSE	population size estimation
PWID	people who inject drugs
RDS	respondent driven sampling
SS-PSE	successive sampling population size estimation
STI	sexually transmitted infections
TGW	transgender women

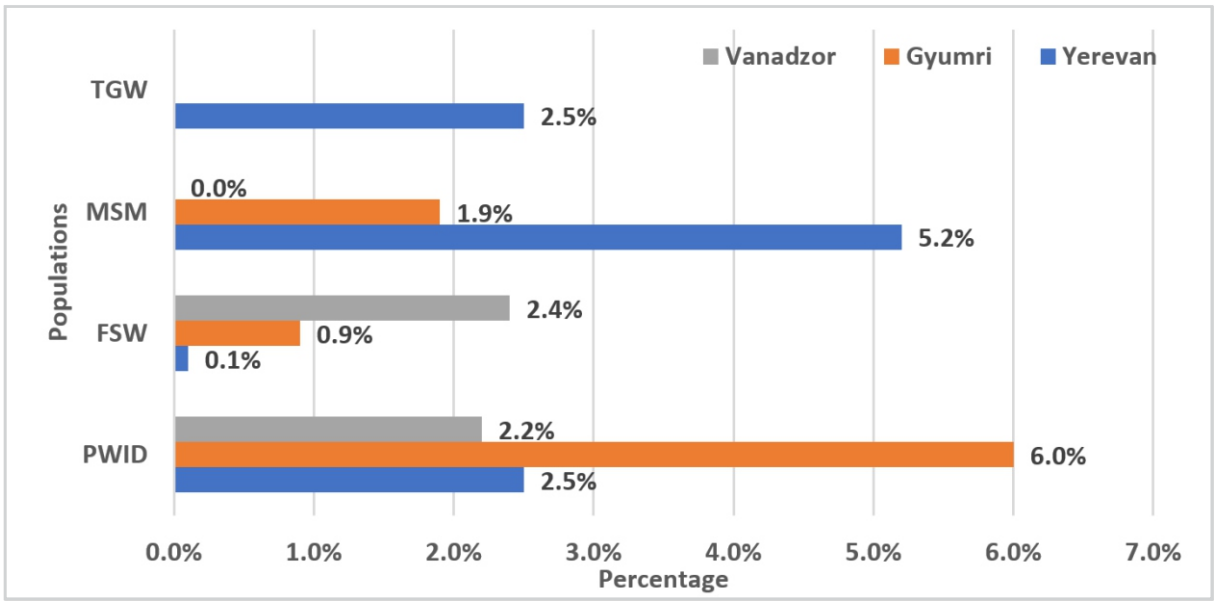
EXECUTIVE SUMMARY

This report provides key findings and recommendations from integrated bio-behavoiral surveillance (IBBS) studies conducted in 2021 among four key populations (KP): people who inject drugs (PWID), female sex workers (FSW), men who have sex with men (MSM) in three cities of Armenia: Yerevan, Gyumri and Vanadzor. We also present findings from an IBBS study conducted among transgender women (TGW) in Yerevan. Findings include trends for key epidemiological and behavioral indicators for the years 2012, 2014, 2016, 2018 and 2021 as well as population size estimations (PSE) of each population.

The data analyzed in this report include: HIV, syphilis, Hepatitis B virus (HBV) and Hepatitis C virus (HCV) prevalence; substance use; safe behavioral practices in relation to HIV; coverage of prevention programs and HIV testing; HIV knowledge; stigma and discrimination; STI diagnosis and treatment. These studies recruited 300 PWID, FSW and MSM in Yerevan, and 150 in Gyumri and Vanadzor and 100 TGW in Yerevan using respondent driven sampling (RDS).

The highest HIV prevalence was found among MSM (5.0%) across the three cities. This is a considerable increase compared to the previous IBBS rounds (2.7%). HIV prevalence among PWID was 2.6%, in TGW was 2.5% and in FSW was 0.2% (Figure 0.1). HCV prevalence was highest among PWID (39.4%) across the three cities. Condom use at last sexual act was 32.4% among PWID, 93.2% among FSW, 79.6% among MSM and 88% among TGW. Having an HIV test in the past 12 months or knowing their positive HIV status was relatively low among PWID (24.5%) and FSW (37.6%), higher among MSM (54.0%) and very high among TGE (91.8%).

Figure 1. HIV prevalence among KP across the cities



BACKGROUND

Armenia is a country in the Caucasus, located on the border of Europe and Asia with a population of 2.963 million in 2020 (World Bank). The HIV epidemic in Armenia started in 1988 when the first case was registered. By June 30, 2021, a total of 4366 HIV cases have been registered, out of which 2128 are AIDS cases. Since 1988, 989 people have died of AIDS (data of National Center for Infectious Diseases of the Ministry of Health of the Republic of Armenia (NCID)).

According to UNAIDS, the estimated number of people living with HIV (PLHIV) was 4800 [4200 - 5600] in 2020. The estimated number of new infections is around 400 per year.

The overall estimated adult HIV prevalence is low at 0.2%; however, the epidemic is concentrated among key populations (KP) at higher risk of HIV, such as people who inject drugs (PWID), female sex workers (FSW), men who have sex with men (MSM) and transgender women (TGW). While the predominant mode of transmission since 2005 is heterosexual, accounting for around 80% of all newly registered HIV cases in 2019 (National Center for AIDS Prevention of the Republic of Armenia (NCAP), 2019), high HIV prevalence among KP and low prevalence in the general population suggest that HIV transmission is still predominantly linked to KP, either directly or through so-called bridge populations (female sexual partners of MSM, sexual partners of PWID, SW and TGW).

In this context, measuring KP' HIV, HBV, HCV and other infections prevalence, as well as their behavioral practices and access to services is crucial in forming effective response strategies aimed at controlling the transmission of these infections. To address this, IBBS among KP has been carried out regularly every two years in Yerevan, Gyumri and Vanadzor, Armenia since 2010, with the last survey being held in 2021. PWID, FSW and MSM were sampled in the IBBS rounds between 2010 and 2016, whereas TGW were only sampled in Yerevan in 2018. As an effective method of sampling hidden populations, respondent driven sampling (RDS) was used during all IBBS rounds.

In addition to understanding the prevalence of infections and risk behaviors among KP, population size estimations (PSE) are essential for planning programmatic activities, estimating program coverage and modeling the HIV epidemic. The 2021 IBBS used unique object and service multipliers, successive sampling (SS)-PSE and wisdom of the crowd methods to estimate the sizes of PWID, FSW, MSM in Yerevan, Gyumri and Vanadzor, and TGW in Yerevan. These data can be extrapolated to provide sub-national and national size estimates.

This report presents the prevalence and PSE results from the 2021 IBBS, as well as programmatic recommendations.

OBJECTIVES AND METHODS

Objectives

The objectives of the IBBS are to measure HIV seroprevalence and associated sexual and injecting risk behaviors in four HIV KP: PWID, FSW, MSM in Yerevan, Gyumri, and Vanadzor and TGW in Yerevan, Armenia. In addition, the IBBS estimated the sizes of these populations and measured:

- Prevention program coverage, stigma, discrimination and violence; HIV knowledge and testing;
- Sexually transmitted infections (STI) signs and symptoms;
- Prevalence of syphilis, HBV, and HCV.

Coordination

In 2020 the NCAP merged with the "Nork" Republican Infectious Clinical Hospital to form the National Center for Infectious Diseases (NCID) of the Ministry of Health. The NCID was responsible for the overall coordination of the 2021 IBBS surveys.

Methods

IBBS surveys were implemented as a cross-sectional study with biological and behavioral components in Yerevan, Gyumri and Vanadzor among PWID, SW and MSM, and in Yerevan among TGW. RDS was used to sample participants in all four populations. RDS is a chain referral sampling method designed specifically to reach hidden populations[1] and to improve representativeness of the network of the population sampled. Recruitment starts with selecting initial respondents, called “seeds”, who are directed to recruit across different sub-populations (e.g., different age groups, sex, preferred drug, etc.) and different geographic areas within the sampling area. The seeds then recruit other eligible respondents from their social networks using coupons. The respondents who complete the survey are in their turn offered coupons to recruit the next “wave” of respondents, and so on. The number of respondents recruited by seeds and each following respondent is limited by the number of coupons they receive, which is defined in the study protocol (up to three). The waves of recruitment continue until the calculated sample size is reached. An important methodological goal in RDS is to attain long recruitment chains, thereby reaching convergence. The rationale behind convergence is that if the number of waves between the seed and the final participants is sufficient, the biases from the purposefully selected seed will be mitigated.

Each respondent's social network size and unique coupon code are two key pieces of information used in RDS data analysis. Data collected with RDS methods are weighted with each participant's social network size (e.g., the number of people they know, who know them, who belong to a specific key population). This adjustment reduces biases associated with chain referral sampling methods. When RDS assumptions are met and data are analyzed to account for differential network sizes and recruitment, the estimates are expected to represent the network of the population sampled.

[1] *Lisa G. Johnston (Tulane University), Keith M. Sabin (UNAIDS), “Sampling hard-to-reach populations with respondent driven sampling”, Methodological Innovations Online (2010), 5(2) 38-48*

Eligibility criteria

All eligible participants were 18 years or older and living and/or working in the respective sampling area. Specific biological sex and behavioral eligibility differed by population:

MSM biological male, had anal sex with a male partner in the last 12 months;
FSW biological female, exchanged vaginal or anal sex for money during the last 3 months;
PWID biological male or female, used drugs through injection in the last 3 months;
TGW biological male, identify themselves as females and had anal sex with a male partner in the last 12 months.

Sample size

The sample sizes (as defined in the study Protocol) were the same as in the previous round of IBBS: 300 PWID, FSW and MSM in Yerevan[2], 150 PWID, FSW and MSM in Gyumri and in Vanadzor, and 100 TGW in Yerevan. In total, these three cities account for 42.2% of the country's population. Table 1 presents the sample sizes by city.

Table 1. Sample size of KP by city

Populations	Yerevan (N)	Gyumri (N)	Vanadzor (N)
PWID	300	150	150
FSW	300	150	150
MSM	300	150	150
TGW	100	–	–

The 2021 IBBS protocol describes in detail the recruitment procedures, survey inclusion criteria, collection of biological samples and their testing for markers of infections, administering the questionnaire, respondents' compensation, coupon management, ethical considerations and the roles of the survey team members.

Respondents recruitment

Three seeds were used to start the recruitment process of PWID, FSW and MSM in Yerevan, two seeds were used in Gyumri and Vanadzor, and two seeds were used for TGW in Yerevan. Once recruited and screened for eligibility, each seed received three coupons and was encouraged to recruit three characteristically diverse members of their social network. Peers recruited by the seeds who arrived at the interview location with valid coupons were also screened for eligibility and underwent informed consent prior to being enrolled in the study. The recruits of seeds made up the first wave of recruits. This process continues through multiple waves of recruitment, until the sample size is reached. After screening and consenting to both the biological testing and being interviewed, the sequence of the survey steps was as follows:

[2] *In 2018 the sample size was calculated with a 5% margin of error, 95% confidence, sample size of each group in Yerevan and a response distribution using average 60-70%. Using these inputs, the sample size n and margin of error E are given by:*
x = Z(c/100)2r(100-r)
n = N x/((N-1)E2 + x)
E = Sqrt[(N - n)x/n(N-1)]
Where:
N is the population size;
r is the fraction of responses that you are interested in and Z(c/100) is the critical value for the confidence level c.

- Screening
- Interview by an interviewer
- HIV pre-test counselling
- Blood sampling from the fingertip for HIV and other infections and, if necessary, venal blood sampling according to the survey protocol
- Explanation of recruiting peers
- Receipt of three coupons
- Test results along with post-test counseling.

A compensation of 4000 AMD was provided for participation, and an additional compensation of 2000 AMD for each recruited participant who enrolled in the survey and completed all the survey steps.

Laboratory testing

Testing was performed for the following biomarkers:

- 4-in-1 Rapid test (HIV, HCV, HBV, syphilis) for PWID, FSW, MSM and TGW (blood)
- HBV, HBsAg (Elecsys HbsAg), if rapid test was positive for HBV
- HCV, Elecsys Anti-HCV, if rapid test was positive for HCV
- ELISA 4th generation HIV Ag-Ab test, if rapid test was positive for HIV

Apart from participants who tested positive for rapid tests, 5 ml of venous blood was taken from every 10th participant for control testing. Rapid HIV, HBV, HCV and syphilis tests were used at the surveillance site to detect the presence of infections. All participants underwent pre-test counselling before rapid tests and post-test counselling after the results were ready.

Any participant who had a positive rapid test result for HIV on site was given a referral card and escorted by the field work implementer to NCID for a second HIV test carried out by ELISA 4th generation HIV Ag-Ab test for validation of the HIV rapid test result. Any participant who had a positive test result using ELISA 4th generation HIV Ag-Ab test received a confirmation test using Western Blot. If the Western Blot result was positive, the participant received post-test counseling and was referred to HIV care.

For quality assurance of HIV laboratory testing, 10% of randomly selected negatively tested samples were tested repeatedly at the NCID Laboratory.

In case of positive rapid test result for HCV on site, a second HCV testing was conducted with the use of Elecsys Anti-HCV test-kits. In case of positive rapid test result for HBV on-site, the second HBV testing was conducted with the use of HBsAg (Elecsys HbsAg) qualitative determination of HBV surface antigen. In case of a primary positive rapid test result for Syphilis on site, the participant was referred to the Medical-Scientific Centre of Dermatology and STIs.

Test results were linked to the survey data using participants' unique survey codes, they also contained the laboratory code number, and the sample collection date.

Administering the questionnaire

The questionnaire was digitally administered using SurveyMonkey and contained questions covering respondents' social and demographic characteristics, sexual behavior and condom use, practice of injecting drug use, HIV awareness and knowledge, HIV testing, stigma and discrimination, coverage by prevention programs, etc. It took approximately 30 - 40 minutes to complete. Every completed questionnaire included a unique RDS identification code.

Data management and analysis

The questionnaire data were exported to SPSS, cleaned, recoded and labeled. The coupon management and biological testing data (provided in Excel) were cross-checked, cleaned and merged with the main survey dataset. NCID was responsible for methodological guidance and quality control at all stages of the process. Site specific estimates and univariable analyses were conducted using the Gile's successive sampling estimator in "RDS" package v.0.9-3 in R v.4.0.5, a specialized package for RDS data analysis. Recruitment graphics of each sample were created using the RDS package. The total sample estimates were calculated in "survey" package v.4.1-1 in R using aggregated weights that combined the RDS network weight calculated by the RDS package and the relative weight of the population size in each city.

Data in this report are displayed in either tables or figures (bar charts). When possible, the category size (n), the adjusted estimates and 95% confidence intervals (CI) are provided.

Methodologies for the population size estimation are described in Appendix 2.

Ethical considerations

Participation of the respondents in the IBBS was voluntary and anonymous. Written informed consent was obtained from all participants. Participants were informed that no personal information would be indicated on the questionnaire or the blood sample, and the data obtained from the interview would be analyzed in the context of the whole target population and not linked back to individuals. The questionnaires and biological specimens and results were linked using each participant's unique coupon identification code and a laboratory code. Participants were also informed that they could stop participating at any time during the entire process. Interviews, pre and post-test counselling, provision of test results and biological testing were conducted in private and confidential settings to maintain privacy and confidentiality. All survey data, including biological and behavioral information, were kept in a confidential manner.

Limitations

Several limitations of the IBBS survey should be mentioned. First of all, while the obtained sample can be considered as being representative of the networks of the populations from which the respondents were sampled, it is not clear if there are subgroups within each key population that may not have been missed. Further, female PWID make up only a small proportion of the PWID sample, which could be either because there are very few females in this population in general, or there are sociological and cultural factors that prevent women who inject drugs from participating in surveys. Since females make up such a small portion of the sample, the PWID survey is interpreted to represent only males.

STUDY FINDINGS

PEOPLE WHO INJECT DRUGS

Three hundred (including three seeds) PWID in Yerevan, 150 (including two seeds) in Gyumri, and 150 (including two seeds) in Vanadzor were recruited into the 2021 IBBS. The maximum number of waves reached was 18 in Yerevan, 14 in Gyumri and 13 in Vanadzor. Figures 1.1, 1.2 and 1.3 depict the recruitment graphs for each city.

Figure 1.1. Recruitment graph for PWID in Yerevan (n=300), three recruitment chains

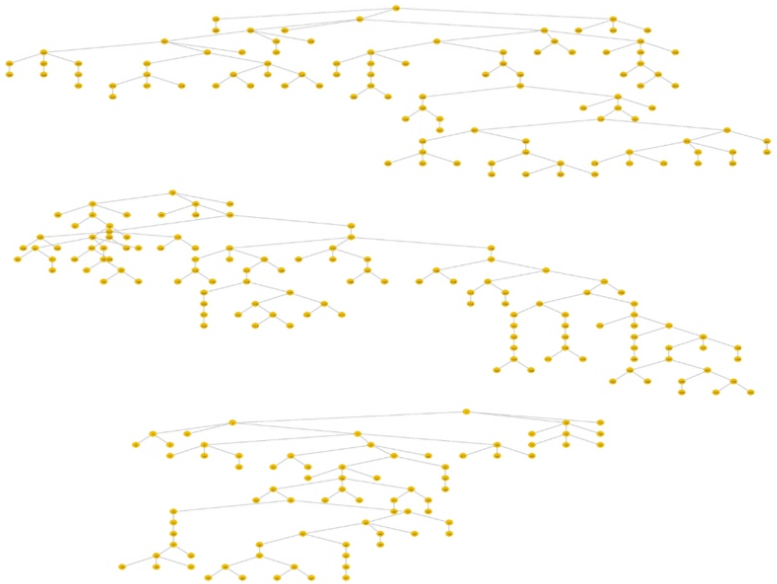


Figure 1.2 Recruitment graph for PWID in Gyumri (n=150), two recruitment chains

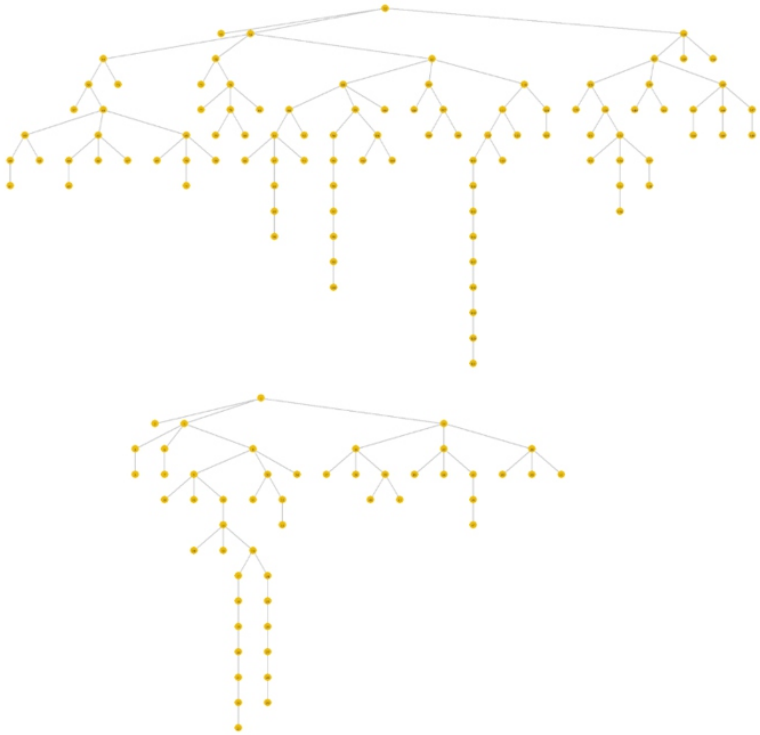
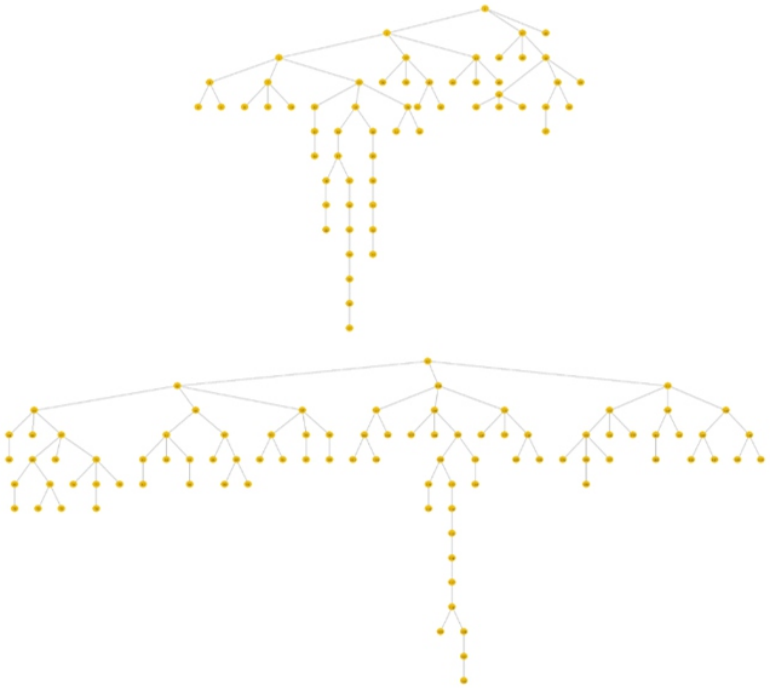


Figure 1.3 Recruitment graph for PWID in Vanadzor (n=150), two recruitment chains



Socio-demographic characteristics

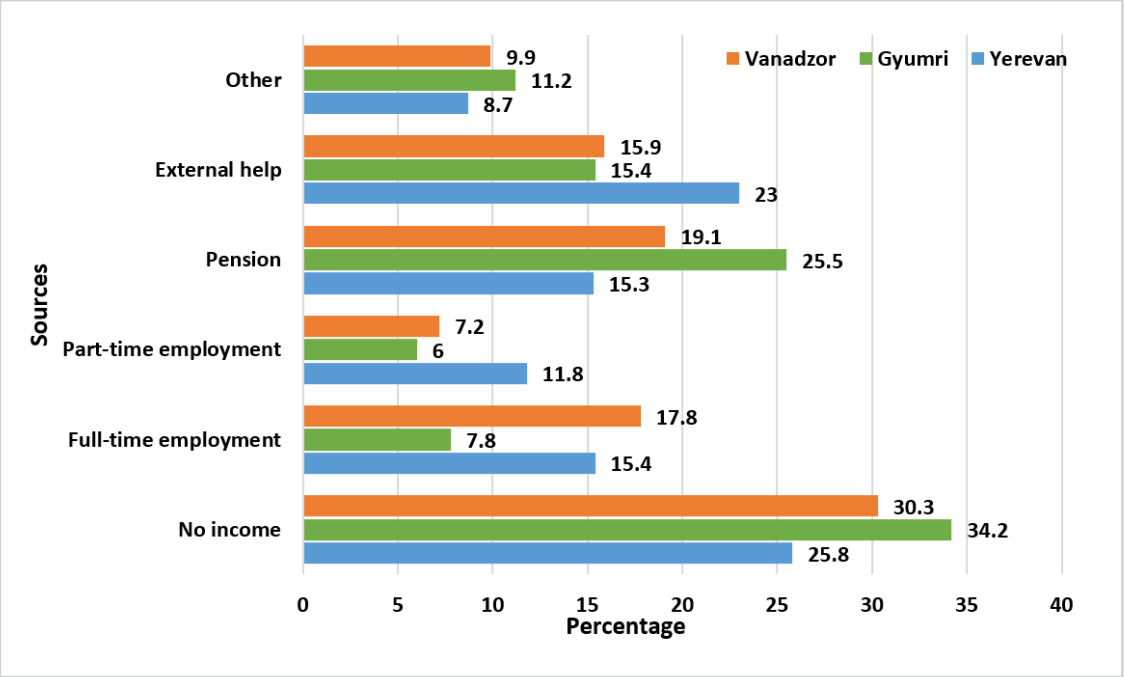
Most PWID across the three cities were 25 years and above, male, and born in Armenia (Table 1.1). Few females were sampled. The median age was 47 in all three cities (range: 18 to 72 in Yerevan, 19 to 76 in Gyumri, and 18 to 69 in Vanadzor). Almost all PWID had some education, among which the largest proportion reported having primary or secondary education.

Table 1.1. Age, sex, country of birth and education among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AGE						
<=24	26	8.4 (0.0-16.9)	5	2.8 (0.6-5.0)	7	3.3 (1.3-5.3)
25 TO 34	36	12.7 (7.6-17.9)	38	27.7 (19.9-35.5)	17	10.9 (5.5-16.3)
35 TO 44	76	22.7 (16.4-29.0)	27	14.3 (8.3-20.4)	39	26.8 (19.1-34.4)
45+	162	56.3 (46.5-66.0)	79	55.2 (46.0-64.3)	87	59.0 (50.7-67.3)
AGE GROUP						
<25	26	8.3 (0.5-16.2)	5	2.8 (0.6-5.0)	7	3.3 (1.2-5.4)
≥25	274	91.7 (83.8-99.5)	145	97.2 (95.0-99.4)	143	96.7 (94.6-98.8)
SEX AT BIRTH						
Male	291	97.2 (94.8-99.6)	143	95.4 (92.4-98.5)	146	97.7 (96.0-99.5)
Female	9	2.8 (0.4-5.2)	7	4.6 (1.5-7.6)	4	2.3 (0.5-4.0)
COUNTRY/NATION OF BIRTH						
Armenia	290	95.2 (91.9-98.5)	147	97.4 (94.7-100)	144	95.2 (90.9-99.4)
Other	10	4.8 (1.5-8.1)	3	(0.0-5.3)	6	4.8 (0.6-9.1)
THE HIGHEST LEVEL OF SCHOOL COMPLETED						
Primary	140	42.2 (34.8-49.7)	53	36.5 (28.1-44.8)	45	34.1 (26.2-42.0)
Secondary	103	36.9 (29.8-44.1)	59	40.1 (31.9-48.3)	61	35.1 (28.1-42.1)
Technical	31	11.1 (6.6-15.6)	17	11.2 (6.4-16.0)	27	14.9 (10.3-19.6)
Higher	26	9.7 (4.3-15.1)	21	12.2 (7.8-16.8)	17	15.8 (9.2-22.5)

Between 26% of PWID in Yerevan and 34% in Gyumri do not have any source of income. Only between 8% in Gyumri and 18% in Vanadzor have full-time employment as their main source of income (Figure 1.4.).

Figure 1.4. Main sources of income among PWID



Marital status

Approximately half of PWID are married (49% in Yerevan, 53% in Gyumri, and 47% in Vanadzor), and most live with their sexual partner (Table 1.2.).

Table 1.2. Marital status of PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
CURRENT MARITAL STATUS						
Single	77	25.7 (18.7-32.7)	45	26.3 (18.5-34.1)	35	26.4 (19.1-33.6)
Married	140	48.7 (40.7-56.6)	74	53.0 (44.4-61.6)	78	46.7 (38.8-54.6)
Divorced	60	20.3 (14.1-26.6)	24	15.4 (9.3-21.4)	31	20.0 (13.9-26.2)
Civil marriage	17	4.4 (1.7-7.1)	2	2.1 (0.0-5.2)	5	5.0 (0.5-9.4)
Widowed	6	0.9 (0.2-1.6)	5	3.3 (0.7-5.9)	1	2.0 (0.0-5.2)
LIVES WITH SEXUAL PARTNER						
Yes	195	66.4 (59.6-73.3)	94	65.0 (56.8-73.3)	84	53.9 (45.1-62.7)

Mobility

Most PWID in all cities were not away from home for more than one month in the last year (Table 1.3). Among those few who spent time away from home, most spent time in Armenia. However, more than 40% in Gyumri and Vanadzor and 29% in Yerevan spent time in Russia. Of those who spent time away from home, 55% in Yerevan, 56% in Gyumri and 36% in Vanadzor had sexual intercourse without a condom and 39% in Yerevan, 12% in Gyumri and 26% in Vanadzor injected drugs with used needles while away. Among those who spent time away from home between three months and one year, 19% in Yerevan, 33% in Gyumri and 44% in Vanadzor did so for the purposes of labor.

Table 1.3. Mobility of PWID in last year

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AWAY FROM HOME FOR MORE THAN ONE MONTH						
Yes	53	18.7 (12.3-25.2)	29	20.6 (13.5-27.7)	27	19.4 (12.7-26.0)
COUNTRY WHERE RESPONDENT WAS AWAY FROM HOME FOR MORE THAN ONE MONTH						
Armenia	34	62.1 (47.3-77.0)	17	56.0 (37.5-74.2)	14	45.3 (29.9-58.1)
Russia	16	28.7 (11.1-46.2)	11	41.1 (23.0-61.0)	10	44.0 (18.7-73.3)
Other	4	9.5 (0.0-24.8)	1	2.6 (0.0-10.1)	3	10.4 (0.0-24.5)
HAD SEX WITHOUT CONDOM WHILE AWAY FROM HOME FOR MORE THAN ONE MONTH						
Yes	29	54.7 (38.2-71.1)	17	55.7 (38.6-71.9)	11	35.9 (10.2-59.5)
INJECTED DRUGS WITH USED NEEDLE WHILE AWAY FROM HOME FOR MORE THAN ONE MONTH						
Yes	30	39.2 (25.3-52.3)	6	12.4 (2.6-20.0)	9	26.4 (11.7-38.4)
ABROAD FOR THREE MONTH OR LESS THAN ONE YEAR FOR LABOR						
Yes	11	18.5 (3.1-34.0)	9	32.5 (15.9-49.8)	12	44.1 (22.6-66.7)

Sexual behavior

All or almost all PWID in all survey areas ever had sexual intercourse, among which the majority were between the ages of 16 and 19 years when first having sexual intercourse (Table 1.4.). Of those who had sexual partners in the past year, the biggest proportion of PWID had one sexual partner. More than three quarters of PWID had sexual intercourse in the past month, among which only 33% in Yerevan, 21% in Gyumri and 36% in Vanadzor used a condom during last sex in the past month.

Table 1.4. Sexual history and behavior among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER HAD SEXUAL INTERCOURSE						
Yes	300	100	148	97.7 (94.2-100)	148	97.2 (94.2-100)
AGE AT FIRST SEXUAL INTERCOURSE						
<=15	128	43.1 (36.1-50.2)	54	36.5 (28.3-44.8)	46	34.3 (26.3-42.4)
16 TO 19	125	50.0 (42.9-57.0)	78	51.1 (42.8-59.3)	87	57.3 (49.1-65.3)
>=20	20	6.9 (3.1-10.7)	16	12.4 (6.4-18.5)	15	8.5 (5.0-11.9)
HAD SEXUAL INTERCOURSE IN THE PAST YEAR						
Yes	264	87.3 (83.6-91.1)	123	84.6 (78.5-90.7)	130	86.7 (79.3-94.0)
NUMBER OF SEXUAL PARTHERS IN PAST YEAR						
1	104	46.0 (38.3-53.6)	63	53.5 (44.0-63.4)	46	34.6 (27.1-42.2)
2	55	19.0 (12.9-25.2)	22	18.8 (10.8-26.9)	28	23.3 (15.6-31.2)
3 TO 4	42	13.8 (9.0-18.7)	26	19.7 (11.1-28.1)	34	27.5 (20.0-35.3)
5+	63	21.1 (14.3-28.1)	12	8.0 (3.1-12.7)	22	14.6 (8.5-20.1)
SEXUAL INTERCOURSE IN PAST MONTH						
Yes	222	81.7 (75.1-88.2)	102	77.1 (67.7-86.1)	105	77.7 (70.5-84.8)
USED CONDOMS AT LAST SEX IN PAST MONTH						
Yes	72	32.6 (24.8-40.4)	23	21.3 (11.9-30.5)	37	36.2 (26.5-46.2)

Types of partners

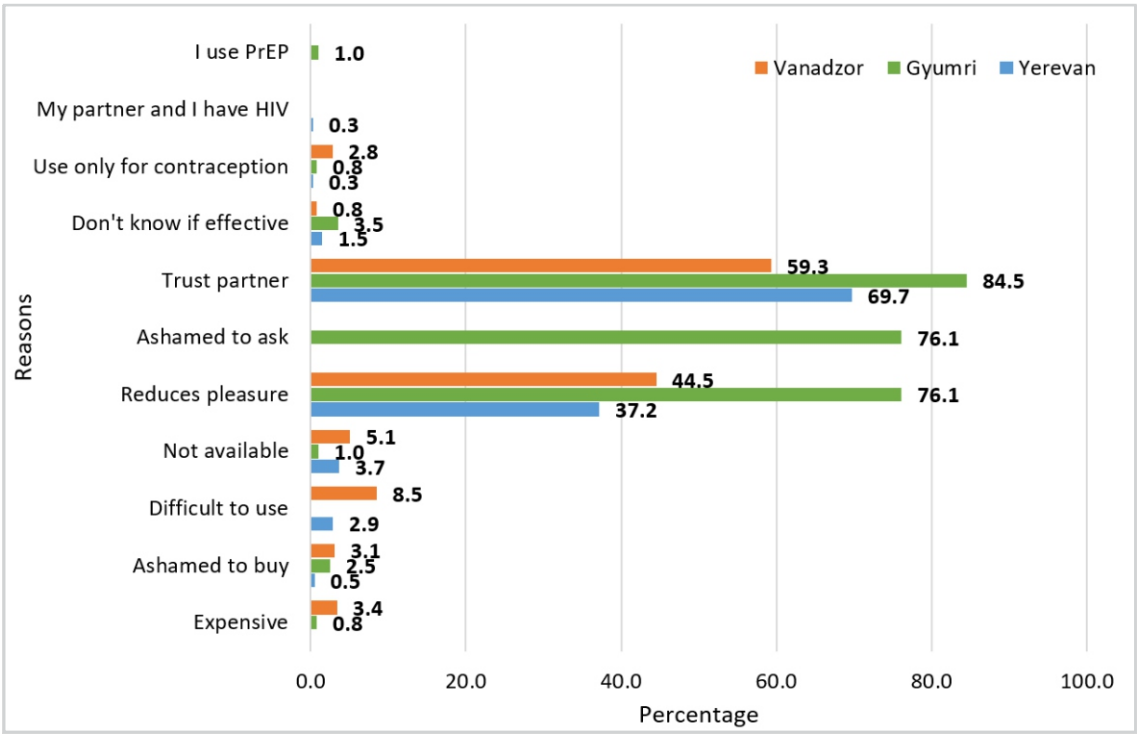
Most PWID had regular sex partners[3] in the past year, among which most reported having one regular sex partner (61% in Yerevan, 80% in Gyumri, and 62% in Vanadzor). Seventy eight percent of PWID in Gyumri, 62% in Yerevan and 55% in Vanadzor never used condoms with regular sexual partners in the past year.

Table 1.5. Sexual behavior with regular sex partners in past year among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
REGULAR SEX PARTNER IN THE PAST YEAR						
Yes	243	93.7 (87.1-100)	115	91.5 (83.8-99.2)	102	82.1 (76.2-88.6)
NUMBER OF REGULAR SEXUAL PARTHERS IN PAST YEAR						
1	138	60.7 (52.6-68.9)	89	79.7 (72.3-87.2)	64	62.4 (50.9-73.3)
2	69	26.7 (19.4-34.0)	20	17.4 (10.3-24.5)	25	27.3 (16.6-38.9)
3-4	36	12.6 (7.2-17.9)	5	3.0 (0.3-5.4)	11	10.3 (3.0-17.4)
5+	-	-	-	-	-	-
FREQUENCY OF CONDOM USE WITH REGULAR SEXUAL PARTNERS IN PAST YEAR						
Always	38	13.7 (8.5-18.8)	11	8.5 (4.0-12.9)	18	17.3 (9.7-25.0)
Sometimes	64	24.5 (16.6-32.4)	17	13.4 (6.9-19.7)	27	27.4 (17.8-37.4)
Never	143	61.8 (53.9-69.8)	87	78.1 (70.7-85.8)	61	55.3 (45.7-64.5)

Among PWID using condoms inconsistently, the highest percentage in Yerevan, Gyumri and Vanadzor reported that it was because they "trust their partner". The other most frequently stated reasons were that condoms "reduce pleasure" and that they were "ashamed to ask" (only in Gyumri). Almost nobody cited pre-exposure prophylaxis (PrEP) as a reason for not using a condom with a regular partner (Figure 1.5.).

Figure 1.5. Reasons for not always using condoms during sex with all regular partners among PWID



[3]*Regular partners are defined as partners who are husbands or wives, whether from a civil or registered marriage, or someone who is considered a boyfriend or girlfriend with whom the participant has had regular sexual intercourse over a period of at least three months.*

Non-regular partners

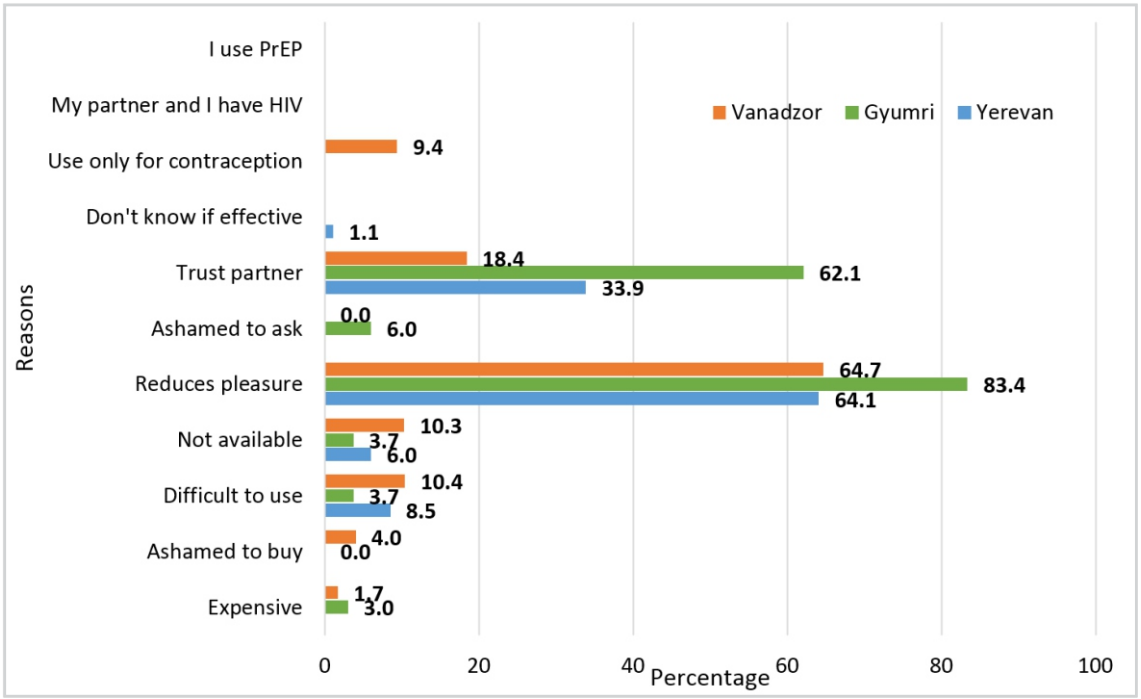
Forty five percent of PWID in Yerevan, 34% in Gyumri and 52% in Vanadzor reported having non-regular partners in the past year, among which the majority used a condom during their last sexual intercourse with a non-regular partner (range of 55% in Gyumri to 74% in Vanadzor). The highest percentages of PWID who reported never using condoms with non-regular sexual partners were from Gyumri (35%), followed by Yerevan (27%) and Vanadzor (20%). Thirty eight percent in Yerevan, 48% in Gyumri (85%) and 43% in Vanadzor reported always using condoms during sex with all non-regular partners in the past year (Table 1.6.).

Table 1.6. Sexual behaviors with non-regular partners in past year among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
NON-REGULAR SEXUAL PARTHERS IN PAST YEAR						
Yes	145	45.1 (37.3-52.9)	53	34.1 (26.4-41.9)	85	52.1 (44.3-60.0)
NUMBER OF NON-REGULAR SEXUAL PARTHERS IN PAST YEAR						
1	39	21.7 (13.6-29.7)	7	19.6 (7.4-33.9)	19	20.9 (9.6-31.0)
2	24	17.5 (8.5-26.5)	14	23.8 (12.8-34.4)	23	25.7 (15.1-36.0)
3-4	30	20.7 (10.9-30.5)	21	42.5 (25.6-59.7)	22	33.0 (22.3-46.8)
5+	52	40.1 (27.5-52.9)	10	14.1 (4.1-22.2)	19	20.4 (9.4-29.8)
USED CONDOM AT LAST SEX WITH NON-REGULAR PARTNER						
Yes	82	58.9 (49.1-68.8)	32	55.1 (41.7-67.6)	61	73.8 (62.6-86.0)
FREQUENCY OF CONDOM USE WITH NON-REGULAR SEXUAL PARTNERS IN PAST YEAR						
Always	58	38.0 (26.8-49.1)	28	47.5 (33.8-59.7)	42	42.7 (29.5-53.2)
Sometimes	45	34.8 (23.7-46.1)	10	17.8 (5.6-29.7)	28	36.9 (24.7-51.1)
Never	43	27.2 (17.5-36.8)	16	34.6 (19.2-52.0)	16	20.4 (8.0-33.5)

Among those PWID who did not always use condoms during sex with non-regular partners, the majority reported their reason being that they 'reduce pleasure' (64% in Yerevan, 83% in Gyumri, and 65% in Vanadzor) (Figure 1.6.). Nobody cited PrEP as a reason for not using condoms with a non-regular sexual partner.

Figure 1.6. Reasons for not always using condoms during sex with non-regular partners among PWID



Commercial sex partners

Forty percent of PWID in Yerevan, 17% in Gyumri and 46% in Vanadzor ever paid for sex (Table 1.7.), among which 27% in Yerevan, 13% in Gyumri and 19% in Vanadzor did not use a condom during their last paid sexual experience. Three out of nine female PWID in Yerevan reported having ever received money or goods in exchange for sex.

Table 1.7. Sexual behaviors with commercial sex partners among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER PAID FOR SEX						
Yes	124	39.9 (33.1-46.7)	29	17.3 (10.5-24.1)	79	46.1 (38.7-53.1)
USED CONDOM DURING LAST PAID SEX						
Yes	94	72.9 (62.6-82.9)	25	87.3 (72.1-100)	64	81. 1 (69.9-91.2)
RECEIVED MONEY OR GOODS FOR SEX, AMONG FEMALES						
Yes	3	43.6 (4.7-83.6)	0	-	1	16.1^
USED CONDOM AT LAST PAID SEX, AMONG FEMALES						
Yes	1	76.8^	0	-	1	-

^too few values to generate confidence bounds

Substance use

Alcohol use

One quarter of PWID in Yerevan, 20% in Gyumri and 21% in Vanadzor never drank alcohol in the past year (Table 1.8). Of those who drank alcohol in the past year, 46% in Yerevan, 39% in Gyumri and 42% in Vanadzor reported drinking six or more drinks in a typical drinking day, among which under one quarter did so daily or almost daily.

Table 1.8. Alcohol use among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER CONSUME ALCOHOL						
Yes	225	74.3(69.2-79.4)	123	79.8 (72.9-86.8)	122	79.1 (72.0-86.2)
FREQUENCY OF CONSUMING ALCOHOLIC DRINKS						
Monthly or less	84	34.8 (26.2-43.3)	35	27.3 (19.5-35.0)	34	28.5 (19.6-37.6)
2-4 times a month	46	19.4 (12.0-26.9)	37	29.4 (19.9-38.9)	31	23.1 (16.2-29.6)
2-3 times a week	38	19.6 (12.5-26.7)	24	18.1 (9.6-26.4)	29	24.6 (16.4-33.2)
4 or more times a week	57	26.2 (18.1-34.4)	27	25.2 (13.1-37.5)	28	23.8 (14.9-32.5)
NUMBER OF ALCOHOL DRINKS ON A TYPICAL DRINKING DAY PAST YEAR						
1-2	57	26.9 (19.5-34.3)	16	12.0 (6.0-17.9)	27	27.5 (17.8-36.8)
3-5	58	27.3 (19.2-35.3)	61	48.9 (38.1-59.5)	30	30.6 (20.2-41.3)
6 or more	84	45.8 (37.0-54.7)	43	39.2 (27.7-50.8)	40	41.8 (31.7-52.2)
FREQUENCY OF ALCOHOLIC DRINKS (SIX +) CONSUMED ON ONE OCCASION						
Never	19	7.7 (1.1-14.3)	13	10.0 (3.8-16.2)	4	3.0 (1.2-4.6)
Less than monthly	94	35.2 (27.8-42.7)	46	37.7 (27.8-47.6)	33	34.6 (24.8-45.1)
Monthly	20	8.6 (4.3-12.9)	24	18.1 (11.7-24.4)	19	17.5 (9.2-25.2)
Weekly	44	24.5 (16.8-32.1)	24	20.1 (12.5-27.9)	24	22.8 (16.2-29.2)
Daily or almost daily	49	24.0 (15.9-32.1)	16	14.1 (6.2-22.2)	21	22.1 (13.3-31.2)

Drug use

The median age of first drug consumption among PWID was 19 (range: 11 to 40) in Yerevan, and was 18 in Gyumri (range: 9 to 71) and Vanadzor (range: 10 to 45). Most PWID in all three cities reported using marijuana the first time they used drugs; 30% in Yerevan and 29% in Vanadzor used opioids the first time they used drugs (Table 1.9). Most PWID reported first using drugs in Armenia.

Table 1.9. General drug use among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AGE AT FIRST DRUG USE						
<=17	121	34.3 (27.6-41.0)	64	39.7 (31.7-47.8)	57	37.3 (29.9-44.7)
18-24	126	45.0 (37.5-52.6)	60	45.6 (37.5-53.8)	64	42.6 (34.9-50.3)
25-30	37	13.9 (8.8-19.0)	16	8.5 (4.8-12.1)	17	10.3 (6.4-14.2)
31+	16	6.8 (2.8-10.8)	9	6.1 (2.1-10.1)	12	9.9 (4.8-14.8)
TYPE OF FIRST DRUG USE						
Marijuana	151	51.0 (43.6-58.3)	130	86.7 (81.9-91.4)	94	55.9 (48.2-63.5)
Stimulants	11	3.2 (0.5-5.8)	3	1.4 (0.1-2.7)	8	6.3 (1.6-10.9)
Opioids	98	30.4 (25.4-35.3)	12	9.1 (5.2-12.9)	33	29.2 (22.6-35.7)
Other	39	15.5 (9.3-21.7)	4	2.9 (0.1-5.7)	13	8.7 (4.7-12.8)
DRUGS USED IN PAST YEAR						
Marijuana	70	19.4 (12.4-26.5)	104	74.2 (69.1-79.2)	55	31.4 (24.2-38.6)
Tranquilizers	6	1.6 (0.0-3.5)	14	7.7 (5.7-9.6)	6	3.5 (2.9-4.2)
Extasy	12	3.0 (0.0-9.1)	2	1.2 (0.8-1.6)	13	6.3 (5.0-7.6)
Inhalants	1	0.1 (0.0-0.1)	1	0.7 (0.5-0.8)	0	-
Meth/amphetamine	87	27.1 (20.7-33.6)	36	22.6 (15.0-30.1)	24	12.1 (10.1-14.1)
Coaxil	1	0.1 (0.0-0.1)	3	2.4 (1.4-3.3)	1	0.4^
Heroin	77	25.1 (19.0-31.2)	31	17.3 (8.7-25.7)	44	27.1 (19.2-34.9)
Methadone	103	31.3 (25.2-37.4)	37	21.8 (13.7-30.0)	73	35.5 (28.3-42.7)
Cocaine	19	5.3 (0.0-16.1)	5	3.2 (2.3-4.1)	11	6.9 (5.2-8.6)
Chernyashka	130	34.7 (28.3-41.0)	34	21.7 (12.9-30.5)	67	40.8 (34.0-47.8)
Desomorphine	15	4.0 (0.0-16.3)	8	6.1 (4.0-8.1)	28	15.4 (12.7-18.0)
Analgetics	43	14.8 (7.7-22.0)	32	20.9 (13.2-28.8)	28	16.4 (13.8-18.9)
TYPE OF DRUGS USED IN PAST YEAR						
Stimulants	94	29.2 (23.1-35.4)	38	23.8 (16.7-30.9)	36	17.9 (15.1-20.6)
Opioids	228	73.8 (68.6-79.0)	72	45.7 (39.2-51.9)	118	75.7 (68.2-83.3)
Opioids + stimulants	52	14.0 (6.4-21.6)	13	6.7 (5.0-8.3)	29	13.3 (11.6-15.2)
Neither opioids nor stimulants	27	11.0 (2.5-19.5)	52	37.3 (30.9-43.7)	24	19.8 (15.0-24.8)
COUNTRY WHERE RESPONDENT FIRST USED DRUGS						
Armenia	208	66.2 (59.3-70.3)	109	74.0 (67.0-80.9)	97	58.9 (50.7-67.2)
Russia	64	25.5 (19.8-31.1)	29	17.3 (11.2-23.4)	43	34.4 (27.1-41.7)
Ukraine	7	2.0 (0.0-6.1)	2	2.2 (0.0-5.9)	4	3.2 (0.6-5.8)
Other	20	6.4 (3.9-8.9)	10	6.5 (2.5-10.5)	6	3.5 (0.9-6.1)

^too few values to generate confidence bounds

Injection drug use

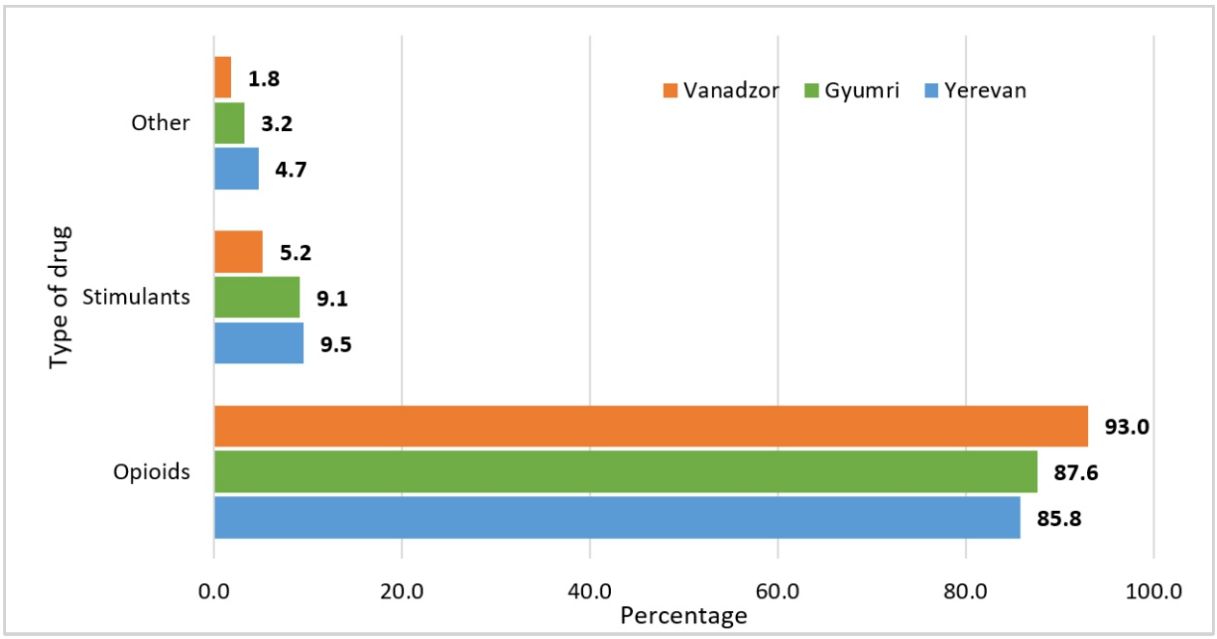
The median age of first injection drug use was 21 years (range: 13 to 53) in Yerevan, 25 years (range: 14 to 71) in Gyumri, and 24 years (range: 13 to 50) in Vanadzor. Most PWID in all cities reported being in Armenia the first time they injected drugs (Table 1.10.). Opioids were the drug type most frequently injected in the past 3 months in all three cities (77% in Yerevan, 81% in Gyumri and 88% in Vanadzor reported using this type of drugs), followed by Chernyashka. Eighty six percent in Yerevan, 64% in Gyumri and 71% in Vanadzor reported injecting drugs in the past month, during which the majority of PWID in all three cities injected 1 – 3 times (62% in Yerevan, 71% in Gyumri and 53% in Vanadzor).

Table 1.10. Injection drug use among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
TYPE OF DRUGS FIRST INJECTED						
Opioids	254	85.8 (78.1-93.5)	132	87.6 (84.7-90.6)	132	93.0 (89.9-96.1)
Stimulants	25	9.5 (5.7-13.3)	14	9.1 (6.9-11.5)	9	5.2 (2.2-8.2)
Other	14	4.7 (0.0-12.5)	3	3.2 (2.2-4.2)	2	1.8 (1.2-2.4)
COUNTRY OF FIRST INJECTION DRUG USE						
Armenia	194	60.3 (53.2-67.3)	102	68.3 (60.7-76.0)	92	54.4 (46.2-62.7)
Russia	78	31.0 (24.2-37.9)	38	24.7 (17.9-31.5)	45	37.0 (29.0-44.8)
Ukraine	8	2.4 (0.3-4.5)	1	1.8 (0.0-5.2)	3	2.7 (0.2-5.2)
Other	20	6.3 (3.0-9.6)	9	5.1 (1.8-8.5)	10	6.0 (3.0-9.1)
TYPE OF DRUGS INJECTED IN PAST 3 MONTH						
Heroin	55	15.5 (9.0-22.0)	37	24.7 (16.9-32.5)	38	24.5 (17.9-31.0)
Chernyashka	143	41.8 (35.6-48.1)	81	58.8 (52.7-64.9)	64	41.4 (33.8-48.9)
Desomorphine	17	3.9 (0.0-14.0)	12	8.2 (5.8-10.7)	30	18.9 (12.8-25.1)
Crystal	56	17.0 (10.6-23.4)	23	15.7 (8.8-22.6)	20	12.9 (10.2-15.6)
Methadone	51	19.3 (12.8-25.9)	17	10.2 (7.8-12.6)	34	20.6 (14.0-27.1)
Amphetamine	17	7.1 (0.0-17.3)	3	1.2 (0.8-1.6)	0	-
Subutex	16	4.4 (0.0-15.9)	3	1.4 (1.1-1.6)	5	4.6 (3.4-5.8)
Morphine	3	0.8 (0.0-1.9)	7	3.5 (2.8-4.2)	4	2.4 (2.0-2.8)
TYPE OF DRUGS INJECTED IN PAST 3 MONTH (STIMULANTS / OPIOIDS)						
Stimulants	73	24.1 (17.5-30.7)	26	16.9 (9.1-24.7)	20	13.0 (10.1-15.7)
Opioids	239	76.6 (71.1-82.2)	118	81.2 (76.0-86.3)	124	88.0 (83.0-93.1)
Opioids + stimulants	28	6.6 (0.0-15.9)	5	2.620 (2.0-3.1)	10	5.7 (4.5-6.7)
Neither opioids nor stimulants	11	5.9 (0.0-17.4)	9	4.5 (3.4-5.7)	8	4.8 (3.7-5.8)
INJECTED IN PAST ONE MONTH						
Yes	267	85.8 (80.4-91.2)	102	64.4 (55.5-73.3)	118	71.0 (62.0-80.0)
INJECTION FREQUENCY IN THE PAST MONTH						
1-3 times	134	61.5 (53.7-69.6)	65	71.1 (61.2-82.0)	49	53.2 (46.2-63.6)
4-10 times	70	23.6 (17.0-30.2)	18	15.9 (7.2-23.8)	38	29.5 (21.3-36.4)
11-29 times	30	7.8 (4.2-11.3)	10	10.1 (4.3-15.9)	17	11.2 (6.6.-14.6)
30+ times	28	7.1 (3.1-11.0)	5	3.0 (0.0-5.7)	9	6.1 (2.4-9.0)

Most PWID in all three survey cities used opioids the first time they injected (Figure 1.7).

Figure 1.7. Type of first-time injected drug among PWID



Injection drug use behavior

Among PWID who reported injecting drugs in the past month, 17% in Yerevan, 8% in Gyumri, and 21% in Vanadzor shared injection paraphernalia (Table 1.11.). Among those who shared, the largest proportion of PWID reported sharing injection paraphernalia with between one and two other people in Yerevan and Gyumri and between three and five people in Vanadzor. Ninety one percent and higher reported always using new disposable syringes every time they injected drugs. Over 99% of PWID in all three cities reported using sterile injecting equipment during their last injection. Among those who do not always use disposable syringes, in Yerevan 100% sterilize them either always (58%) or occasionally (42%). Among those who sterilize syringes, 45% in Yerevan do it with alcohol or iodine.

Table 1.11. Risky behavior related to injection drug use among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
SHARED INJECTION PARAPHERNALIA IN LAST MONTH						
Yes	47	16.6 (9.8-23.3)	9	7.7 (1.2-13.8)	22	20.6 (12.6-29.1)
NUMBER OF PEOPLE WITH WHOM SHARED INJECTION PARAPHERNALIA IN TYPICAL MONTH						
1 TO 2	13	51.6 (30.4-74.4)	3	36.4 (0.0-70.7)	10	44.5 (12.5-68.6)
3 TO 5	19	34.5 (13.4-54.7)	2	33.2 (0.0-77.2)	8	55.5 (31.4-87.5)
6+	8	13.9 (2.0-29.1)	2	30.3 (0.0-72.7)	0	-
FREQUENCY OF USING NEW DISPOSABLE SYRINGES EVERY TIME INJECTING DRUGS						
Always	250	94.0 (91.3-96.8)	97	96.2 (91.5-100)	106	90.9 (86.2-95.9)
Sometimes	16	5.7 (3.1-8.3)	5	3.8 (0.0-8.5)	12	9.1 (4.1-13.8)
Never	1	0.3 (0.0-1.2)	0	-	0	-
USED STERILE INJECTING EQUIPMENT DURING LAST INJECTION						
Yes	262	99.1 (98.2-100)	95	100	117	99.3 (99.1-99.5)
EVER USED DRUGS PREPARED BY OTHERS						
Yes	26	42.7 (28.9-55.8)	13	22.4 (10.1-34.1)	22	51.4 (37.6-65.6)
REGULARITY OF STERILIZING NEEDLE BEFORE USAGE						
Always	7	58.0 (24.9-91.8)	0	-	1	7.6 (0.0-18.1)
Occasionally	7	42.0 (8.2-75.1)	6	7.7 (0.0-16.2)	8	86.0 (66.7-100)

Never	0	-	0	-	1	6.4 (0-23.1)
HOW NEEDLES WERE STERILIZED						
Washing with water	4	26.5 (0.0-55.0)	0	-	2	15.4 (0.0-39.4)
Boiling	5	22.3 (5.7-38.3)	4	59.3 (16.4-99.8)	8	44.6 (22.7-58.5)
With alcohol or iodine	7	44.7 (17.5-72.1)	2	40.7 (0.2-83.6)	4	40.0 (17.6-69.4)
Disinfectants	0	-	0	-	0	-
Change the needle	1	6.5 (0.0-15.6)	0	-	0	-

Treatment and problems associated with injection drug use

Considerable percentages of PWID in Yerevan (65%) and Vanadzor (68%) ever wanted to be treated for injecting drug use (Table 1.12), whereas only 48% of PWID in Gyumri ever wanted to be treated. Few PWID in Yerevan (11%), Gyumri (8%) or Vanadzor (12%) sought treatment from a doctor for drug addiction in the past year, among which 89% or more cited their main reason for treatment as wanting "to stop using". Just over half of those who sought treatment in Gyumri, sought anonymous (rather than registered) treatment, whereas 69% in Yerevan, 48% in Gyumri and 76% in Vanadzor sought registered treatment. Twenty seven percent of PWID in Yerevan sought methadone substitution therapy in the past year, of which 90% received it. Fifteen percent in Gyumri and in Vanadzor sought methadone substitution therapy in the past year, among which 91% in Gyumri and 79% in Vanadzor received it. Of those PWID who did not undergo methadone substitution therapy in the past year, the main reasons for not doing so were: they did not believe that methadone substitution therapy was effective in treating drug addiction (21% in Yerevan and higher percentages in other cities gave this reason), fear of addiction to methadone (26% in Yerevan and Vanadzor and 41% in Gyumri), not to lose driver's license (38% in Gyumri and below 15% in other cities), and not believing in confidentiality being observed (30% in Gyumri, 20% in Vanadzor and 9% in Yerevan). Most PWID in all cities reported never having lost consciousness when using drugs and not having skin problems in the area of drug injection in the past month.

Table 1.12. Treatment and problems associated with injecting drugs among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER WANTED TREATMENT FOR INJECTING DRUG USE						
Yes	197	64.5 (57.2-71.8)	78	47.6 (38.6-56.7)	94	67.9 (61.7-74.3)
TURNED TO THE DOCTOR TO RECEIVE TREATMENT OF DRUG ADDICTION DURING LAST YEAR						
Yes	36	11.3 (6.6-16.1)	11	8.2 (3.3-13.2)	15	11.5 (6.2-16.7)
REASON OF SEEKING TREATMENT						
To stop using	33	95.8 (81.0-100)	11		13	89.4 (66.6-100)
Because of overdose	1	2.8 (0.0-12.9)	0	-	1	5.3 (0.0-19.1)
Because of skin infections	1	0.9 (0.0-4.2)	2	34.0 (1.4-73.2)	0	-
Because of other infections	2	1.4 (0.0-3.5)	3	12.3 (1.0-17.8)	1	5.4 (0.0-10.7)
TYPE OF TREATMENT						
Registered	24	68.9 (53.4-84.6)	5	47.9 (13.7-79.8)	11	75.6 (50.0-99.1)
Anonymous	12	31.1 (15.4-46.6)	4	52.1 (20.2-86.3)	3	24.4 (0.9-50.0)
EVER SOUGHT METHADONE SUBSTITUTION THERAPY IN PAST YEAR						
Yes	59	27.0 (18.4-35.4)	11	14.9 (3.5-26.5)	17	15.4 (6.5-23.9)

RECEIVED METHADONE SUBSTITUTION THERAPY IN PAST YEAR						
Yes	51	89.6 (75.2-100)	9	91.2 (70.1-100)	15	78.6 (56.8-91.9)
REASON OF NOT RECEIVING METHADONE SUBSTITUTION THERAPY						
Don't trust doctors	17	14.5 (3.6-25.4)	14	22.6 (9.2-36.6)	9	14.9 (3.8-27.3)
Don't believe it is effective	31	21.1 (11.1-31.1)	29	46.8 (34.0-60.1)	25	33.5 (21.4-45.8)
Don't believe in confidentiality	14	8.5 (0.0-17.2)	21	29.8 (18.0-41.3)	14	20.4 (9.3-32.4)
Have financial problems	31	21.2 (12.0-30.2)	19	23.2 (13.3-31.5)	25	23.6 (12.5-30.6)
Not to lose driver's license	11	4.3 (0.0-10.1)	25	37.8 (24.6-51.3)	12	14.3 (4.6-23.3)
Fear of addiction to methadone	34	25.5 (14.4-36.6)	26	40.9 (28.9-53.3)	20	25.9 (14.3-37.2)
EVER LOST CONSCIOUSNESS WHEN USING DRUGS						
Yes	94	28.0 (21.3-34.7)	33	19.8 (13.0-26.6)	67	39.0 (30.9-47.1)
HAD SKIN PROBLEMS IN THE AREA OF DRUG INJECTION IN PAST MONTH						
Yes	9	2.3 (0.0-7.8)	3	2.4 (0.7-3.9)	5	4.6 (3.0 – 6.4)

Problems with police and incarceration

Twenty six percent of PWID in Yerevan, 18% in Gyumri and 31% in Vanadzor reported ever having any problems with the police because of drug use (Table 1.13.). Among those, the majority in Yerevan, Gyumri and Vanadzor got administrative penalty (68%, 68% and 81% respectively), and 56% in Yerevan, 43% in Gyumri and 56% in Vanadzor were arrested. Among those arrested the majority in all three cities used drugs while incarcerated and from 62% in Vanadzor, 51% in Yerevan, and 56% in Gyumri injected drugs. Among those who injected while in prison, 44% in Yerevan and 46% in Gyumri reported sharing syringes.

Table 1.13. Problems with police and incarceration among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER HAD ANY PROBLEMS WITH POLICE BECAUSE OF DRUG USE						
Yes	80	25.8 (19.0-32.6)	28	17.9 (11.5-24.3)	46	31.3 (23.7-39.1)
TYPE OF PROBLEMS HAD WITH THE POLICE						
Administrative penalty	53	68.3 (55.5-81.2)	19	68.2 (50.6-86.2)	37	80.9 (65.1-96.8)
Arrested	58	55.7 (43.5-67.8)	18	42.7 (27.6-53.0)	33	55.7 (41.1-67.7)
USED DRUGS WHILE INCARCERATED						
Yes	36	62.0 (46.1-77.9)	11	56.2 (35.3-74.0)	24	65.6 (47.7-79.2)
EVER INJECTED DRUGS IN PRISON						
Yes	34	51.4 (38.2-64.1)	11	56.2 (33.9-75.0)	23	62.0 (44.8-74.1)
SHARED SYRINGES IN PRISON						
Yes	12	44.4 (20.3-69.4)	6	46.1 (20.2-64.1)	8	26.9 (10.8-36.1)

Stigma and discrimination

Nineteen percent of PWID in Yerevan, 15% in Gyumri and 20% in Vanadzor ever avoided healthcare because of stigma (Table 1.14.). Around 70% of PWID in each city reported being ashamed to be injecting drugs. Just over half in Yerevan, 67% in Gyumri and 65% in Vanadzor reported not being ashamed to say that they inject drugs in a group of other injectors. Forty nine percent of PWID in Yerevan, 41% in Gyumri and 66% in Vanadzor reported that they were not ashamed to say that they inject drugs to healthcare and social workers. The vast majority of PWID in all three cities had told someone that they inject drugs, among which the majority in all cities reported telling their friends and acquaintances who are also injecting drugs. Thirty nine percent of PWID in Yerevan, 22% in Gyumri and 48% in Vanadzor reported feeling excluded from family activities because they inject drugs. 33% of PWID in Yerevan, 20% in Gyumri and 50% in Vanadzor reported feeling that their family members made unfair comments about them because of injecting drugs. Ten percent in Yerevan and 5% in Gyumri and 11% Vanadzor avoided HIV testing in the last 12 months. Among the reasons for PWID in Yerevan avoiding HIV testing and healthcare in general, most reported fear or concern that someone may learn that they inject drugs. The second most commonly stated reason for avoiding HIV testing was because of fear of stigma: 61% in Yerevan, 46% in Gyumri and 10% in Vanadzor stated this reason. Forty percent of PWID in Yerevan, 30% in Gyumri, and 39% in Vanadzor reported being scolded for injecting drugs and 8% in Yerevan, 3% in Gyumri and 6% in Vanadzor reported being blackmailed for injecting drugs. Four percent in Yerevan, 4% in Gyumri and 6% in Vanadzor were ever physically harassed because of injecting drugs. Only four PWID reported ever being forced to have sex, among which one in Gyumri believed that they were forced because they inject drugs.

Table 1.14. Stigma and discrimination among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AVOIDED HEALTH CARE BECAUSE OF STIGMA AND DISCRIMINATION						
Yes	58	18.6 (11.8-25.5)	29	14.8 (10.1-19.4)	34	19.7 (15.4-24.1)
ASHAMED TO INJECT DRUGS						
Agree	214	72.2 (66.0-78.4)	110	70.1 (61.5-78.8)	103	70.4 (64.6-76.1)
Neutral/ indifferent	31	10.4 (7.1-13.7)	17	12.2 (7.9-16.6)	26	16.5 (12.2-20.7)
Disagree	51	17.4 (12.0-22.8)	22	17.7 (9.7-25.7)	20	13.2 (8.0-18.3)
NOT ASHAMED TO ADMIT TO INJECTING DRUGS IN GROUP OF OTHER PWID						
Agree	166	54.5 (46.9-62.1)	105	66.7 (58.1-75.4)	103	64.7 (56.8-72.7)
Neutral/ indifferent	27	8.8 (5.7-11.8)	18	13.9 (6.7-21.1)	17	13.0 (8.0-18.0)
Disagree	104	36.7 (29.3-44.2)	27	19.4 (13.2-25.5)	29	22.3 (15.0-29.5)
NOT ASHAMED TO ADMIT TO INJECTING DRUGS IN MEETINGS WITH SOCIAL/HEATH WORKER IN COMMUNITY						
Agree	146	48.7 (41.1-56.4)	57	40.6 (32.3-49.0)	98	66.1 (57.6-74.5)
Neutral/ indifferent	25	6.6 (4.1-9.0)	14	8.19 (5.0-11.2)	17	11.6 (6.1-17.1)
Disagree	126	44.7 (37.1-52.3)	77	51.3 (43.1-59.3)	30	22.3 (15.3-29.4)
HAS TOLD ANYONE THAT HE/SHE INJECTS DRUGS						
Yes	264	83.7 (77.7-89.4)	131	88.6 (83.1-94.1)	137	91.0 (86.2-95.9)
PERSONS TOLD THAT HE/SHE INJECTS DRUGS						
Partner	77	30.1 (23.1-37.0)	35	24.6 (17.3-31.8)	27	14.4 (8.5-19.8)
Family	84	30.4 (23.2-37.6)	33	26.2 (18.5-33.8)	42	29.6 (22.3-36.9)
Friends who inject	210	76.9 (70.4-83.4)	115	89.2 (83.7-94.6)	121	89.0 (84.1-93.9)

Friends who don't inject	51	15.6 (8.5-22.7)	46	30.4 (22.5-38.1)	26	13.6 (10.3-16.4)
Healthcare providers	37	13.3 (6.4-20.1)	13	11.3 (5.2-17.4)	13	9.2 (6.1-12.2)
EVER FELT EXCLUDED FROM FAMILY ACTIVITIES BECAUSE OF INJECTING DRUGS						
Yes	119	38.7 (31.8-45.5)	40	22.1 (15.4-28.8)	67	48.0 (29.5-56.4)
EVER FELT FAMILY MADE UNFAIR COMMENTS OR GOSSIPED BECAUSE OF INJECTING DRUGS						
Yes	95	33.3 (26.3-40.3)	29	19.5 (11.5-26.6)	61	50.0 (38.3-61.5)
AVOIDED HEALTHCARE:						
Fear of stigma	25	49.8 (32.1-67.6)	13	48.2 (29.6-64.3)	3	14.8 (0.0-71.0)
Fear of others knowing of my injecting	20	37.7 (22.8-52.4)	22	89.1 (68.9-100)	23	73.6 (55.3-85.9)
Fear of violence	1	0.4 (0.0-2.2)	3	14.1 (0.0-39.2)	0	-
Fear of harassment	11	21.9 (8.1-35.8)	3	9.0 (0.0-50.3)	5	17.8 (5.5-30.9)
AVOIDED SEEKING HIV TEST IN LAST 12 MONTHS						
Yes	32	9.6 (1.3-18.0)	9	4.8 (2.2-7.3)	20	11.2 (9.2-13.2)
FEARS/CONCERNS FOR AVOIDING SEEKING HIV TEST IN LAST 12 MONTHS:						
Fear of stigma	18	60.5 (38.6-82.7)	4	45.6 (17.9-72.6)	1	9.7 (0.0-30.3)
Fear of others knowing of my injecting	11	25.3 (13.3-36.6)	8	79.7 (53.8-100)	18	87.0 (69.9-100)
Fear of violence	0	-	1	20.3 (0.0-50.7)	0	-
Fear of harassment	5	20.9 (2.7-39.4)	1	11.3^	1	3.3 (0.0-7.3)
EVER SCOLDED FOR INJECTING DRUGS						
Yes	116	39.7 (32.2-47.1)	46	30.2 (23.4-37.0)	65	38.5 (31.4-45.7)
EVER BLACKMAILED FOR INJECTING DRUGS						
Yes	17	7.8 (0.0-18.9)	6	2.5 (1.7-3.3)	12	6.0 (3.2-8.8)
EVER PHYSICALLY HARASSED/HURT FOR INJECTING DRUGS						
Yes	10	3.7 (0.0-14.6)	6	4.4 (1.4-7.2)	10	6.2 (4.8-7.7)
EVER FORCED TO HAVE SEX						
Yes	1	0.2 (0.0-0.4)	2	1.1 (0.4-1.7)	1	0.6 (0.5-0.7)
FORCED TO HAVE SEX BECAUSE OF INJECTING DRUGS						
Yes	0	-	1	65.2^	0	-

^too few values to generate confidence bounds

Physical violence

Nineteen percent of PWID in Yerevan, 8% in Gyumri and 24% in Vanadzor reported ever experiencing physical violence (see Table 1.15.). The median age of first experiencing physical violence was 21 (range: 8-56) in Yerevan, 48 (range: 40-52) in Gyumri and 23 (range: 15-31) in Vanadzor. Most PWID in Yerevan and Vanadzor of those who experienced violence were physically harassed by police (51% and 55% respectively) and in Gyumri the largest percentage category was "other" (40%). None in any of the cities were hurt by a partner the first time they experience violence. Seven percent in Yerevan and 5% in Gyumri and 9% in Vanadzor tried to seek help for being physically hurt. Of those who sought help, 24% of PWID in Yerevan (two persons) sought help from health care staff, one person sought help from police (Gyumri), and one sought help from a religious leader (Gyumri). Of those who sought help (nine persons), one person in Vanadzor was refused it. Of those who did not try to seek professional help, 52% in Yerevan, 62% in Gyumri and 58% in Vanadzor did not feel they needed it and 17% in Gyumri did not feel comfortable accessing it. Several people did not seek help because they were afraid that

police would do something to them because they inject drugs and several - that family members would find out that they inject drugs.

Table 1.15. Physical violence among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER EXPERIENCED PHYSICAL VIOLENCE						
Yes	44	19.0 (12.9-25.2)	11	7.8 (5.6-10.0)	29	23.7 (16.6-31.0)
NUMBER OF TIMES EXPERIENCED PHYSICAL VIOLENCE						
1 time	4	4.9 (0.0-10.1)	1	8.9 (0.0-24.5)	6	24.3 (14.7-35.5)
2-10 times	28	69.8 (56.0-84.0)	7	55.5(19.8-87.1)	18	64.3 (42.0-88.0)
11+ times	12	25.4 (10.7-40.0)	3	35.7 (2.4-73.0)	5	11.4 (0.0-32.2)
RELATIONSHIP TO PERSON WHO PHYSICALLY HURT RESPONDENT FIRST TIME						
Paying sex partner	0	-	0	-	0	-
Non-paying sex partner	0	-	0	-	0	-
Police/ military/ authority	22	51.2 (34.9-67.4)	4	27.7 (5.1-46.2)	16	54.7 (37.0-71.9)
Relative	3	11.4 (0.0-27.8)	1	8.9 (0.0-22.2)	1	2.9 (0.0-6.8)
Friend/ acquaintance	11	27.2 (12.0-42.6)	1	23.9 (0.0-60.6)	9	28.1 (14.9-39.9)
Don't know	2	1.5 (0.0-3.3)	0	-	0	-
Other	5	8.7 (0.0-25.0)	5	39.6 (6.4-69.8)	3	14.4 (0.0-35.2)
EVER PHYSICALLY HURT BECAUSE HE/SHE INJECT DRUGS						
Yes	11	20.4 (7.5-33.1)	2	17.7 (0.4-35.1)	5	13.5 (2.8-22.5)
EVER TRIED TO SEEK PROFESSIONAL HELP BECAUSE OF BEING PHYSICALLY HURT						
Yes	5	6.7 (0.7-12.4)	1	4.7 (0.0-9.5)	3	8.8 (0.0-17.6)
WHICH PROFESSIONAL HELP SOUGHT BECAUSE OF BEING PHYSICALLY HURT						
Health care staff	2	24.1 (5.0-41.1)	0	-	2	-
Police/security	0	-	1	-	0	-
Social worker/ counselor/NGO	0	-	0	-	0	-
Religious leader	0	-	1	-	0	-
Don't know	0	-	0	-	0	-
EVER REFUSED HELP WHEN SEEKING HEALTH BECAUSE OF BEING PHYSICALLY HURT						
Yes	0	-	0	-	1	59.5^
REASON FOR NOT SEEKING PROFESSIONAL HELP						
Do not know what services available	3	3.6 (0.2-6.8)	2	18.6 (0.0-51.1)	4	13.5 (0.4-25.6)
Services were not there	6	17.6 (8.6-26.8)	1	3.0 (0.0-14.0)	2	13.4 (0.0-32.4)
Was uncomfortable accessing services	7	8.7 (4.3-12.5)	2	16.6 (0.0-34.7)	3	5.5 (0.0-7.5)
Did not feel that I needed services	17	52.2 (38.0-66.9)	5	61.8 (26.2-100)	13	58.3 (35.5-84.4)
Don't know	3	9.0 (3.5-14.4)	0	-	1	3.3 (0.0-8.3)
Other	2	8.9 (0.0-23.7)	0	-	2	6.1 (0.0-25.1)
REASONS FOR BEING UNCOMFORTABLE						
Worried service provider would treat me poorly if knew I am PWID	0	-	1	56.0^	0	-
Afraid my partner/family would find out I am PWID	0	-	1	56.1^	0	-

Afraid authorities would find out I am PWID	0	-	0	-	1	56.1^
Worried other would find out I am PWID	2	10.1 (0.2-17.4)	0	-	2	-
Don't know	5	90.1 (58.6-100)	1	44.3^	0	-
TOLD ABOUT EVER BEING PHYSICALLY HURT						
Yes	33	70.5 (54.4-86.3)	10	91.1 (79.0-100)	23	84.1 (64.5-100)
PERSONS TOLD ABOUT EVER BEING PHYSICALLY HURT						
Paying sex partner	0	-	0	-	0	-
Non-paying sex partner	0	-	0	-	0	-
Police/military/ authority	0	-	2	7.5 (0.0-11.3)	3	24.3 (7.5-47.1)
Relative	9	18.1 (7.9-28.2)	4	35.1 (12.7-57.1)	3	7.2 (0.0-13.9)
Friend/ acquaintance	27	57.1 (43.1-70.7)	6	59.9 (31.0-90.3)	22	82.1 (60.5-100)
Don't know	3	10.1 (0.0-21.6)	1	8.9 (0.0-21.9)	0	-

HIV/AIDS

HIV/AIDS risk, knowledge, and beliefs

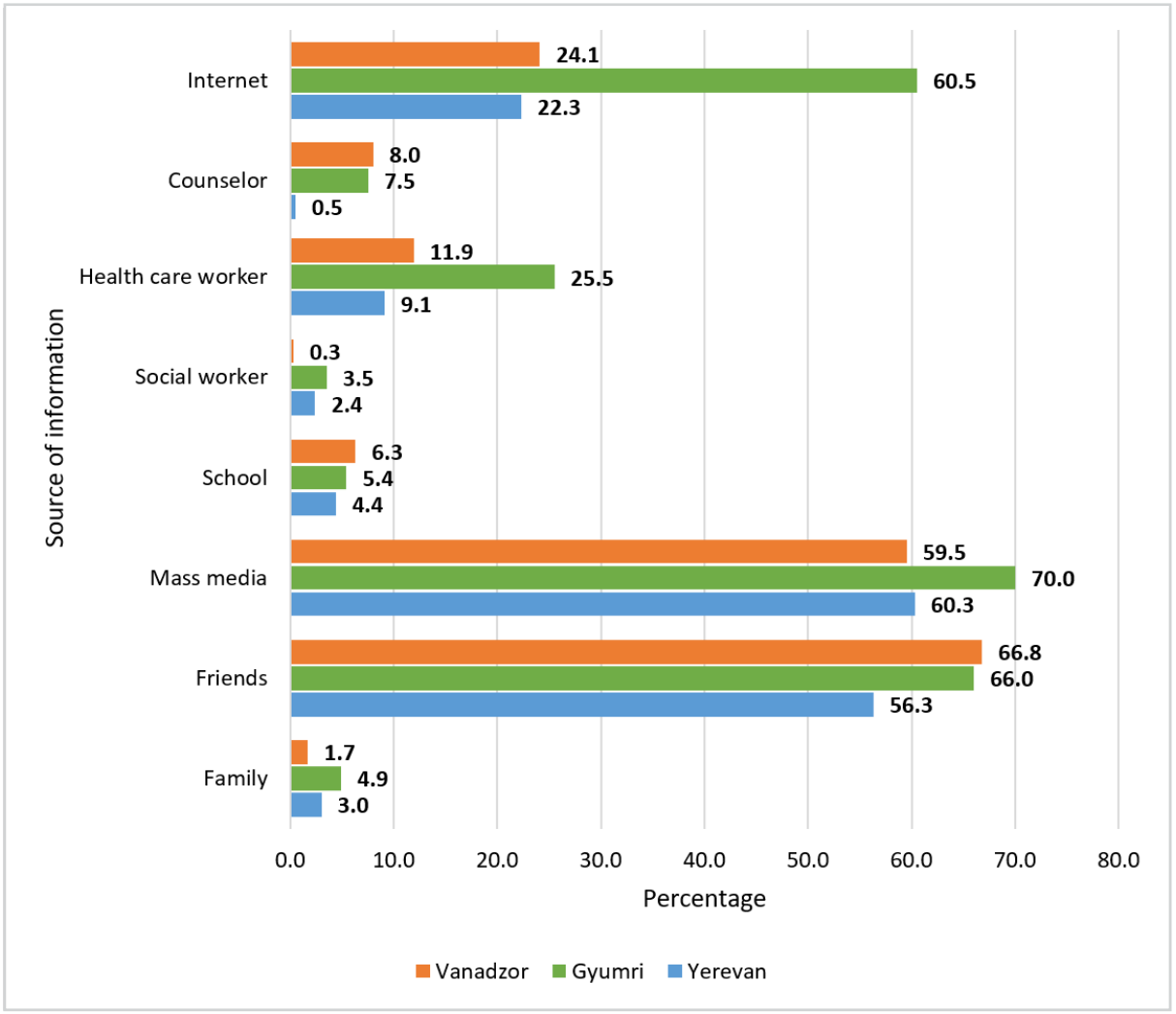
More than 90% of all PWID in Yerevan, Gyumri and Vanadzor reported having heard of HIV/AIDS. Forty eight percent in Yerevan, 40% in Gyumri and 50% in Vanadzor reported that their chances of being infected with HIV were low (Table 1.16.); 46% in Yerevan, 53% in Gyumri and 44% in Vanadzor perceived that there was no risk. Percentages for correct knowledge about HIV transmission among PWID (composite indicator containing five questions) was low ranging from 17% in Yerevan to 20% Gyumri and Vanadzor.

Table 1.16. HIV/AIDS risk, knowledge, and perceptions among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HAS EVER HEARD OF HIV/AIDS						
Yes	288	93.9 (88.5-99.3)	136	91.4 (87.3-95.5)	145	95.4 (91.4-99.4)
ESTIMATED PROBABILITY OF BEING INFECTED WITH HIV						
High	21	4.2 (1.1-7.2)	6	3.2 (0.8-5.5)	7	4.7 (1.3-8.1)
Low	139	48.3 (40.9-55.7)	57	39.9 (30.9-48.7)	77	50.2 (42.3-58.3)
No risk	117	45.8 (39.1-52.7)	67	53.0 (44.0-62.3)	57	43.8 (36.1-51.6)
HIV knowledge score						
At least one incorrect	238	82.8 (77.5-88.0)	119	80.4 (74.2-86.6)	118	80.4 (74.8-85.8)
All correct	62	17.2 (12.0-22.5)	31	19.6 (13.4-25.9)	32	19.6 (14.2-25.2)
SOURCES OF HIV/AIDS INFORMATION						
Family	7	2.9 (0.0-8.3)	8	4.5 (3.4-5.5)	3	1.7 (0.2-3.1)
Friends	162	52.8 (47.4-58.3)	88	60.3 (54.2-66.4)	104	63.7 (55.7-71.6)
Mass media	168	56.6 (50.9-62.3)	93	64.0 (58.0-69.9)	84	56.7 (48.9-64.5)
School	16	4.2 (0.0-18.6)	8	(5.0-3.7-6.2)	12	6.0 (3.2-8.8)
Social worker	11	2.2 (0.0-5.2)	5	3.2 (2.3-4.2)	1	0.3 (0.1-0.5)
Health care worker	33	8.5 (0.0-18.0)	36	23.3 (16.1-30.5)	20	11.4 (7.5-15.3)
Counselor	3	0.5 (0.0-0.9)	10	6.9 (5.0-8.8)	14	7.7 (4.6-10.7)
Internet	68	20.9 (14.7-27.2)	77	55.3 (49.3-61.2)	28	23.0 (15.4-30.6)

Mass media and friend were the most common sources of HIV/AIDS information for PWID in all three cities (Figure 1.8). Friends was the second most often reported source of information, followed by the internet.

Figure 1.8. Sources of HIV/AIDS information among PWID



HIV testing, condoms and sterile needles and syringes

Approximately half of PWID in Gyumri and in Vanadzor (47% and 48% respectively) and 60% in Yerevan know where to get an HIV test (Table 1.17.). Only 25% in Yerevan, 17% in Gyumri and 30% in Vanadzor had an HIV test in the past 12 months or knew their HIV-positive status. Six percent in Yerevan, 10% in Gyumri and 3% in Vanadzor received a positive result during the last test. The first of the three pillars of the 95-95-95 HIV care cascade, "People living with HIV who know their status" was 78% in Yerevan, 100% in Gyumri and 52% in Vanadzor.

Table 1.17. HIV testing among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
KNOWS WHERE TO GET AN HIV TEST						
Yes	184	59.6 (53.3-66.0)	66	46.7 (38.4-55.0)	71	48.2 (41.2-55.3)
KNOWS ABOUT HIV TEST AT THE NGO						

Yes	6	1.3 (0.0-3.9)	6	5.4 (0.0-10.3)	9	8.6 (1.6-13.5)
KNOWS ABOUT HIV TEST AT THE MEDICAL CENTER						
Yes	179	98.9 (96.7-100)	62	96.9 (95.8-99.0)	67	96.3 (94.8-98.8)
ACCESSIBILITY OF HIV TEST						
Yes	170	52.3 (45.3-59.4)	65	41.1 (33.3-48.8)	64	43.6 (35.4-51.8)
EVER HAD AN HIV TEST						
Yes	179	52.9 (44.9-61.0)	61	37.9 (29.9-45.9)	82	47.8 (39.9-55.7)
TIME OF LAST HIV TESTING						
In the last 6 months	58	29.1 (20.1-38.0)	16	24.4 (12.0-36.3)	42	47.7 (34.7-58.8)
6-12 months ago	34	18.9 (11.0-26.8)	11	17.4 (7.0-27.7)	11	13.2 (2.6-23.7)
More than 12 months ago	87	52.0 (42.4-61.7)	34	58.2 (44.3-72.8)	29	39.0 (28.7-51.5)
RECEIVED RESULTS OF THE LAST HIV TEST						
Yes	173	95.4 (82.8-100)	58	95.0 (87.5-100)	80	98.5 (98.0-99.6)
HIV TEST IN PAST 12 MONTHS AND RECEIVED RESULTS (AMONG ALL PARTICIPANTS)						
Yes	92	25.4 (18.6-32.2)	27	15.9 (9.4-22.3)	53	29.1 (22.5-35.8)
TESTED FOR HIV IN THE PAST 12 MONTHS, OR WHO KNOW THEIR CURRENT POSITIVE HIV STATUS						
Yes	93	24.7 (18.2-31.2)	28	16.6 (10.4-22.8)	54	29.7 (23.2-36.1)
TEST RESULT FROM LAST HIV TEST						
Positive	13	6.4 (0.0-14.3)	5	9.8 (0.0-22.9)	3	2.5 (0.9-3.3)
Negative	157	93.3 (85.3-100)	52	88.3 (74.0-100)	76	96.5 (94.9-99.1)
Indeterminant	1	0.2 (0.0-0.5)	1	1.9 (0.0-4.7)	1	1.0 (0.0-2.5)
Don't know	1	0.1 (0.0-0.3)	0	-	0	-
PWID WHO KNOW THEIR HIV-POSITIVE STATUS (AMONG THOSE WHO TESTED HIV-POSITIVE IN THE STUDY)						
	6	78.3 (35.1-100)	5	100	3	52.3 (7.6-73.5)
HAD BEEN TESTED FOR STI IN THE PAST 12 MONTHS						
Yes	36	9.9 (5.8-14.0)	18	9.0 (5.5-12.5)	13	9.3 (4.3-14.4)
HAD BEEN DIAGNOSED WITH STI IN THE PAST 12 MONTHS						
Yes	4	22.0 (2.9-42.3)	6	27.8 (11.2-41.4)	4	47.2 (17.5-87.1)

Only 22% in Yerevan, 19% in Gyumri and 26% in Vanadzor received condoms from an NGO or outreach worker, and only 21% in Yerevan, 24% in Gyumri and 33% in Vanadzor received sterile needles and syringes in the past 12 months (Table 1.18.).

Table 1.18. Condoms and sterile needles and syringes

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
RECEIVED ANY 1 OF 3 SERVICES (CONDOMS, COUNSELING, SYRINGES) IN THE PAST 12 MONTHS						
Yes	95	25.3 (19.1-31.5)	41	25.4 (18.1-32.7)	65	35.2 (28.5-42.0)
RECEIVED 3 SERVICES (CONDOMS, COUNSELING, SYRINGES) IN THE PAST 12 MONTHS						
Yes	69	17.5 (12.0-23.1)	27	17.5 (9.3-25.7)	38	21.3 (15.8-26.9)
RECEIVED ANY 2 OF 3 SERVICES (CONDOMS, COUNSELING, SYRINGES) IN THE PAST 12 MONTHS						
Yes	83	22.4 (16.2-28.6)	32	19.8 (12.6-27.0)	48	26.1 (19.7-32.6)
PROVIDED WITH CONDOMS DURING THE LAST 12 MONTHS BY OUTREACH WORKERS AND NGO						
Yes	80	22.1 (15.8-28.4)	31	18.9 (10.6-27.3)	48	25.9 (19.9-32.0)
RECEIVED COUNSELING ON THE USE OF CONDOMS AND SAFE SEX DURING THE PAST 12 MONTHS						

Yes	84	22.0 (15.9-28.1)	30	19.6 (10.9-28.3)	44	24.2 (17.7-30.8)
PROVIDED WITH STERILE NEEDLES IN LAST 12 MONTHS						
Yes	83	21.1 (15.1-27.2)	39	23.7 (16.3-31.1)	61	33.3 (26.1-40.4)

HIV, Syphilis and HCV and HBV prevalence

Based on EIA confirmatory test results, HIV prevalence among PWID was 3% in Yerevan, 6% in Gyumri and 2% in Vanadzor (Table 1.19). Active Syphilis prevalence was 1% in Gyumri and Vanadzor; there were no cases of Syphilis in Yerevan. HCV prevalence was 39% in Yerevan, 28% in Gyumri and 15% in Vanadzor. HBV prevalence was below 1% in Yerevan, 1% in Gyumri, and no HBV cases were detected in Vanadzor.

Table 1.19. HIV, Syphilis, HCV and HBV prevalence among PWID

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HIV	9	2.5 (0.3-4.8)	7	6.0 (1.4-10.7)	4	2.2 (0.2-4.3)
Syphilis	0	-	2	1.4 (0.0-2.9)	2	1.1 (0.0-2.1)
HCV	133	39.4 (31.4-47.4)	40	27.6 (19.9-35.1)	21	15.3 (9.9-20.7)
HBV	2	0.4 (0.0-0.9)	2	1.1 (0.0-2.5)	0	-

KEY FINDINGS AND RECOMMENDATIONS - PWID[4]

Few females captured in the survey

Only twenty females were recruited in the PWID survey[5], which could be either because there are very few females in this KP in general, or there are cultural factors that prevent women who inject drugs from participating in surveys. More efforts are needed to gain a better understanding of injecting practices of females who inject drugs in Armenia. As suggested in all the past rounds of IBBS, given that females who inject drugs are less 'visible' than males, qualitative research methods should be used to measure injecting behaviors and risks among females. It could be possible that female PWID also have lower access to prevention and testing services than male PWID.

Key socio-demographic characteristics

The majority of PWID are older than 25 years, have primary or secondary education, and are married or live with a partner. These socio-demographic characteristics are important for developing effective and accessible HIV prevention interventions targeting PWID.

HCV prevalence is high

PWID have high HCV prevalence, especially in Yerevan. Most of these HCV cases may be older cases given that most PWID report that they do not share needles and paraphernalia. It is necessary to prioritize prevention, diagnosis, and treatment of HCV among PWID, including routine screening of all persons who inject drugs.

Low HIV prevalence in Yerevan and Vanadzor; low syphilis prevalence

HIV prevalence was 2.5% in Yerevan, 6.0% in Gyumri and 2.2% in Vanadzor. Higher HIV prevalence in Gyumri can be further analyzed together with HIV prevention and testing coverage data, as well as other contextual information. Syphilis prevalence was 1.4% in Gyumri and 1.1% in Vanadzor; there were no cases of Syphilis in Yerevan.

HIV care cascade among PWID

The first of the three pillars of the HIV care cascade, "People living with HIV who know their status" was 79% among PWID. For consistency purposes with the previous rounds of IBBS, questions about receiving ART or viral load suppression were not included in the survey, neither was viral load testing, thus it was not possible to construct an HIV care cascade among PWID. Adding these questions and viral load testing in the future rounds of IBBS will enable estimation of cascade indicators. Ensuring achievement of the 95-95-95 goals set by UNAIDS in each KP is a prerequisite of ending the HIV epidemic.

High risk behavior among mobile PWID

Most PWID reported not spending time away from home for more than one month in the last year. However, among those who reported having spent time away, a high percentage reported having sex without a condom and injecting drugs while they were away from home for more than one month in the last year. Tailored HIV prevention messages for both PWID and their partners should be implemented in cities with highly mobile PWID.

[4]A number of findings and recommendations were adapted from the "Integrated biological-behavioral surveillance survey among people who inject drugs, female sex workers, men who have sex with men and transgender persons 2018", as many findings and trends remain valid in 2021.

[5]During the last IBBS round only nine females who inject drugs were enrolled, which is fewer than this survey round.

PWID engage in high-risk sexual behaviors with partners

Despite most PWID reporting being married or living with a partner, the majority reported multiple sexual partners (range: 2 to 5) in the past year. The majority of PWID do not use condoms with regular partners, and mostly use condom with non-regular partners. In addition, a sizable proportion of PWID reported ever paying for sex. Having unprotected sex with multiple sex partners increases the risk of acquiring and transmitting STI. Condom promotion programs in conjunction with PWID harm reduction services should continue to be made available and accessible to all PWID.

Alcohol consumption among PWID

Most PWID consume alcohol, among which many reported having more than six alcoholic drinks on one occasion. The concurrent use of alcohol and drugs can increase overdose mortality among PWID[6]. The survey findings highlight the continued need for the integration of substance abuse services, into HIV prevention interventions that targeting PWID.

Injecting drug use and sharing behaviors are low among PWID

Among PWID who reported injecting drugs in the last month, sharing practices are still present: 17% in Yerevan, 8% in Gyumri, and 21% in Vanadzor reported sharing injection paraphernalia during the last one month. Scaling-up of harm-reduction programs, including the provision of sterile needles and injection equipment, is crucial in reducing HIV and HCV transmission in PWID. Prevention interventions should provide information to PWID on how to properly sterilize needles and communicate the risks associated with sharing needles and other injecting equipment. Effective treatment for drug addiction should be accessible to PWID.

Low OST and drug dependence treatment coverage

The majority of PWID in Yerevan and Vanadzor and around half of PWID in Gyumri reported a desire to stop injecting drugs, however, most reported not seeking a doctor to receive treatment in the last year. Few PWID reported using methadone in the past year, many of whom reported that they did not believe it was an effective treatment or because of fear of addiction. This indicates lack of accessible information within the PWID population about drug addiction and opioid substitution treatment, as well as, potentially, suboptimal accessibility of these services. Effective treatment modalities, including methadone substitution therapy, are essential to reducing drug addiction.

PWID are injecting drugs while incarcerated

A high percentage of PWID reported being targeted by law enforcement, among which a significant proportion were arrested. Many PWID in Yerevan, Gyumri and Vanadzor reported injecting drugs while incarcerated. Among those who continued injecting drugs in prison, many (44% in Yerevan, 46% in Gyumri, 27% in Vanadzor) reported sharing syringes in prison. Correctional facilities should provide testing, treatment, and linkage to care programs, as well as harm reduction services, for PWID while they are in prison.

[6] *Degenhardt L, Bucello C, Mathers B, Briegleb C, Ali H, Hickman M, et al. Mortality among regular or dependent users of heroin and other opioids: a systematic review and meta-analysis of cohort studies. Addiction. 2011;106(1):32–51. Available from: http://doi.wiley.com/10.1111/j.1360-0443.2010.03140.x*

Avoiding healthcare services due to stigma and discrimination is low

Although less than 20% of PWID in all three cities reported avoiding healthcare services due to stigma and discrimination, most respondents reported being ashamed to be injecting drugs. Most PWID in Gyumri were ashamed to tell social and healthcare workers about injecting drugs. Further research is needed to understand the existence and impact of stigma and discrimination to the accessibility of health care services. Training and sensitization programs for PWID-friendly service delivery should be provided to doctors and care givers. Routine monitoring of stigma and discrimination in health care settings should be conducted.

PWID report low levels of physical violence

Most PWID in all three cities did not report ever experiencing physical violence. Among those who did, most PWID in Yerevan and Vanadzor were harassed by police, whereas in Gyumri most reported being harassed by "other". Further research is needed to explore the cases of physical violence more in-depth.

Low HIV knowledge and perceived risk

Twenty percent and less were knowledgeable about HIV transmission and most reported low or no risk of HIV infection. HIV/AIDS education campaigns should be emphasized alongside harm reduction programs. Existing interventions should continue to emphasize the risks associated with injection drug use and dispel any myths about the cause, transmission, and treatment of HIV.

HIV testing is low among PWID

Although most PWID reported accessibility to HIV testing services, only about half in Yerevan, 38% in Gyumri and 48% in Vanadzor reported having ever received an HIV test. Among PWID who reported having ever been tested for HIV, almost half had the test in the last 12 months. Access to HIV testing should be further expanded among this key population to reach the HIV care cascade targets.

Access to HIV prevention services

Only 22% in Yerevan, 19% in Gyumri and 26% in Vanadzor received condoms from an NGO or outreach worker, and only 21% in Yerevan, 24% in Gyumri and 33% in Vanadzor received sterile needles and syringes in the past 12 months. Further scale up of proven HIV prevention services for PWID such as condom distribution and syringe exchange are necessary in order to keep new HIV and HCV cases low. No questions about knowledge or access to PrEP were asked during the survey for the reason of consistency with previous rounds of IBBS, yet it is known that PrEP coverage among PWID is very small if at all present. Acceptance and effectiveness of PrEP as a prevention measure in this population should be further investigated.

SUMMARY OF KEY RECOMMENDATIONS

- Additional efforts are required to reach the 95-95-95 HIV care cascade targets among PWID
- Scale up non-clinical and clinical routine HIV, HCV and STI testing services
- Harm reduction services should be made available and easily accessible to PWID
- Information about and access to PrEP should be made available for PWID

- Substance abuse counseling and treatment should be integrated with HIV prevention programs targeting PWID
- Methadone substitution therapy should be considerably scaled up
- HIV/AIDS education services should be scaled up, with a specific focus on risks associated with injection drug use.
- Formative research is needed to better understand the injecting and sexual behaviors as well as access to services of females who inject drugs.
- Combination prevention services should be scaled-up
- Testing, treatment, and linkage to care programs should be implemented in correctional facilities.
- Provide HIV/AIDS education and harm reduction services should be provided to PWID who are incarcerated.
- Include HIV care cascade questions in the next round of IBBS to be able to construct an HIV care cascade among PWID.

FEMALE SEX WORKERS

Three hundred (including three seeds) FSW in Yerevan, 150 (including two seeds) in Gyumri, and 150 (including two seeds) in Vanadzor were recruited into the 2021 IBBS. The maximum number of waves in the recruitment chains of Yerevan was 11 (Figure 2.1), in Gyumri it was 10 (Figure 2.2) and in Vanadzor was 13 (Figure 2.3).

Figure 2.1 Recruitment graph for FSW in Yerevan (n=300), three recruitment chains

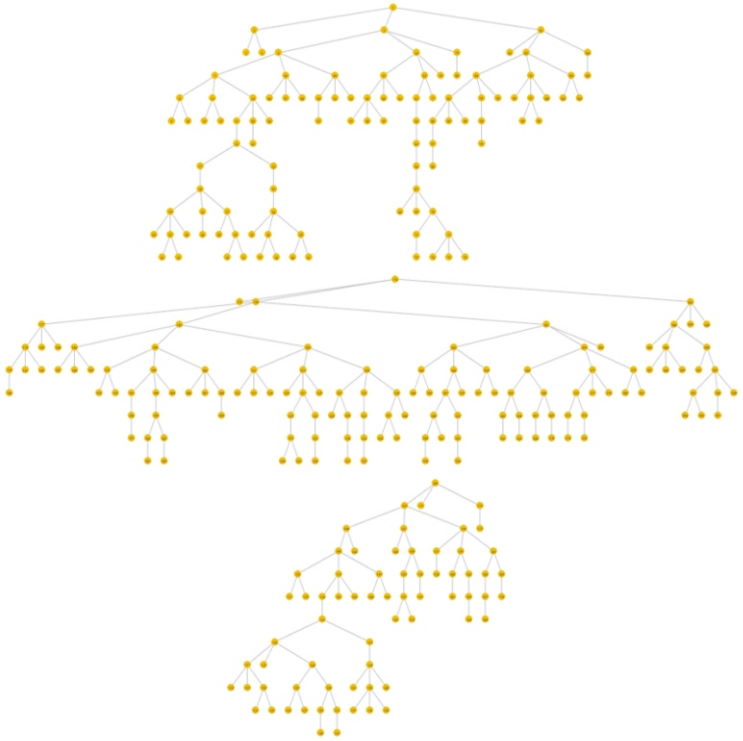


Figure 2.2 Recruitment graph for FSW in Gyumri (n=150), two recruitment chains

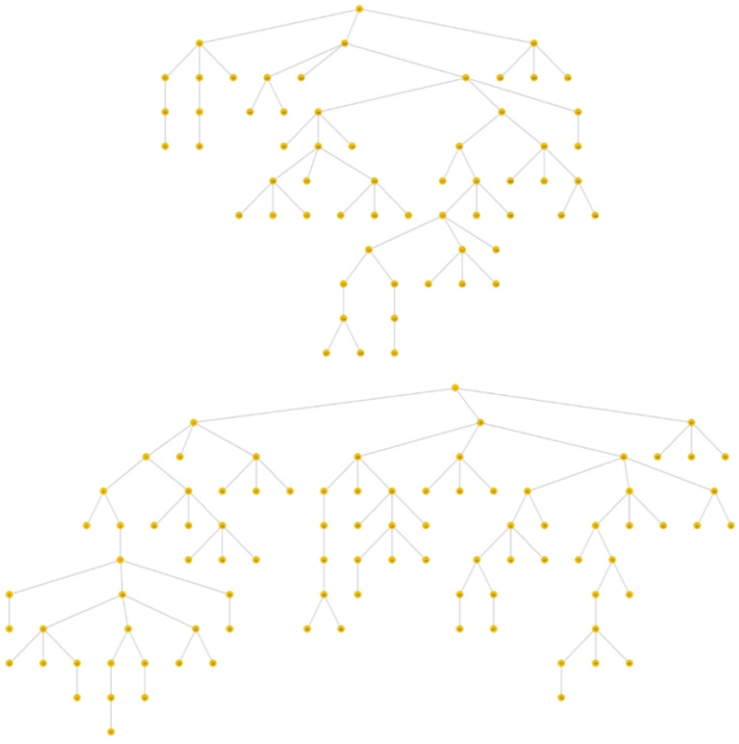
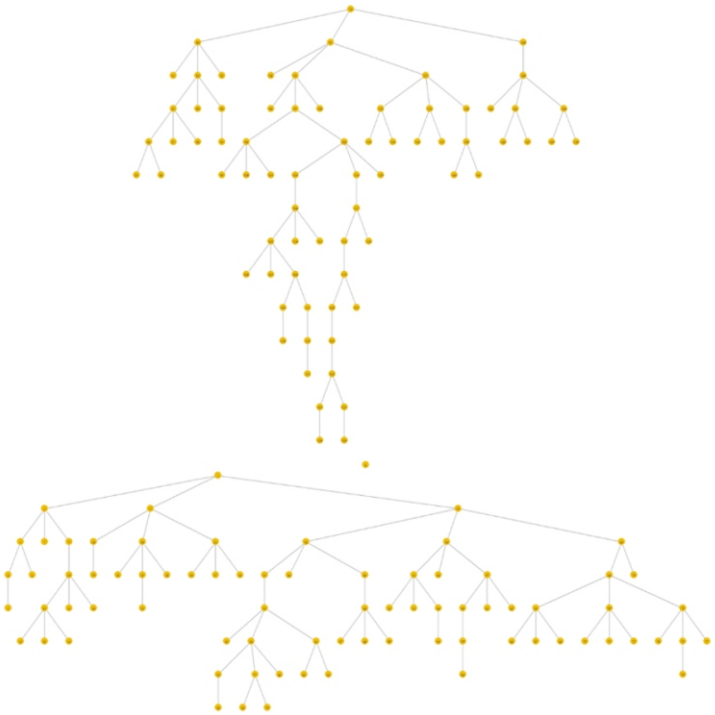


Figure 2.3 Recruitment graph for FSW in Vanadzor (n=150), two recruitment chains



Socio-demographic characteristics

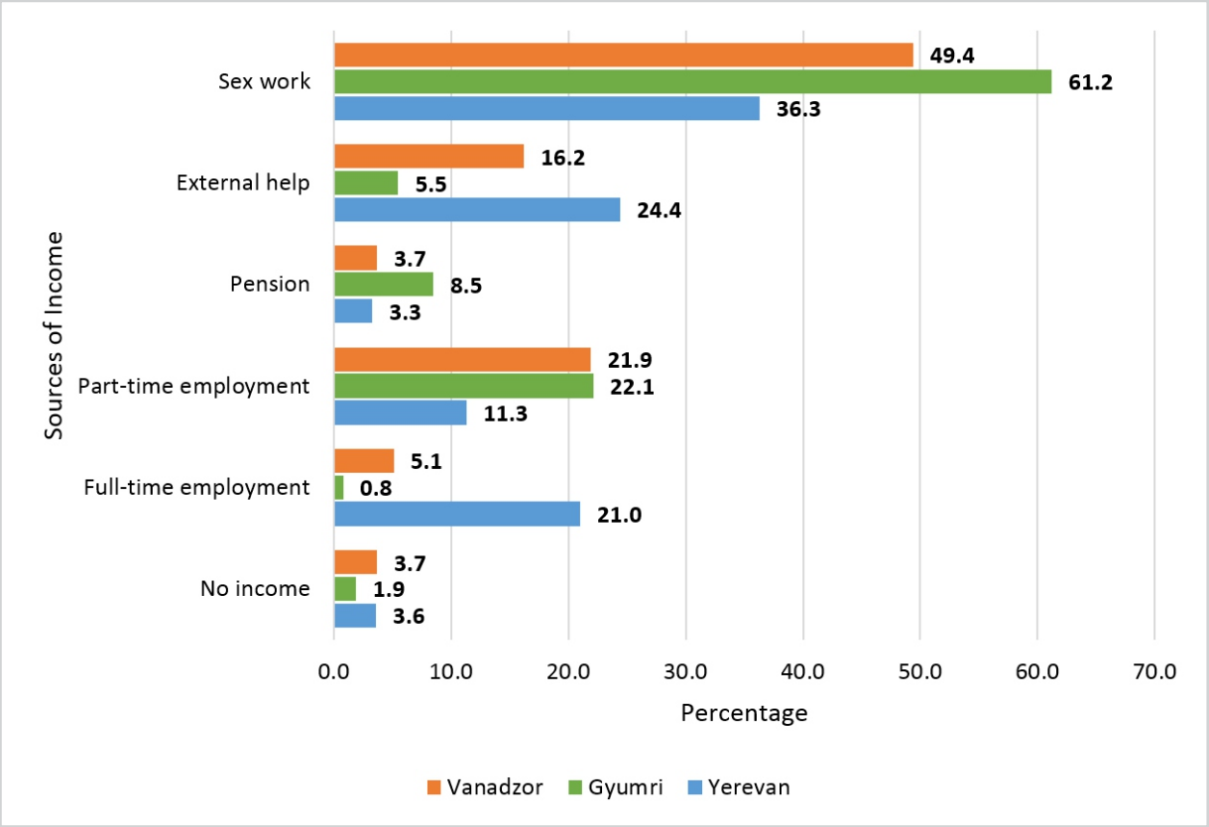
Most FSW in each of the three cities were 25 years and above, and almost all were born in Armenia (Table 2.1.). Almost all FSW had some education, among which the majority reported having secondary or technical education.

Table 2.1. Age, country of birth and education among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AGE						
<=24	47	14.7 (8.8-20.6)	11	8.2 (4.5-11.9)	14	10.3 (5.6-15.0)
25-34	59	22.2 (15.0-29.5)	48	31.1 (24.2-38.0)	39	26.2 (21.5-30.9)
35-44	90	27.8 (20.7-34.9)	60	41.1 (34.2-48.1)	45	31.6 (26.2-37.1)
45+	104	35.3 (27.3-43.2)	29	19.6 (13.9-25.3)	50	31.9 (27.1-36.7)
AGE GROUP						
<25	47	14.7 (8.4-20.9)	11	8.1 (4.3-11.9)	14	10.2 (5.6-14.6)
>=25	253	85.3 (79.1-91.6)	137	91.2 (87.4-94.9)	134	88.7 (84.2-93.2)
Unknown	0	-	2	0.7 (0.2-1.3)	2	1.1 (0.7-1.6)
COUNTRY/NATION OF BIRTH						
Armenia	273	91.7 (87-96.4)	143	96.7 (95.3-98.1)	149	99.5 (99.2-99.8)
Other	27	8.3 (3.7-13.1)	7	3.3 (1.9-4.7)	1	0.5 (0.2-0.8)
THE HIGHEST LEVEL OF SCHOOL COMPLETED						
Primary	20	9.4 (4.6-14.3)	63	39.5 (33.2-45.9)	34	22.4 (17.9-26.9)
Secondary	130	36.1 (29.3-43)	50	34.4 (27.6-40.9)	29	21.3 (16.3-26.3)
Technical	89	33.5 (25.8-41.3)	23	16.3 (11.3-21.3)	60	39.6 (34.4-44.9)
Higher	61	20.9 (14.3-27.5)	14	9.9 (5.5-14.3)	27	16.7 (13.1-20.3)

Sixty one percent in Gyumri, 49% in Vanadzor and 36% in Yerevan sell sex as their main source of income. Twenty one percent in Yerevan, and only 1% in Gyumri and 5% in Vanadzor had full time work. (Figure 2.4).

Figure 2.4 Main sources of income among FSW



Marital status

Half of FSW in Yerevan, 4% in Gyumri and 12% in Vanadzor are married (Table 2.2.). Most FSW in Gyumri and Vanadzor are divorced. Just over half of FSW in Yerevan, 39% in Gyumri and 23% in Vanadzor are living with their sexual partner.

Table 2.2 Marital status among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
CURRENT MARITAL STATUS						
Single	60	20.6 (15.9-25.4)	11	7.3 (4.3-10.2)	21	13.3 (10-16.5)
Married	150	50.5 (41.8-59.2)	6	4.4 (1.2-7.6)	17	12.3 (7.8-16.6)
Divorced	61	19.4 (13.3-25.6)	111	77.1 (72.1-82.2)	87	57.2 (51.9-62.5)
Civil marriage	0	-	0	-	2	1.2 (0.6-1.8)
Widowed	28	9.4 (3.6-15.3)	21	11.3 (8-14.5)	22	16.1 (12-20.3)
LIVES WITH SEXUAL PARTNER						
Yes	170	51.1 (43.3-58.9)	63	39.0 (31.3-46.6)	33	23.1 (18.3-27.9)

Mobility

Most FSW in all cities were away from home for more than one month in the last year (Table 2.3.). Among those few who reported being away from home for more than one month in the last year, most spent their time in Armenia; however, 40% in Yerevan and Vanadzor and 22% in Gyumri spent time in Russia. Among FSW who spent time away from home for more than one month in the past year, 73% in Yerevan, 51% in Gyumri and 42% in Vanadzor had sexual intercourse without a condom. Few FSW were abroad for three months or more in the last year for the purposes of labor or for the purposes of selling sex.

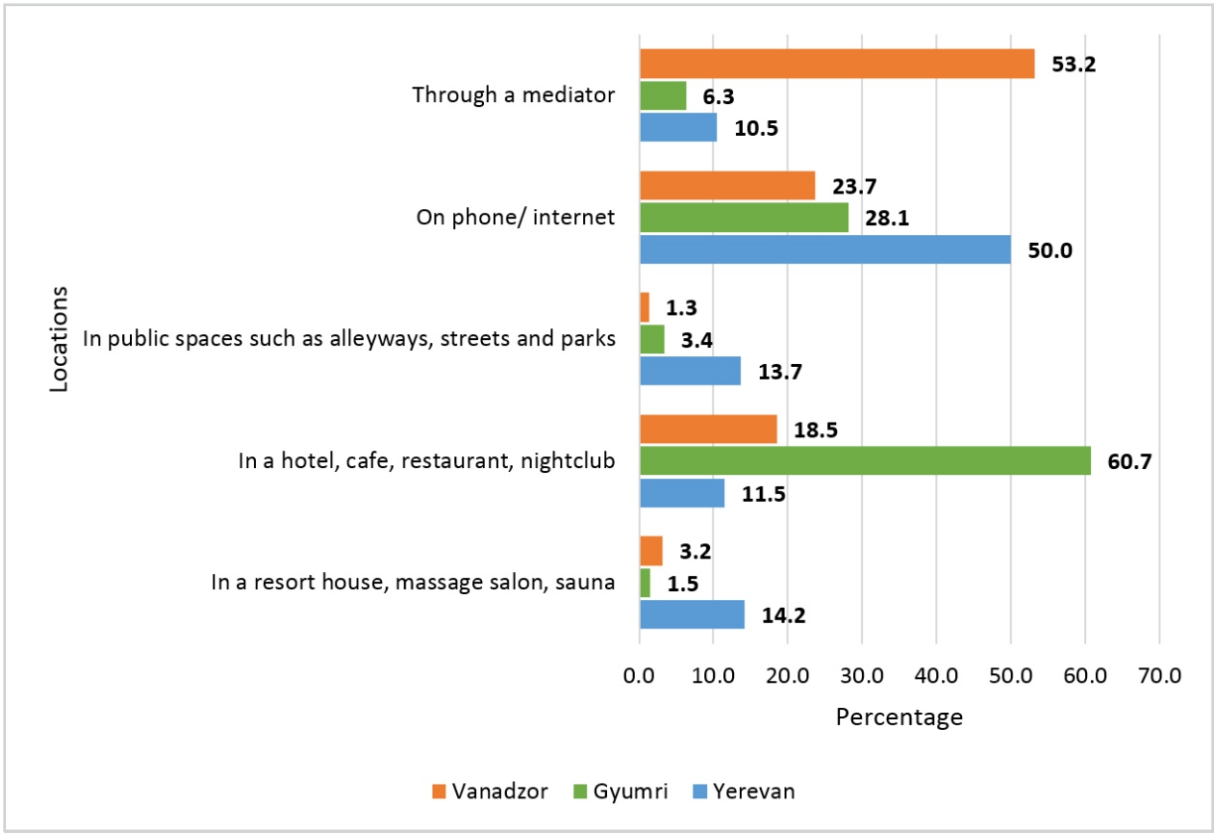
Table 2.3. Mobility of FSW in last year

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AWAY FROM HOME FOR MORE THAN 1 MONTH IN LAST YEAR						
Yes	19	7.8 (3.5-12.1)	17	13.4 (8.6-18.3)	27	17.6 (14.6-20.6)
COUNTRY WHERE RESPONDENT WAS AWAY FROM HOME FOR MORE THAN 1 MONTH						
Armenia	5	52.1 (23.5-83.2)	14	78.1 (48.8-100)	16	59.4 (44.7-75.1)
Russia	10	39.7 (22.8-55.5)	3	22 (9.8-36.7)	11	40.4 (24.9-56.1)
Other	4	8.2 (1.3-13.7)	0	-	0	-
HAD SEX WITHOUT CONDOM WHILE AWAY FROM HOME FOR MORE THAN 1 MONTH IN LAST YEAR						
Yes	6	72.7 (56.2-90.1)	8	51.4 (29.6-73.8)	11	42 (27.9-59.7)
ABROAD FOR THREE MONTHS OR MORE IN LAST YEAR FOR LABOR						
Yes	3	15.3 (0.0-31.6)	7	40 (20.1-58.1)	0	-
ABROAD FOR THREE MONTHS OR MORE IN LAST YEAR FOR SELLING SEX						
Yes	4	17.2 (2.6-31.4)	1	9.2 (0.0-35.7)	0	-

Sexual behavior

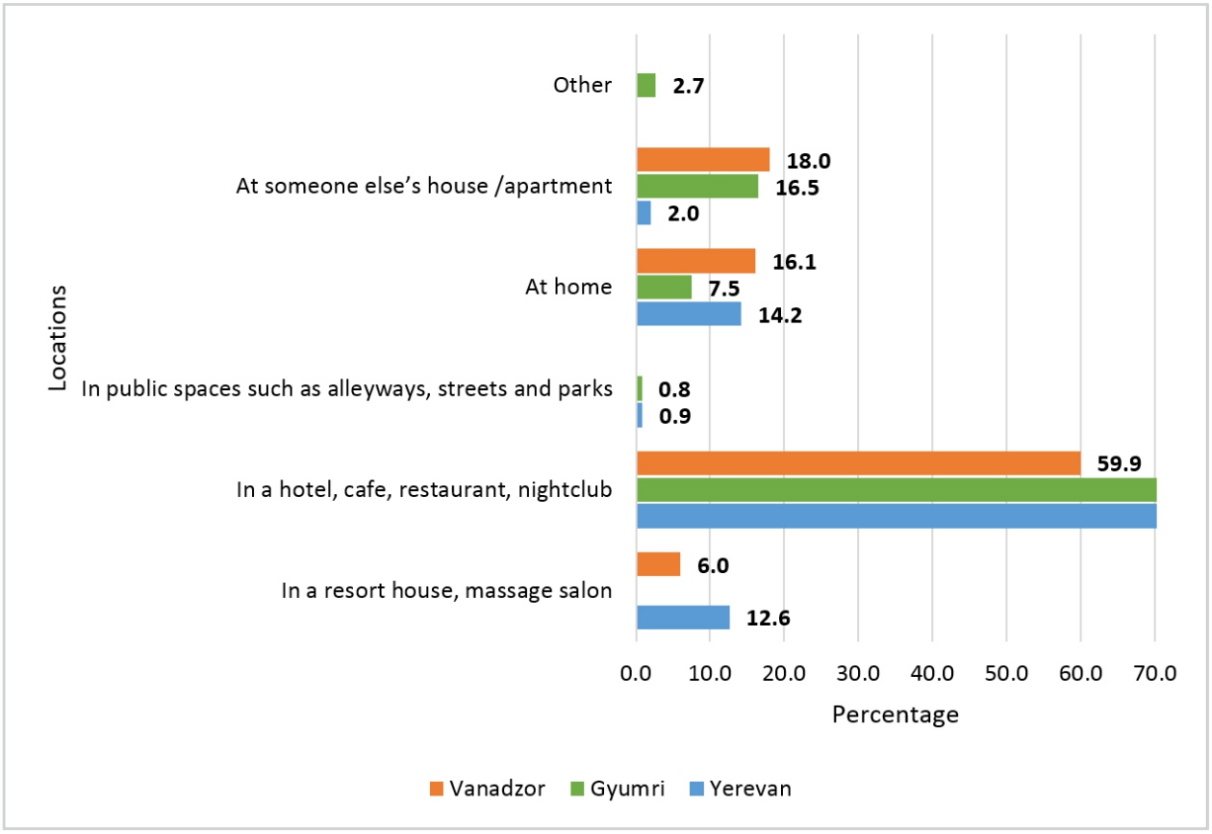
The median age at first sexual intercourse was 20 in Yerevan (range: 13 to 37), 17 in Gyumri (range: 14 to 25), and 19 in Vanadzor (range: 15 to 26). The median age at first sexual intercourse in exchange for money was 27 in Yerevan (range: 10 to 52), 24 in Gyumri (range: 17 to 40), and 26 in Vanadzor (range: 16 to 36). Places to meet clients differed by city. Half of FSW in Yerevan most often met their clients on the phone or through the Internet, 61% in Gyumri met clients in a hotel, café or restaurant, and 53% in Vanadzor met clients through an agent (Figure 2.5).

Figure 2.5. Places to most often meet/find clients among FSW



Most FSW in all cities most often provided sexual services at hotels, clubs, bars, or restaurants (Figure 2.6).

Figure 2.6. Places where FSW most often providing sexual services to clients



Non-commercial sex partners

Sixty two percent of FSW in Yerevan, 20% in Gyumri and 29% in Vanadzor had sexual intercourse with non-commercial sex partners in the past 12 months (Table 2.4.). Among those who had a non-commercial sex partner in the past month, most in all three survey locations had one such partner. Only 26% in Yerevan, 56% in Gyumri and 58% in Vanadzor used a condom during their last sex with a non-commercial sex partner. 49% of FSW in Yerevan, 40% in Gyumri and 16% in Vanadzor never used a condom with a non-commercial sex partner. Reasons for not using a condom included "I trust my partner" (62% in Yerevan, 86% in Gyumri and 52% in Vanadzor). Twenty six percent in Yerevan, 37% in Gyumri and 63% in Vanadzor did not use condoms with non-commercial sex partners because they reduce pleasure. Three persons in Vanadzor reported not using condoms because they were on PrEP.

Table 2.4. Sexual behavior with non-commercial sex partners among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
SEX WITH NON-COMMERCIAL SEX PARTNERS IN PAST 12 MONTH						
Yes	132	62.2 (55.0-69.6)	30	20.2 (18.3-22.1)	38	28.5 (23.4-33.3)
SEX WITH NON-COMMERCIAL SEX PARTNERS IN PAST MONTH						
Yes	109	51.5 (46.8-56.4)	29	19.8 (17.9-21.7)	36	27.0 (25.3-28.9)

NUMBER OF NON-COMMERCIAL SEX PARTNERS IN THE PAST MONTH						
1	79	73.5 (62.7-84.4)	23	81.6 (61.9-100)	21	61.8 (47.7-81.0)
2+	30	26.5 (15.6-37.3)	6	18.4 (0.0-38.1)	15	38.2 (19.0-52.3)
USED CONDOM AT LAST SEX						
Yes	34	26.3 (16.8-36)	16	56.4 (38.5-76.9)	25	58.4 (39.3-66.0)
FREQUENCY OF CONDOM USE NON-COMMERCIAL SEX PARTNERS						
Every time	24	17.9 (8.2-27.3)	16	56.3 (38.6-77.0)	19	41.9 (25.8-46.9)
Almost every time	17	12.3 (5.5-18.9)	2	3.8 (0.0-4)	5	13.2 (1.8-24.9)
Sometimes	28	21.0 (11.8-30.2)	0	-	10	28.6 (18.7-42.4)
Never	61	48.9 (38.7-59.4)	13	39.9 (21.3-59.2)	4	16.3 (1.3-38.2)
REASONS FOR NOT ALWAYS USING CONDOMS DURING SEX						
Expensive	2	3.5 (0.0-13.4)	0	-	0	-
Ashamed to buy	0	-	0	-	0	-
Difficult to use	4	4.7 (0.0-13.6)	0	-	2	10.8 (0.0-23.7)
Not available	0	-	0	-	0	-
Reduces pleasure	24	25.7(13.2-38.4)	5	36.8 (16.8-59.3)	11	63.1 (40.4-89.6)
Ashamed to ask	9	6.3 (0.0-13.0)	0	-	2	9.1 (0.0-18.2)
Trust partner	63	61.7 (50.0-73.4)	12	85.5 (61.4-100)	11	51.5 (29.6-65.4)
Don't know if effective	8	5.6 (0.0-12.0)	0	-	0	-
Use only for contraception	10	6.2 (0.4-11.6)	0	-	4	22.8 (13.9-34.6)
My partner and I have HIV	0	-	0	-	0	-
I use PrEP	0	-	0	-	3	15.6 (0.7-31.2)

Commercial sex partners

Forty seven percent of FSW in Yerevan reported having 1 to 10 commercial sexual partners in the past month, in Gyumri it was 72% and in Vanadzor – 25%. More than 90% of FSW in Yerevan and Gyumri and 89% in Gyumri used a condom during their last sexual intercourse with a commercial partner. Eighty one percent in Yerevan, 95% in Gyumri and only 68% in Vanadzor used a condom every time during sex with a commercial sex partner. The most frequently cited reason for not using a condom with commercial sex partners in Yerevan and Gyumri was "I trust my partner", and in Vanadzor was that "it reduces pleasure" (Table 2.5.).

Table 2.5. Sexual behaviors with commercial sex partners among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
SEX WITH COMMERCIAL SEX PARTNERS IN PAST MONTH						
Yes	218	87.9 (84.7-91.2)	150	100	144	95.9 (93.6-98.2)
NUMBER OF COMMERCIAL SEX PARTNERS IN THE PAST MONTH						
1-10	70	46.7 (36.6-57.1)	100	71.5 (65.9-77.1)	34	24.9 (19.0-30.9)
11-20	42	17.3 (10.6-23.9)	38	21.3 (16.5-26.1)	51	38.2 (32.5-44.2)
21-30	48	18.4 (10.8-26.0)	11	7.3 (3.8-10.7)	41	26.6 (21.8-31.3)
30 OR MORE	58	17.6 (10.7-24.3)	0	-	18	10.3 (8.3-11.9)
USED CONDOM DURING LAST SEX						
Yes	278	93.2 (86.6-99.8)	147	97.5 (95.2-99.8)	137	88.9 (84.3-93.6)
FREQUENCY OF CONDOM USE WITH A CLIENT						
Every time	258	81.3 (74.5-88.2)	142	95.3 (92.9-97.7)	107	67.5 (61.8-73.2)
Almost every time	29	15.2 (8.3-22.1)	6	2.9 (1.6-4.2)	32	23.5 (18.4-28.4)

Sometimes	8	3.0 (0.6-5.4)	2	1.9 (0.0-3.9)	7	4.7 (2.6-6.7)
Never	2	0.5 (0.0-1.3)	0	-	4	4.3 (0.2-8.6)
REASONS FOR NOT ALWAYS USING CONDOMS						
Expensive	2	14.6 (11.0-40.9)	-		1	1.5 (0.4-0.7)
Ashamed to buy	3	11.3 (0.0-28.9)	-		2	4.9 (0.0-14.0)
Difficult to use	2	1.3 (0.0-2.6)	-		8	17.3 (3.5-29.0)
Not available	3	8.5 (0.0 – 38.4)				-
Reduces pleasure	8	13.0 (4.4-20.9)	2	19.6 (13.7-13.7)	25	62.1 (49.4-81.0)
Ashamed to ask	7	26.6 (3.1-50.5)	2	42.1 (15.0-52.0)	12	29.6 (16.4-46.4)
Trust partner	16	53.3 (35.1-72.3)	4	70.9 (45.4-80.5)	27	58.3 (39.0-71.5)
Don't know if effective	7	14.0 (0.8-26.9)	0	-	0	-
Use only for contraception	1	1.5 (0.0-6.8)	0	-	12	26.1 (11.2-38.6)
Me and my partner have HIV	0	-	0	-	0	-
I use PrEP	0	-	0	-	5	12.1 (0.8-24.8)

Anal and oral sex

When asked whether FSW had oral or anal sex within the last year, the majority (at least 56% in case of anal sex and at least 52% in case of oral sex) in all survey locations reported they "don't have such kind of sex". Among the few who had anal sex within the last year, 35% of FSW in Yerevan, 93% Gyumri and 40% in Vanadzor used a condom. For oral sex, the usage of condoms was lower in Yerevan and Gyumri (24% and 22%, respectively) but 41% in Vanadzor. (Table 2.6.).

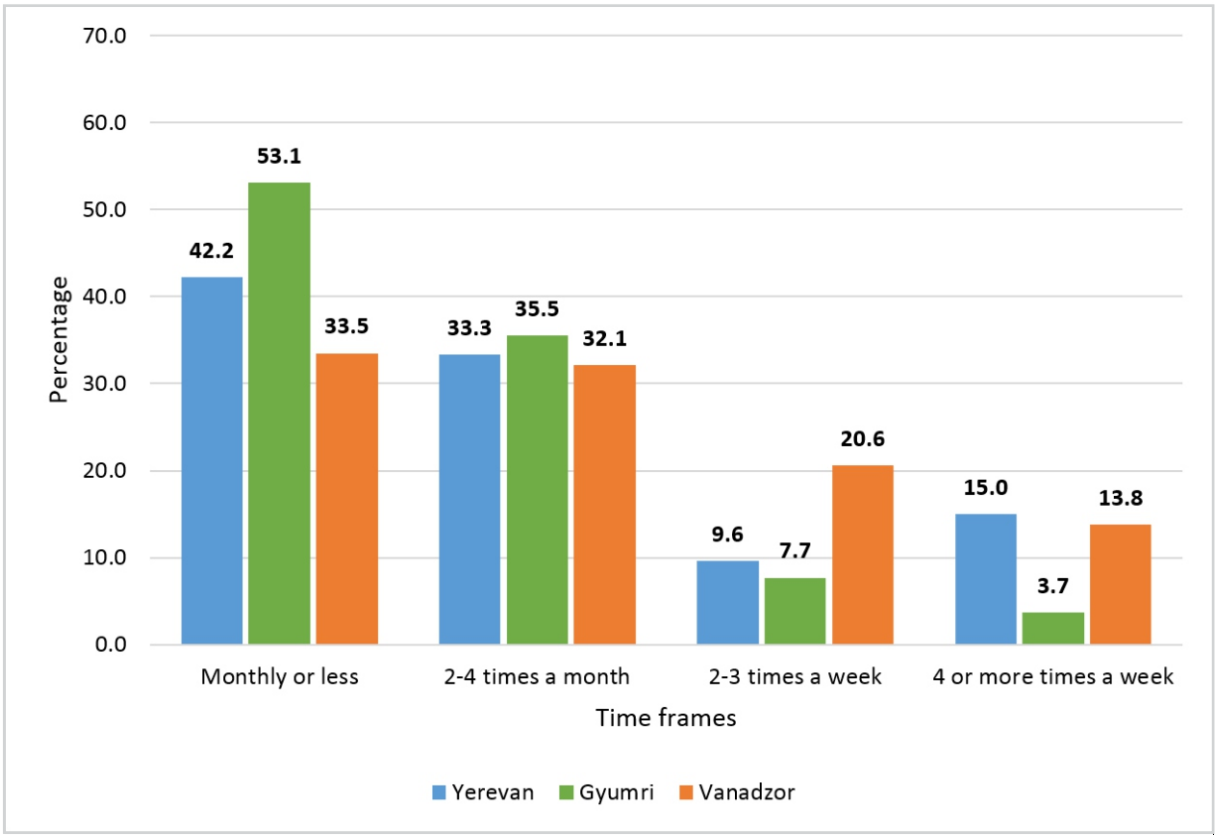
Table 2.6. Anal and oral sex among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER HAD ANAL SEXUAL INTERCOURSE IN LAST YEAR						
Yes	24	8.5 (2.5-14.4)	17	10.0 (6.7-13.3)	41	27.0 (22.4-31.5)
No	62	22.7 (17.2-28.2)	4	1.9 (0.7-2.9)	26	17.1 (12.9-21.4)
Don't have such kind of sex	213	68.8 (60.2-77.5)	128	88.2 (84.8-91.6)	81	55.9 (50.5-61.3)
USED A CONDOM DURING LAST ANAL SEX IN LAST YEAR						
Yes	17	35.2 (19.8-51.0)	17	93.0 (72.6-100)	27	39.6 (25.0-46.4)
EVER HAD ORAL SEX IN LAST YEAR						
Yes	92	34.5 (27.5-41.5)	20	12.0 (8.2-15.7)	35	23.3 (19.0-27.4)
No	30	13.6 (8.9-18.4)	1	0.4 (0.1-0.8)	19	13.0 (9.0-17.1)
Don't have such kind of sex	176	51.8 (44.2-59.5)	128	87.6 (83.9-91.3)	94	63.7 (58.6-68.8)
USED A CONDOM DURING LAST ORAL SEXING IN LAST YEAR						
Yes	29	23.5 (12.6-34.3)	4	21.7 (4.8-42.2)	22	40.8 (25.3-54.4)

Substance use

The largest proportion of FSW never consumed alcoholic drinks in the past one year (Table 2.7). Of those who consumed alcoholic drinks, frequency of consuming was generally low (Figure 2.7.).

Figure 2.7. Frequency of consuming alcoholic drinks among FSW in the past year



In Yerevan 63%, in Gyumri 97%, and in Vanadzor 65% of FSW reported ever having sexual intercourse while under the influence of alcohol of those who reported consuming alcohol (Table 2.7). From 15% of FSW in Yerevan and Gyumri to 25% in Vanadzor ever used drugs, among which more than half in each city had sexual intercourse under the effect of any drug. Only two FSW in Yerevan reported ever injecting drugs.

Table 2.7. Substance use among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
CONSUMED ALCOHOL OVER THE PAST 12 MONTHS						
Yes	195	66.4 (58.2-74.4)	66	44.3 (36.2-51.0)	83	56.2 (50.6-61.3)
NUMBER OF ALCOHOL DRINKS ON A TYPICAL DRINKING DAY PAST YEAR						
1-2	90	55.2 (45.3-65.6)	17	28.0 (16.2-41.2)	20	24.1 (14.1-34.0)
3-5	74	32.4 (23.0-41.3)	39	61.8 (49.8-75.7)	49	61.4 (52.7-73.2)
6 or more	28	12.5 (5.7-19.2)	9	10.3 (3.1-14.0)	14	14.5 (7.9-18.1)
FREQUENCY OF ALCOHOLIC DRINKS (SIX +) CONSUMED ON ONE OCCASION						
Never	90	47.7 (36.6-58.8)	40	66 (58.5-79.1)	18	21.3 (12.5-30.6)
Less than monthly	56	33.3 (23.6-43.3)	14	19.3 (10.0-26.1)	25	31.9 (19.4-44.7)
Monthly	17	8.1 (3.1-13.0)	9	11.2 (4.5-16.0)	13	14.2 (6.9-19.7)
Weekly	17	5.6 (1.3-9.8)	3	3.6 (0.0-7.6)	14	19.0 (11.9-29.8)
Daily or almost daily	14	5.3 (1.5-9.1)	0	-	13	13.6 (7.1-17.4)
EVER HAD SEXUAL INTERCOURSE WHILE UNDER THE INFLUENCE OF ALCOHOL						
Yes	123	62.6 (53.2-72.0)	64	97.2 (95.5-98.8)	52	65.1 (57.4-76.1)
EVER USED DRUGS						
Yes	43	14.6 (8.4-20.8)	26	15.3 (13.8-16.7)	40	24.8 (21.1-28.7)

AGE OF FIRST DRUG USE						
<=17	7	11.3 (1.1-21.3)	2	8.3 (8.4-8.4)	1	2.2 (1.7-1.7)
18-24	22	62.6 (14.6-100)	9	37.0 (16.2-58.9)	11	28.6 (15.2-42.7)
25-30	9	18.5 (4.6-32.4)	9	37.8 (20.4-58.7)	16	42.1 (27.2-60.9)
31+	5	7.6 (0.0-67.5)	5	16.9 (2.5-26.5)	11	27.1 (9.6-40.9)
EVER HAD SEXUAL INTERCOURSE WHILE UNDER THE INFLUENCE OF DRUGS						
Yes	22	52.5 (32.5-72.4)	25	95.2 (73.4-100)	24	61.7 (48.3-75.2)
EVER INJECTED DRUGS						
Yes	2	1.4 (0.0-4.9)	0	-	0	-

Sexually transmitted infections

Thirty four percent of FSW in Yerevan, 13% in Gyumri, and 25% in Vanadzor had genital ulcers or sores in the past 12 months (Table 2.8.), and most of the respondents did not have an STI test in the past 12 months. Among those who had an STI test, most in each city were tested at a primary clinic and between 32% in Yerevan and 50% in Vanadzor were diagnosed with an STI.

Table 2.8. Sexually transmitted infections among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HAD GENITAL ULCERS/SORE IN PAST 12 MONTHS						
Yes	102	33.8 (27.2-40.5)	20	13.2 (9.0-17.4)	36	25.4 (20.3-30.4)
HAD BEEN TESTED FOR STI IN THE PAST 12 MONTHS						
Yes	100	35.7 (29.2-42.4)	29	20.6 (14.3-26.9)	27	18.4 (14.0-23.0)
PLACE OF TESTING FOR STI						
STI clinic	19	14.2 (7.9-20.1)	0	-	3	10.8 (5.3-13.1)
Private clinic	41	28.2 (18.4-36.9)	1	3.5 (0.0-11.6)	3	14.9 (0.0-41.3)
Primary clinic	40	57.5 (48.4-68.3)	28	96.5 (88.4-100)	19	74.2 (49.6-95.4)
DIAGNOSED WITH STI IN THE LAST 12 MONTHS						
Yes	40	31.5 (20.6-41.4)	13	44.9 (29.9-60.8)	13	50.4 (30.9-73.4)

Stigma and discrimination

Few FSW avoided health care because of stigma and discrimination in the past 12 months (Table 2.9.). Fifty four percent in Yerevan, 81% in Gyumri and 28% in Vanadzor reported being ashamed that they sell sex. Between 25% in Vanadzor and 84% in Gyumri reported that they were not ashamed to admit to other FSW that they sell sex. Between 9% in Gyumri and 24% in Yerevan reported that they are not ashamed to admit that they sell sex in meetings with a social or health working in their community. Between 83% of FSW in Yerevan and 100% in Gyumri have told others that they sold sex, among which the majority reported telling their friends and acquaintances that also sell sex. Few FSW told health care workers that they sell sex. Ten percent of FSW in Yerevan, less than 1% in Gyumri and 30% in Vanadzor avoided seeking an HIV test in the past year, among which the majority reported the reason being that they feared someone would find out that they sell sex. Thirty eight percent of FSW in Yerevan, 16% in Gyumri and 3% on Vanadzor were ever scolded because of selling sex. Seven percent of FSW in Yerevan, 1% in Gyumri and 7% in Vanadzor were ever forced to have sex, among which ten in Yerevan reported being forced because they sell sex.

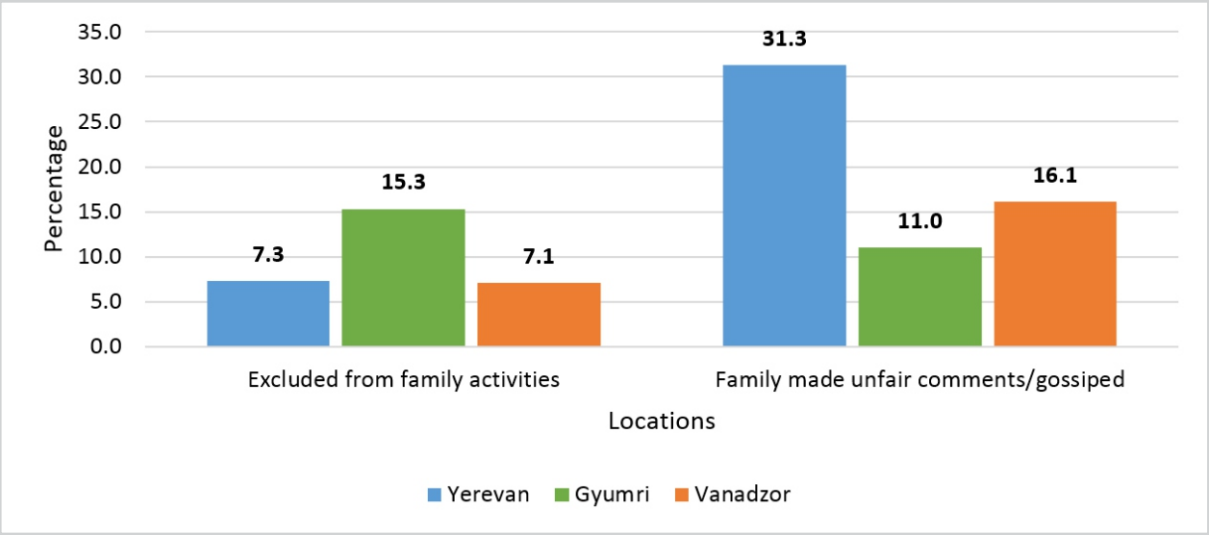
Table 2.9. Stigma and discrimination among FSW

	YEREVAN N = 300		GYUMRIN N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AVOIDED HEALTH CARE BECAUSE OF STIGMA AND DISCRIMINATION						
Yes	35	20.4 (13.3-27.4)	7	5.1 (4.2-5.9)	38	31.2 (29.3-33.6)
ASHAMED TO SELL SEX						
Agree	122	54.0 (46.3-61.7)	114	81.0 (76.4-85.8)	34	27.8 (22.3-33.5)
Neutral/ indifferent	16	8.1 (3.9-12.2)	14	8.5 (5.5-11.5)	80	52.6 (47.9-57.5)
Disagree	156	37.9 (30.6-45.4)	19	10.5 (6.9-13.9)	33	19.6 (16.3-22.5)
NOT ASHAMED TO ADMIT SELLING SEX IN GROUP OF OTHER PEOPLE WHO SELL SEX						
Agree	180	52.4 (43.8-60.8)	125	84.2 (79.7-88.7)	40	25.3 (20.4-29.9)
Neutral/ indifferent	60	28.3 (21.5-35.1)	11	7.6 (4.6-10.6)	69	46.6 (41.6-51.6)
Disagree	45	19.3 (12.4-26.3)	13	8.2 (4.7-11.7)	39	28.1 (23.7-32.7)
NOT ASHAMED TO ADMIT TO SELLING SEX IN MEETINGS WITH SOCIAL/HEALTH WORKING IN MY COMMUNITY						
Agree	114	24.4 (18.5-30.3)	14	9.1 (5.2-12.9)	30	18.1 (15-21.2)
Neutral/ indifferent	29	13.0 (8.1-17.9)	18	13.1 (8.9-17.3)	67	45.2 (40.5-50.0)
Disagree	141	62.6 (55.9-69.4)	112	77.8 (72.6-83.2)	52	36.8 (31.4-41.9)
HAS TOLD ANYONE THAT SHE SELLS SEX						
Yes	258	82.5 (74.7-90.3)	147	100	134	88.3 (87.1-89.3)
PERSONS TOLD THAT SHE SELLS SEX						
Partner	43	24.9 (18.3-31.7)	13	6.9 (6.3-7.4)	5	3.8 (2.9-4.8)
Family	11	5.2 (0.0-11.8)	57	43.7 (37.9-50.1)	55	40.9 (35.2-46.7)
Friends who sell sex	249	94.7 (88.6-100)	132	89.1 (83.8-94.1)	128	96.7 (96.2-97.3)
Friends who do not sell sex	18	9.9 (2.8-17.1)	6	4.1 (3.3-4.9)	32	23.3 (20.3-26.2)
Healthcare providers	6	0.8 (0.3-1.2)	1	0.6 (0.1-1.0)	7	4.5 (4.0-4.7)
Do not know	0	-	0	-	0	-
EVER FELT EXCLUDED FROM FAMILY ACTIVITIES BECAUSE OF SELLING SEX						
Yes	15	7.3 (0.0-14.6)	20	15.3 (13-17.7)	7	7.1 (5.4-9.0)
EVER FELT FAMILY MADE UNFAIR COMMENTS OR GOSSIPED BECAUSE OF SELLING SEX						
Yes	29	31.3 (24.3-40)	12	11.0 (9.1-13.4)	17	16.1 (15.1-19.2)
FEARS/CONCERNS FOR AVOIDING SEEKING HEALTH CARE IN LAST 12 MONTHS:						
Fear of stigma	13	42.7 (25.1-60.4)	3	30.6 (4.7-43.9)	6	22.8 (7.8-36.6)
Fear of others knowing of my sex work	21	59.1 (43.0-75.2)	3	58.5 (20.9-100)	24	96.3 (91.7-100)
Fear of violence	1	7.0 (0.0-25.1)	0	-	3	12.8 (0.0-27.5)
Fear of harassment	0	-	1	11.0 (0.0-24.4)	1	6.0 (0.0-23.1)
AVOIDED SEEKING HIV TEST IN LAST 12 MONTHS						
Yes	18	9.5 (0.0-19.0)	1	0.6 (0.5-0.6)	36	29.6 (27.7-31.4)
AVOIDED SEEKING HIV TEST IN LAST 12 MONTHS BECAUSE OF						
Fear of stigma	6	24.2 (6.9-40.9)	0	-	6	15.7 (5.3-25.5)
Fear of others knowing of my sex work	13	79.4 (56.1-100)	1	100	35	97.4 (95.3-99.6)
Fear of violence	0	-	0	-	1	2.6 (0.0-7.2)
Fear of harassment	0	-	0	-	0	-
EVER SCOLDED FOR SELLING SEX						
Yes	87	37.7 (31.9-43.7)	21	15.5 (13.6-17.4)	4	2.7 (2.1-3.3)
EVER BLACKMAILED FOR SELLING SEX						
Yes	28	14.3 (4.4-24.1)	9	7.1 (6.1-8.0)	2	1.7 (1.6-1.8)

EVER PHYSICALLY HARASSED/HURT FOR SELLING SEX						
Yes	27	11.7 (1.9-21.5)	7	5.6 (4.8-6.3)	3	2.6 (1.7-3.6)
EVER FORCED TO HAVE SEX						
Yes	19	6.8 (0.0-15.9)	3	1.2 (0.7-1.7)	8	7.1 (6.0-8.8)
FORCED TO HAVE SEX BECAUSE OF SELLING SEX						
Yes	10	59.2 (26.4-92.6)	0	-	2	36.8^

Between 7% in Yerevan and Vanadzor and 15% in Gyumri reported ever being excluded from family activities and between 11% in Gyumri and 31% in Yerevan reported that their family made unfair comments or gossiped about them because they sell sex (Figure 2.8.).

Figure 2.8. Ever felt stigma because of selling sex among FSW



Physical violence

Fifteen percent of FSW in Yerevan, 4% in Gyumri and 10% in Vanadzor ever experienced physical violence (Table 2.10.). The median age of first physical violence was 20 in Yerevan, 17 in Gyumri and 25 in Vanadzor. Around half of FSW in Yerevan and Gyumri reported that the person who physically hurt them was a non-paying sex partner, while in Vanadzor half reported that it was by a friend or acquaintance. About half of FSW in Yerevan and Vanadzor did not think that they were physically hurt because they sell sex. Only about one third of those who experienced violence in all three cities ever tried to seek professional help because of being physically hurt, of which none were refused in Gyumri and Vanadzor, and one third (three persons) were refused help in Yerevan. The most cited reasons for not seeking professional help in Gyumri and Vanadzor was because of not feeling comfortable, and in Yerevan 41% did not know what services were available. In Yerevan and Vanadzor help was not sought especially due to fears that "others would find out she sells sex". In Gyumri and Vanadzor most FSW told their relatives about being physically hurt, and in Yerevan the largest proportion told their friends or acquaintances.

Table 2.10. Violence towards FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER EXPERIENCED PHYSICAL VIOLENCE						
Yes	32	14.7 (6.6-22.8)	6	3.7 (2.7-4.6)	9	9.8 (8.2-13.6)
Number of times experienced physical violence						
1 TIME	11	52.5 (32.5-74.5)	2	31.6 (0.0-75.4)	7	77.6 (77.3-77.3)

2-10 TIMES	16	39.3 (18.0-59.5)	4	68.4 (24.7-100)	2	22.4 (22.7-22.7)
11+ TIMES	5	8.2 (2.5-12.9)	0	-	0	-
Age of first physical violence						
<=17	9	22.2 (0.0-48.0)	5	77.3 (51.1-100)	1	14.8 (0.0-43.6)
18-24	22	55.8 (27.1-84.3)	0	-	2	17.8^
25-30	2	8.5 (0.0-23.7)	2	22.7 (0.0-48.9)	5	59.3 (36.8-90.7)
31+	5	13.5 (0.0-27.5)	0	-	1	8.1 (5.5-5.5)
RELATIONSHIP TO PERSON WHO PHYSICALLY HURT RESPONDENT FIRST TIME						
Paying sex partner	7	11.4 (3.8-18.2)	0	-	2	13.5 (0.0-19.2)
Non-paying sex partner	17	51.8 (32.8-71.6)	2	49.8 (40.3-83.9)	2	20 (0.0-44.9)
Police/ military/ authority	0	-	0	-	1	7.4 (0.0-14.9)
Relative	6	23.9 (5.8-42.5)	3	39.9 (13.0-56.5)	0	-
Friend/ acquaintance	4	10.7 (0.0-21.8)	0	-	5	50.1 (28.9-79.3)
Don't know	0	-	1	10.3 (0.0-7.3)	1	9.0 (0.0-21.1)
Other	3	2.3 (0.0-5.3)	0	-	0	-
TYPE OF PARTNER WHO PHYSICALLY HURT RESPONDENT FIRST TIME						
Spouse or live-in partner	13	61.7 (37.7-85.9)	1	70 (29.1-124.7)	2	59.5 (22.5-100)
Boyfriend/ girlfriend	1	13 (13.4-13.4)	1	30 (0.0-70.9)	0	-
Other sex partner	8	25.3 (0.7-48.8)	0	-	2	40.5 (0.0-77.5)
Don't know	0	-	0	-	0	-
Relative	0	-	0	-	0	-
EVER PHYSICALLY HURT BECAUSE SHE SELLS SEX						
Yes	15	27.1 (15.4-37.7)	0	-	4	34.8 (10.4-55.0)
EVER TRIED TO SEEK PROFESSIONAL HELP BECAUSE OF BEING PHYSICALLY HURT						
Yes	9	32.8 (11.7-54.9)	3	36.4 (0.0-66.4)	4	39.1 (16.4-65.7)
EVER REFUSED HELP WHEN SEEKING HEALTH BECAUSE OF BEING PHYSICALLY HURT						
Yes	3	36.9 (4.9-69.2)	0	-	0	-
WHICH PROFESSIONAL HELP SOUGHT BECAUSE OF BEING PHYSICALLY HURT						
Health care staff	0	-	1	41.7 (51.6-51.6)	1	40.1 (45.7-45.7)
Police/security	8	77.2 (48.2-100)	0	-	3	100
Social worker/ counselor/NGO	4	59.7 (23.6-96.9)	1	29.7 (0.0-61.2)	0	-
Religious leader	0	-	0	-	0	-
REASON FOR NOT SEEKING PROFESSIONAL HELP						
Did not know what services available	12	41.1 (1.6-80.2)	1	14.7 (0.0-30.0)	0	-
Services were not there	0	-	1	14.7 (0.0-53.4)	0	-
Was uncomfortable accessing services	5	28.8 (0.0-62.0)	2	70.5 (22.9-100)	6	89.1 (82.9-100)
Did not feel that I needed services	10	25.7 (11.4-39.0)	0	-	1	10.9 (0.0-17.1)
Was afraid	2	4.4 (2.9-5.7)	0	-	0	-
REASONS FOR BEING UNCOMFORTABLE						
Worried service provider would treat me poorly if knew I sell sex	0	-	0	-	1	12.4^
Afraid my partner/family would find out I sell sex	0	-	0	-	0	-
Afraid authorities would find out I sell sex	1	14.1 (0.0-32.4)	0	-	4	68.7 (34.5-100)
Worried others would find out I sell sex	3	64.9 (18.5-100)	0	-	4	75.2 (48.3-100)
Don't know	0	-	1	100	1	12.4 (0.0-20.4)

PERSONS TOLD ABOUT EVER BEING PHYSICALLY HURT						
Paying sex partner	0	-	0	-	1	17.0 (0.0-44.0)
Non-paying sex partner	3	11.0 (0.7-21.4)	0	-	0	-
Police/military/ authority	2	12.4 (1.5-23.9)	0	-	0	-
Relative	8	18.9 (9.6-27.2)	3	72.7 (61.0-100)	5	53.6 (30.2-76.0)
Friend/ acquaintance	13	32.8 (18.4-46.5)	2	27.3 (0.0-39.0)	3	29.4 (10.1-41.0)
No one	5	25.0 (7.2-43.5)	0	-	0	-

^too few values to generate confidence bounds

HIV/AIDS

HIV/AIDS risk, knowledge and beliefs

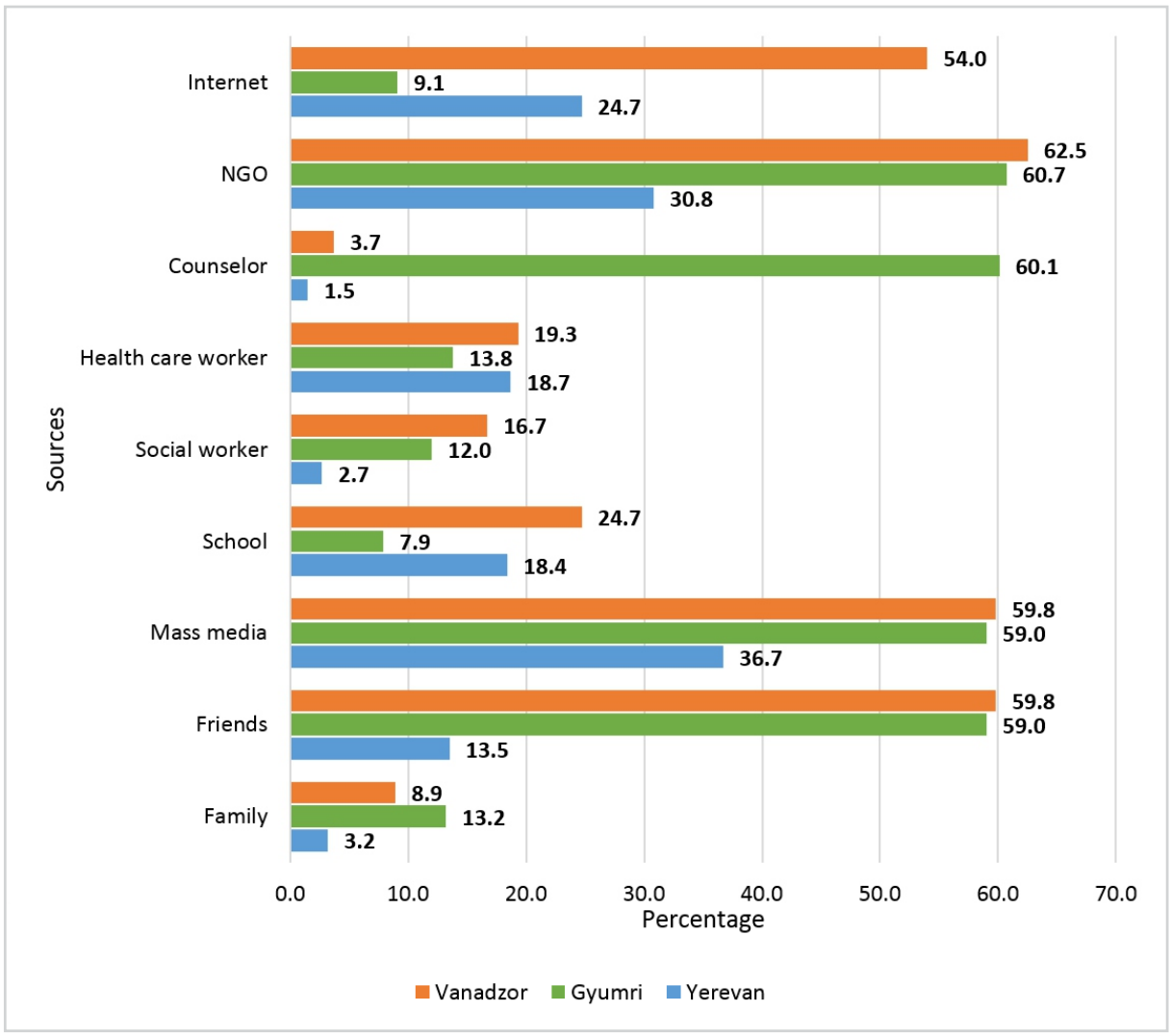
Most FSW have ever heard of HIV/AIDS and few FSW in Yerevan and Vanadzor and almost none in Gyumri assessed themselves to be at high risk of HIV infection (Table 2.11.). The overall composite knowledge score was 31% in Yerevan, 66% in Gyumri and 42% in Vanadzor.

Table 2.11. HIV/AIDS risk, knowledge, and beliefs among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HAS EVER HEARD OF HIV/AIDS						
Yes	260	89.8 (85.3-94.3)	144	95.5 (92.0-99.0)	132	87.2 (82.9-91.4)
LEVEL OF ESTIMATED PROBABILITY OF BEING INFECTED WITH HIV						
High	21	9.8 (3.8-15.7)	1	0.6 (0.5-0.8)	7	4.8 (2.3-7.0)
Low	131	45.1 (36.1-54.0)	86	60.4 (53.6-67.2)	100	76.1 (70.8-81.6)
No risk	106	45.2 (37.2-53.1)	54	38 (31.2-44.8)	22	17.0 (12.0-22.1)
HIV KNOWLEDGE SCORE						
At least one incorrect	198	69.1 (61.5-76.7)	50	34.0 (27.4-40.6)	83	58.0 (53.3-62.6)
All correct	101	30.9 (23.3-38.5)	100	66.0 (59.4-72.6)	67	42.0 (37.4-46.7)

Most FSW in Gyumri and Vanadzor reported NGOs as a source of HIV/AIDS information, whereas the largest percentage category of FSW in Yerevan reported mass media as a source of HIV/AIDS information (Figure 2.9). Few reported family or school as being sources of HIV/AIDS information.

Figure 2.9. Sources of HIV/AIDS information among FSW



HIV testing and prevention services

Sixty percent and more in all survey locations reported knowing where to get an HIV test (Table 2.12.). Roughly half of FSW believed that HIV test services are available and accessible to them (53% in Yerevan, 58% in Gyumri and 46% in Vanadzor). While 81% of FSW in Gyumri ever had had an HIV test, only 52% in Yerevan and 50% in Vanadzor ever had an HIV test. Among those who ever had an HIV test, the majority did so in the last 12 months. All FSW in Vanadzor who ever had an HIV test, received the results of their last test, whereas 98% in Gyumri and 77% in Yerevan received the results (among all who ever had an HIV test). Two persons in Gyumri, three in Vanadzor and one in Yerevan had positive test results the last time they were tested. The percentages of those who had their HIV test in the past 12 months or knew their HIV-positive status were: 37% in Yerevan, 61% in Gyumri and 46% in Vanadzor. The first of the three pillars of the 95-95-95 HIV care cascade, "People living with HIV who know their status" was 96% across the three cities, though the numbers of positive cases in each individual city were too small to develop any reliable estimates.

Table 2.12. HIV testing among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
DO YOU KNOW WHERE TO GET AN HIV TEST						
Yes	139	59.7 (51.3-68.0)	133	93.1 (91.3-94.7)	102	77.7 (72.6-82.9)
ACCESSIBILITY OF HIV TEST SERVICES						
Yes	135	52.7 (45.6-59.9)	92	58.3 (50.9-65.5)	74	45.8 (40.9-50.6)
EVER HAD AN HIV TEST						
Yes	137	52.2 (46.3-58.0)	121	81.1 (75.7-86.3)	78	50.0 (44.5-55.4)
TIME OF LAST HIV TESTING						
In the last 6 months	84	48.0 (35.7-59.7)	63	48.8 (37.4-58.3)	52	63.3 (47.5-72.5)
6-12 months ago	20	23.9 (13.1-35.1)	31	27.2 (18.9-36.2)	20	25.7 (14.9-37.9)
More than 12 months ago	33	28.1 (15.8-40.7)	26	24.1 (16.6-32.7)	6	11.1 (0.0-27.2)
RECEIVED RESULTS OF THE LAST HIV TEST						
Yes	113	77.2 (68.1-86.0)	119	98.4 (97.7-98.9)	78	100
TESTED IN LAST 12 MONTHS AND RECEIVED TEST RESULTS DURING LAST HIV TEST (REGARDLESS OF STATUS)						
Yes	104	37.5 (30.9-44.1)	94	61.4 (55.0-67.6)	72	44.4 (39.7-49.2)
HAD HIV TEST IN PAST 12 MONTHS OR KNOW CURRENT HIV STATUS						
Yes	103	36.9 (30.4-43.3)	95	61.4 (55.4-67.6)	75	46.3 (42.5-52.4)
TEST RESULT FROM LAST HIV TEST						
Positive	1	0.4 (0.0-1.1)	2	1.2 (0.8-1.5)	3	3.8 (1.4-6.0)
Negative	112	99.6 (98.9-100)	116	98.8 (98.5-99.2)	75	96.3 (94.0-98.6)

The majority of FSW in Gyumri received condoms from an outreach worker or NGO during the past 12 months, while the majority in Yerevan and Vanadzor did not (Table 2.13.). From 41% in Yerevan to 59% in Gyumri received counseling on condom use and safe sex in the past 12 months.

Table 2.13. Access to prevention services among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
ACCESSED NGO PROGRAMS IN THE PAST 12 MONTHS						
Yes	115	41.1 (35.1-47.1)	92	58.7 (52.5-64.7)	76	47.4 (42.4-52.7)
KNOWS ABOUT HIV TEST AT THE NGO						
Yes	91	68.8 (58.1-79.5)	104	75.7 (68.5-82.3)	74	67.1 (54.1-74.5)
KNOWS ABOUT HIV TEST AT THE MEDICAL CENTER						
Yes	55	39.8 (30.1-49.5)	41	32.8 (25.8-40.4)	29	33.7 (27.1-45.4)
PROVIDED WITH CONDOMS DURING THE PAST 12 MONTHS						
Yes	114	40.7 (34.6-46.8)	91	57.8 (50.2-65.5)	75	46.3 (41.4-51.1)
RECEIVED COUNSELING ON THE USE OF CONDOMS AND SAFE SEX DURING THE PAST 12 MONTHS						
Yes	114	40.9 (34.7-47)	92	58.7 (52.5-64.8)	76	47.4 (42.2-52.6)
RECEIVED CONDOMS & COUNSELING IN THE PAST 12 MONTHS						
Yes	113	40.5 (34.1-47.1)	91	58.2 (52.0-64.3)	75	46.3 (41.2-51.3)
RECEIVED 3 OF 3 SERVICES (CONDOMS, COUNSELING, STI TEST) IN THE PAST 12 MONTHS						
Yes	57	17.0 (9.2-24.9)	18	12.3 (10.9-13.7)	15	8.8 (7.0-10.5)
RECEIVED ANY 2 OF 3 SERVICES (CONDOMS, COUNSELING, STI TEST) IN THE PAST 12 MONTHS						
Yes	113	40.6 (34.6-46.5)	91	58.1 (52.2-64.0)	76	47.4 (42.5-52.4)

HIV, Syphilis and HBV and HCV prevalence

Under 1% of FSW in Yerevan and Gyumri and 2.4% in Vanadzor had positive HIV test results (Table 2.14.). Syphilis prevalence was 0.3% in Yerevan and 0.6% in Vanadzor. No Syphilis cases were detected in Gyumri. Two percent in Yerevan, 0.4% percent in Gyumri and 2% in Vanadzor were positive for HCV. Few cases of HBV were detected.

Table 2.14. Prevalence of HIV, HBV, HCV and Syphilis among FSW

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HIV	1	0.2 (0.0-0.4)	2	0.9 (0.3-1.6)	4	2.4 (1.5-3.3)
Syphilis	3	0.3 (0.1-0.5)	0	-	1	0.6 (0.2-1.1)
HCV	2	2.0 (0.0-4.8)	1	0.5 (0.2-0.7)	3	2.0 (0.9-3.1)
HBV	1	-	0	-	1	0.6 (0.0-1.1)

KEY FINDINGS AND RECOMMENDATIONS - FSW[7]

Key socio-demographic characteristics

The majority of FSW are older than 25 years, have secondary or technical education, and do not have a full-time job. These socio-demographic characteristics are important for developing effective and accessible HIV prevention interventions targeting FSW.

Low HIV and Syphilis prevalence

HIV prevalence was less than 1% among FSW surveyed in Yerevan and Gyumri, and 2.4% in Vanadzor. HCV prevalence was at 2.0% in Yerevan and Vanadzor, and 0.5% in Gyumri. Very few HBV cases were detected. Syphilis prevalence was below 1% in all three cities. Despite the low prevalence of HIV, efforts to expand HIV/AIDS awareness, education, and screening programs must continue. Low levels of HCV in FSW can reconfirm low injecting drug use levels in this population.

HIV care cascade among FSW

The first of the three pillars of the care cascade, "People living with HIV who know their status" was 96% across the three cities, though the numbers of HIV-positive cases were too small in all cities to develop reliable percentages. Ensuring achievement of the 95-95-95 goals set by UNAIDS in each KP is a prerequisite of ending the HIV epidemic.

FSW traveling abroad engage in high-risk behaviors

Seventy three percent of FSW in Yerevan, 51% in Gyumri and 42% in Vanadzor reported having sex without a condom while away from home for more than one month in the last year. Since short-term mobility among FSW is frequently linked to having concurrent sexual partners, thus facilitating the spread of HIV, HIV prevention interventions should specifically target mobile FSW and include respective education and awareness campaigns.

Condom use with commercial and non-commercial partners

Estimates ranging from 20% to 62% of FSW in all cities reported having sex with non-commercial partners in the past 12 months. Most FSW in all three cities reported inconsistent condom use with non-commercial sex partner, whereas 49% FSW in Yerevan, 40% in Gyumri and 16% in Vanadzor reported never using a condom with a non-commercial sex partner. These findings highlight the need for HIV prevention interventions that engage both FSW and their sex partners (non-commercial and commercial). Interventions targeting FSW should include improvement of condom negotiation skills, in addition to provision of HIV/AIDS risk and transmission education. Condom use with commercial partners was higher: more than 90% of FSW in Yerevan and Gyumri reported using a condom during the last sexual act with a commercial partner (93% and 98% respectively), in Vanadzor this percentage was 89%.

Substance use and risky sexual practices

Although alcohol use among FSW was moderate, risky sexual behaviors under the influence of alcohol was high. Drug use was low among FSW in all three cities: few FSW reported ever using drugs and even fewer reported ever injecting drugs.

[7] *A number of findings and recommendations were adapted from the "Integrated biological-behavioral surveillance survey among people who inject drugs, female sex workers, men who have sex with men and transgender persons 2018", as many findings and trends remain valid in 2021.*

However, among the few who reported using drugs, most in all three cities reported having sexual intercourse while under the influence of drugs. Being under the influence of drugs or alcohol before or during sexual intercourse may have an adverse effect on condom use, thus targeted HIV prevention interventions should address both substance use and associated risky sexual behaviors among FSW. Substance abuse counseling and treatment programs should be considered as part of any comprehensive HIV prevention and intervention program for FSW.

Screening for STI among FSW

While a notable percentage of FSW in the study reported having genital ulcers or sores within the past 12 months (between 13% and 34%), most FSW have not reported receiving an STI test in past 12 months. Among FSW who were tested within the last 12 months, between 32% in Yerevan and 50% in Vanadzor reported being diagnosed with an STI. As presence of STI increases the risk for HIV infection, early diagnosis and treatment of STI should be an inherent part of an HIV prevention program, and should be offered in both clinical and non-clinical settings to ensure all FSW are being reached.

Avoiding healthcare services due to stigma and discrimination is low

Up to 31% of FSW in all surveyed cities reported avoiding healthcare services due to stigma and discrimination. At the same time, notable numbers of FSW were ashamed to tell social and healthcare workers about selling sex (ranges 37% in Vanadzor to 78% in Gyumri). Further research is needed to understand the extent of influence of stigma and discrimination on the accessibility of health care services among FSW.

FSW report low levels of physical violence

Most FSW in Yerevan and Gyumri and Vanadzor did not report ever experiencing physical violence. Among those who reported being physically hurt, most in Yerevan and Gyumri reported being harassed by a non-paying partner, and in Vanadzor in 50% of cases it was a friend/acquaintance. Further research is needed to explore the cases of physical violence more in- depth.

Inconsistent access to HIV testing and prevention services

Accessing HIV testing services was inconsistent among FSW: while 81% of FSW in Gyumri reported ever having had an HIV test, this percentage in Yerevan was only 52% and in Vanadzor was 50%. A high percentage of those who received the test, got their results. While the majority of FSW in Gyumri were provided with condoms by an outreach worker or NGO during the past 12 months, in Yerevan and Vanadzor – they were not. Ensuring access to FSW-friendly testing and prevention services is important. Sensitivity training should be required for all health care and service providers. Other prevention options, such as PrEP, should be accessible to FSW.

SUMMARY OF KEY RECOMMENDATIONS

- Distribute condoms and deliver HIV/AIDS prevention messages to target mobile FSW.
- Improve availability and accessibility to non-clinical and clinical routine HIV and STI testing services.
- Scale-up coverage of combination prevention services, including medical prevention or PrEP.

- Educate health care and other service providers on the specific needs of the FSW population, including condom negotiation skills, protection against violence, etc.
- Scale up HIV/AIDS education services, which engage both FSW and their partners.
- Include local establishments (e.g., bars, hotels and restaurants) in the planning and implementation of HIV prevention interventions targeting FSW.
- Implement a qualitative study aimed at investigating the role stigma and discrimination among sex workers plays in accessing HIV testing and healthcare services.
- Include HIV care cascade questions in the next round of IBBS to be able to construct an HIV care cascade among FSW.

MEN WHO HAVE SEX WITH MEN (MSM)

The maximum number of waves reached in the recruitment chains of Yerevan was 17 (Figure 3.1), in Gyumri was 9 (Figure 3.2), and in Vanadzor was 12 (Figure 3.3).

Figure 3.1. Recruitment graph of the MSM sample (n=300), with three recruitment chains, Yerevan

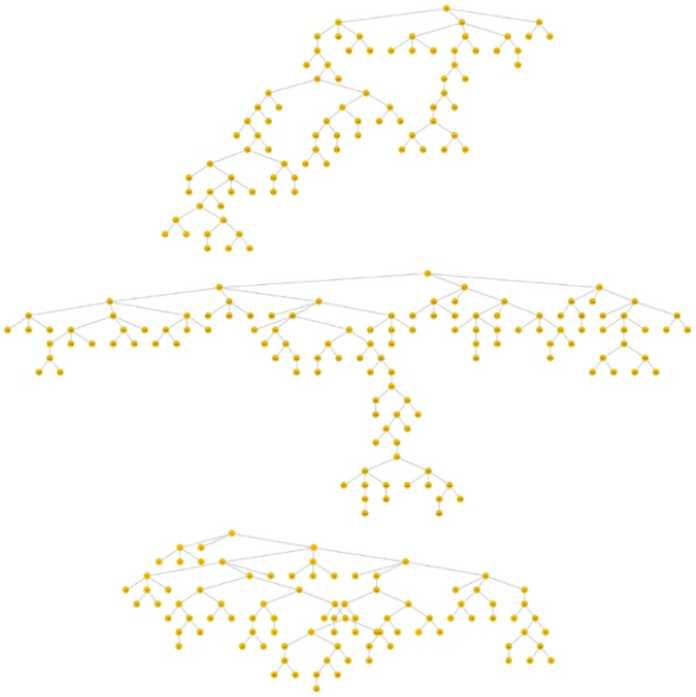


Figure 3.2. Recruitment graph of the MSM sample (n=150), with two recruitment chains

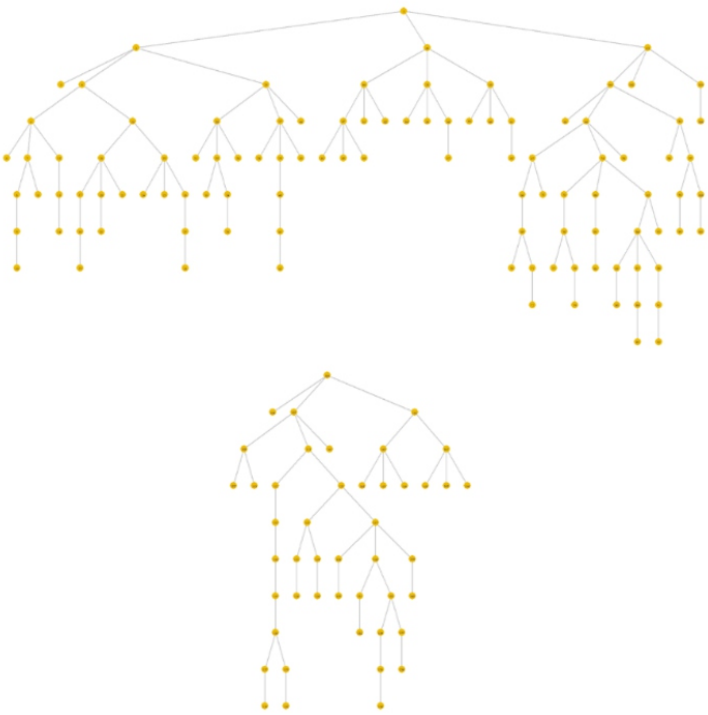
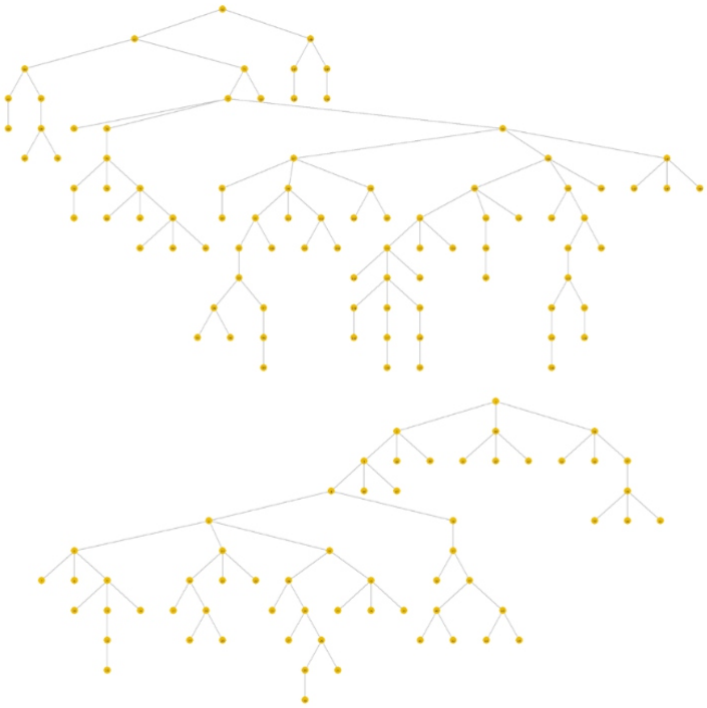


Figure 3.3. Recruitment graph of the MSM sample (n=150), with two recruitment chains, Vanadzor



Socio-demographic characteristics

Age, education and employment

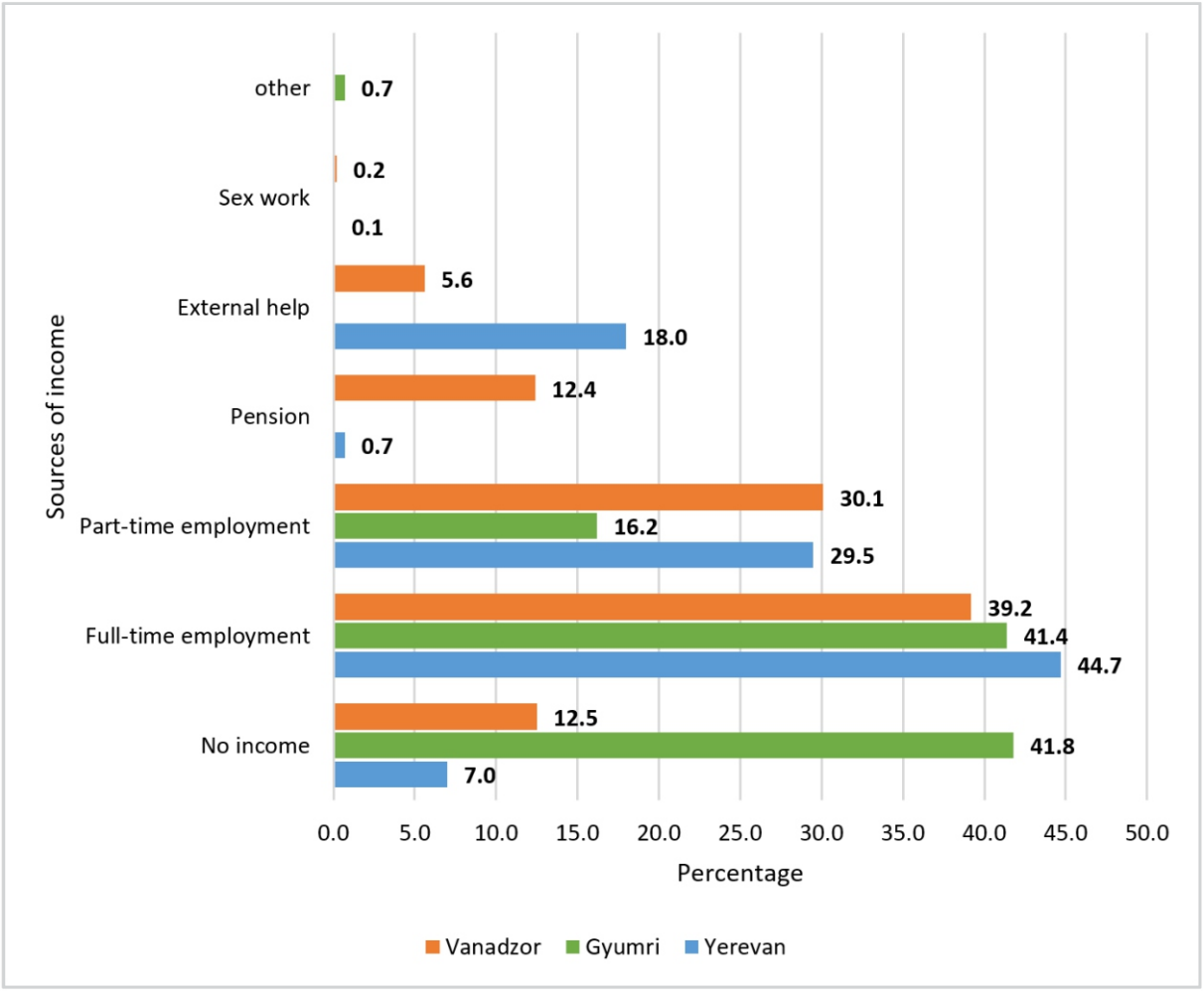
The majority of MSM in all three cities are above 25 years (Table 3.1.), with median ages of 26 in Yerevan (range: 18 to 57), 29 in Gyumri (range: 18 to 68) and 30 in Vanadzor (range: 18 to 70). Nearly all MSM in Yerevan, Gyumri, and Vanadzor were born in Armenia and have some schooling, among which the majority have technical or higher education in Yerevan, secondary education in Gyumri, and secondary or technical education in Vanadzor.

Table 3.1. Age, nationality and education of MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AGE						
<=24	143	46.0 (37.9-54.1)	43	30.4 (19.9-41.0)	44	31.4 (20.7-42.2)
25-34	97	32.7 (25.7-39.6)	65	36.4 (27.1-45.9)	53	26.4 (16.3-36.1)
35-44	40	14.4 (8.8-20.1)	20	15.4 (7.9-22.8)	16	9.5 (4.5-14.5)
45+	20	6.9 (2.8-11.0)	22	17.7 (7.1-28.4)	37	32.7 (22.7-42.9)
AGE GROUP						
<=24	143	46.0 (37.4-54.7)	43	30.5 (20.4-40.5)	44	31.4 (18.7-44.1)
25-34	157	54.0 (45.3-62.6)	107	69.5 (59.5-79.6)	106	68.6 (55.9-81.3)
COUNTRY/NATION OF BIRTH						
Armenia	287	95.3 (92-98.7)	149	99.6 (99.0-100)	146	97.7 (95.5-100)
Other	13	4.7 (1.3-8.0)	1	0.4 (0.0-1.0)	4	2.3 (0.0-4.5)
THE HIGHEST LEVEL OF SCHOOL COMPLETED						
Primary or lower	56	19.4 (13.7-25.2)	17	12.1 (7.3-16.8)	38	25.6 (16.1-35.0)
Secondary	48	16.7 (10.9-22.5)	88	60.3 (51.4-69.2)	40	27.8 (18.7-37.0)
Technical	105	33.3 (26.7-40.0)	12	7.3 (1.6-13.0)	47	29.5 (19.6-39.5)
Higher	91	30.6 (23.9-37.2)	32	20.4 (12.5-28.2)	25	17.2 (4.2-30.0)

Forty five percent of MSM in Yerevan, 41% in Gyumri and 39% in Vanadzor have full-time employment as their source of income (Figure 3.4.). Only two MSM in Yerevan and one in Vanadzor reported selling sex as a source of income.

Figure 3.4. Sources of income among MSM



Marital status

Most MSM in all cities are single and 24% in Yerevan, 26% in Gyumri, and 28% in Vanadzor are living with a sexual partner (Table 3.2.).

Table 3.2. Marital status of MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
CURRENT MARITAL STATUS						
Single	263	87.3 (82.3-92.4)	107	67.4 (60.2-74.5)	96	59.6 (48.3-70.9)
Married	31	10.9 (6.0-15.8)	31	23.3 (15.0-31.6)	33	28.8 (18.7-38.9)
Divorced	4	1.4 (0.0-3.0)	11	9.3 (1.9-16.8)	16	9.6 (4.2-14.9)
Civil marriage	1	0.1 (0.0-0.2)	0	-	1	0.4 (0.0-1.0)
Widowed	1	0.2 (0.0-0.6)	0	-	4	1.6 (0.3-2.9)
LIVES WITH SEXUAL PARTNER						
Yes	72	24.3 (18.0-30.7)	34	25.9 (17.3-34.6)	34	27.9 (9.4-46.5)

MSM social characteristics

Sexual preferences and identities

The majority of MSM in all survey locations identify as bisexual, and the largest proportion of respondents equally preferred male and female sexual partners (Table 3.3.).

Table 3.3. Sexual preferences and identities of MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
SEXUAL IDENTIFICATION						
Homosexual	113	31.2 (24.1-38.3)	29	18.4 (11.2-25.7)	22	11.2 (6.5-15.9)
Bisexual	186	68.6 (61.6-75.7)	121	81.6 (74.3-88.8)	121	83.5 (77.2-89.9)
Heterosexual	1	0.1 (0.0-0.3)	0	-	6	5.1 (0.6-9.6)
PREFERRED SEX OF SEXUAL PARTNERS						
Only or mostly male	117	32.2 (27.8-36.5)	37	23.3 (15.1-31.4)	37	17.9 (14.0-21.9)
Equally male and female	181	67.8 (63.5-72.2)	63	45.4 (35.3-55.5)	101	72.7 (66.0-79.3)
Mostly female	0	-	50	31.4 (22.1-40.5)	11	9.4 (3.6-15.2)

Mobility

13% in Yerevan, 2% in Vanadzor, and 34% in Gyumri were away from home for more than one month in the past year, among which the majority in Yerevan and Gyumri were in other areas of Armenia (Table 3.4.). Among MSM who were away from home for more than one month in the last year, 28% in Yerevan, 57% in Gyumri and one person in Vanadzor engaged in sex without a condom while away from home. Among those who were abroad for three months or more in the last year, 14% in Yerevan, 26% in Gyumri and none in Vanadzor were abroad for the purposes of labor.

Table 3.4. Mobility among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AWAY FROM HOME FOR MORE THAN 1 MONTH IN LAST YEAR						
Yes	40	13.1 (7.7-18.5)	53	33.7 (25.1-42.3)	1	2.0 (0.0-6.3)
COUNTRY WHERE RESPONDENT WAS AWAY FROM HOME FOR MORE THAN 1 MONTH						
Armenia	22	55 (37.6-72.6)	33	56.8 (42.6-69.7)	1	100
Russia	11	24.5 (10.4-38.3)	18	39.7 (25.8-55.0)	0	-
Other	7	20.4 (3.3-37.7)	4	6.9 (0.0-17.8)	0	-
HAD SEX WITHOUT CONDOM WHILE AWAY FROM HOME FOR MORE THAN 1 MONTH IN LAST YEAR						
Yes	12	27.9 (11.2-44.4)	28	56.9 (40.2-74.0)	1	100
ABROAD FOR THREE MONTHS OR MORE IN LAST YEAR FOR LABOR						
Yes	5	14.0 (0.0-29.5)	13	25.6 (12.1-39.3)	0	-

Substance use

Most MSM consumed alcohol in the past year, however few consumed alcohol four or more times a week and most had less than six drinks on a typical drinking day (Table 3.5.). Among MSM who consumed alcohol in the past year, most in all cities had sexual intercourse while under the influence of alcohol. Between 22% of MSM in Gyumri and 36% in Vanadzor ever used drugs, among which from 59% in Gyumri to 75% in Vanadzor engaged in sexual intercourse while under the influence of drugs.

MSM in all three cities had a median age of 18 when they first consumed drugs (range Yerevan: 10 to 35, Gyumri: 12 to 36, Vanadzor: 13 to 25). Between 5% in Yerevan and 11% in Vanadzor ever injected drugs.

Table 3.5. Substance use among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
DRINK ALCOHOL IN THE PAST 12 MONTHS						
Yes	230	78.4 (72.5-84.2)	41	61.2 (51.9-70.5)	49	67.5 (58.1-76.9)
FREQUENCY OF CONSUMING ALCOHOLIC DRINKS IN PAST YEAR						
Monthly or less	90	44.7 (36.0-53.4)	36	37.0 (25.1-48.6)	35	32.7 (17.4-47.6)
2-4 times a month	64	29.2 (20.8-37.7)	39	48.2 (36.6-60.5)	32	32.0 (19.8-44.1)
2-3 times a week	55	20.1 (13.8-26.4)	12	9.1 (4.2-13.5)	19	19.3 (8.4-30.0)
4 or more times a week	21	6.0 (2.8-9.1)	4	5.7 (0.0-13.8)	13	16.1 (6.7-25.9)
NUMBER OF ALCOHOL DRINKS ON A TYPICAL DRINKING DAY PAST YEAR						
1-2	74	31.8 (24.2-39.4)	60	62.8 (50.4-75.1)	24	26.1 (15.1-37.4)
3-5	138	61.4 (53.6-69.2)	30	36.9 (24.7-49.5)	39	42.3 (28.0-57.0)
6 or more	16	6.8 (2.1-11.4)	1	0.2 (0.0-0.3)	35	31.6 (14.8-47.7)
FREQUENCY OF ALCOHOLIC DRINKS (SIX +) CONSUMED ON ONE OCCASION						
Never	79	35.0 (27.0-43.0)	42	42.9 (30.8-54.7)	12	10.4 (1.5-19.1)
Less than monthly	92	41.9 (33.4-50.3)	22	24.8 (14.1-35.5)	56	59.7 (43-76.7)
Monthly	39	17.8 (10.5-25.0)	18	24 (12.3-36.2)	10	11.2 (0.0-26.8)
Weekly	16	4.6 (0.9-8.2)	8	8.0 (0.8-15.3)	10	9.7 (2.4-17.0)
Daily or almost daily	2	0.8 (0.0-1.9)	1	0.2 (0.0-0.3)	11	9.0 (4.6-13.3)
EVER HAD SEXUAL INTERCOURSE WHILE UNDER THE INFLUENCE OF ALCOHOL						
Yes	150	59.8 (51.0-68.5)	77	91.3 (82.0-100)	80	78.3 (67.4-88.8)
EVER USED DRUGS						
Yes	79	23.5 (16.9-30.1)	36	21.7 (13.4-30.0)	48	36.2 (23.7-48.5)
AGE OF FIRST DRUG USE						
<=17	26	42 (21.9-62.4)	13	32.7 (9.8-55.3)	24	43.7 (19.5-66.6)
18-24	40	46.9 (33.7-59.8)	19	48 (18.1-76.8)	23	50.6 (29.7-72.2)
25-30	10	7.7 (0.0-19.8)	4	16.3 (1.2-32.7)	1	5.7 (0.0-14.9)
31+	3	3.4 (0.0-8.1)	1	3.1 (1.8-4.3)	0	-
EVER HAD SEXUAL INTERCOURSE WHILE UNDER THE INFLUENCE OF DRUGS						
Yes	54	72.2 (60.1-84.6)	19	58.5 (43.1-75.5)	34	74.6 (58.8-91.4)
EVER INJECTED DRUGS						
Yes	3	5.3 (0.0-19.4)	3	9.7 (0.0-20.7)	2	11.2 (0.0-28.8)
AGE AT FIRST INJECTION DRUG USE						
<=17	2	91.2 (71.6-100)	0	-	0	-
18-24	1	8.8 (0.0-28.4)	2	69.2 (16.8-100)	2	100
25-30	0	-	0	-	0	-
31+	0	-	1	30.8 (0.0-83.2)	0	-
INJECTED IN PAST ONE MONTH						
Yes	3	100	0	0.0	2	100
USED STERILE INJECTING EQUIPMENT DURING LAST INJECTION						
Yes	2	17.6 (3.1-30.2)	2	75.8 (34.9-100)	2	100

Sexual behavior

General sexual behavior

The median age at first sexual intercourse was 16 in Yerevan and Vanadzor (range: 6 to 26 in Yerevan and 13 to 36 in Vanadzor) and 17 in Gyumri (range: 12 to 26) and the median age at first sexual intercourse with a male was 18 in Yerevan and Vanadzor (range: 7 to 40 in Yerevan and 13 to 38 in Vanadzor) and 19 in Gyumri (range: 13 to 44). Most MSM in Yerevan and Vanadzor reported having 2 to 5 anal sex partners in the past month; in Gyumri 50% reported having 2 to 5 anal sex partners, and 48% - one partner in the past month. Just under one third of MSM in all cities had their last anal sex in the previous week. Most MSM in all cities (81% in Yerevan, 54% in Gyumri and 91% in Vanadzor) used a condom during their last anal sex with a male. Most MSM in all cities did not use a condom during their last oral sex with a male partner in Yerevan and Gyumri; however, most MSM in Vanadzor did use a condom during their last oral sex. Of all respondents, 3% in Yerevan, 5% in Gyumri and 1% in Vanadzor had experienced forced sex with another male. Out of them, 23% in Yerevan, 63% in Gyumri and 82% in Vanadzor had forced first sexual experience with a male.

Table 3.6. General sexual behaviors with male partners among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
AGE OF FIRST SEX						
<=15	105	32.6 (25.4-40.0)	46	26.5 (18.4-34.6)	57	41.8 (30.6-53.0)
16-19	157	55.5 (48.0-63.0)	82	53.4 (43.7-63.3)	74	48.6 (36.4-60.9)
20+	36	11.9 (6.5-17.2)	22	20.1 (11.2-28.9)	19	9.6 (5.1-14.1)
AGE OF FIRST ANAL SEX						
<=14	25	5.9 (2.8-8.9)	3	1.6 (0.0-3.4)	10	7.4 (2.5-12.3)
15-16	45	13.3 (8.2-18.4)	27	15.2 (8.7-21.7)	41	26.7 (18.1-35.3)
17-19	128	46.1 (38.1-54.1)	58	36 (27.2-44.9)	61	38.7 (27.7-49.5)
20+	102	34.7 (26.6-42.9)	62	47.2 (37.7-56.6)	38	27.2 (13.2-41.3)
<=14	25	5.9 (2.8-8.9)	3	1.6 (0.0-3.4)	10	7.4 (2.5-12.3)
MOST COMMON ROLE/POSITION						
Active	99	41 (33.2-49.0)	89	61.1 (51.1-71.2)	43	31.7 (21.5-41.9)
Passive	44	13.9 (10.2-17.6)	18	13.5 (8.3-18.7)	12	7.6 (3.3-11.9)
Both active and passive	155	45.1 (37.7-52.2)	42	25.4 (16.1-34.6)	95	60.7 (50.2-71.2)
NUMBER OF NON-COMMERCIAL SEX PARTNERS IN THE PAST MONTH						
1	90	35.5 (27.7-43.6)	61	48.2 (38.6-57.8)	17	14.3 (0.0-29.2)
2	81	27.8 (21.0-34.7)	61	37.2 (28.5-46.1)	28	22.9 (14.5-31.5)
3-5	102	32.5 (25.9-38.9)	24	12.5 (6.3-18.7)	76	47.4 (36.4-58.4)
6 or more	24	4.2 (1.9-6.4)	2	2 (0.0-6.1)	28	15.4 (8.5-22.2)
NUMBER OF ANAL SEX PARTNERS ON AVERAGE IN A MONTH						
1	90	35.5 (27.6-43.5)	61	48.3 (39.1-57.5)	17	14.2 (0.0-29.5)
2-5	183	60.3 (52.4-68.2)	85	49.7 (39.9-59.4)	104	70.4 (56.1-84.7)
6 or more	24	4.2 (2.1-6.2)	2	2.0 (0.0-6.4)	28	15.4 (8.7-22.1)
LAST ANAL SEXUAL INTERCOURSE						
During this week	107	30.8 (24.0-37.5)	52	31.9 (22.7-41.2)	46	29.8 (17.0-42.5)
During this month	67	22.7 (16.8-28.6)	28	17.4 (10.4-24.4)	63	47.1 (35.2-59.1)
During the last 3 months	75	26 (19.8-32.3)	47	33.7 (25.2-42.2)	37	20.0 (13.7-26.2)
During the last six months	30	10.9 (6.3-15.5)	12	11.9 (4.5-19.3)	4	3.2 (0.2-6.2)

Between six months and one year	21	9.6 (4.6-14.6)	11	5.0 (2.0-8.1)	0	-
USED CONDOM DURING LAST ANAL PENETRATIVE SEX						
Yes	228	80.5 (76.9-84.0)	87	54.3 (44.5-64.2)	138	90.7 (77.3-100)
USED CONDOM DURING LAST ORAL SEX						
Yes	88	32.7 (25.5-40.1)	50	38.1 (28.4-47.9)	129	84.5 (72.3-96.7)
No	203	65.0 (57.3-72.5)	76	47 (37.9-56.1)	20	13.5 (1.1-25.8)
Don't have such kind of sex	9	2.3 (0.0-4.5)	24	14.8 (8.5-21.2)	1	2.1 (0.0-5.9)
HAD SEXUAL INTERCOURSE AGAINST RESPONDENT'S WILL WITH A MALE PARTNER						
Yes	13	2.6 (0.4-4.7)	9	5.2 (1.1-9.3)	4	1.2 (0.3-2.0)
FORCED FIRST ANAL SEX EXPERIENCE WITH A MAN						
Yes	5	23.2 (3.5-41.8)	4	63.0 (20.6-100)	3	82.1 (45.2-100)

Lubricant use

More than half of MSM in Yerevan (51%), 37% in Gyumri and 30% in Vanadzor used lubricants during anal sex with a male partner, among which the majority used water-based lubricants (Table 3.7.).

Table 3.7. Lubricant use with male partners among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER USED LUBRICANTS DURING ANAL SEX						
Yes	172	51.4 (45.8-57)	51	37.4 (27.7-47)	45	30.2 (17.7-42.6)
LUBRICANT PRODUCTS NORMALLY USED DURING ANAL SEX (OTHER THAN SALIVA)						
Water based	115	62.1 (53.0-71.0)	42	87.1 (75.1-99.7)	26	68.8 (53.5-87.1)
Oil based	24	14.6 (5.6-23.5)	3	4.1 (0.0-15.1)	19	31.2 (12.9-46.5)
I don't know	33	23.3 (15.2-31.6)	6	8.8 (1.8-15.4)	0	-

Regular male partners

Between 32% of MSM in Vanadzor and 55% in Gyumri had a regular male partner[8] in the past year (Table 3.8.), among which between 62% in Gyumri and 88% in Vanadzor used a condom during last penetrative anal sex with a regular male partner. Fifty one percent of MSM in Yerevan, 39% in Gyumri and 85% in Vanadzor reported "always" using condoms during anal sex with their regular male partner. The most common reasons for not always using condoms during penetrative anal sex with regular male partners included that it "reduces pleasure" and that they "trust their partner".

Tale 3.8. Anal sex behaviors with regular male partners

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HAD A REGULAR MALE PARTNER IN PAST YEAR						
Yes	115	35.2 (28.0-42.4)	86	55.0 (45.8-64.2)	44	32.1 (18.5-45.5)
USED A CONDOM DURING LAST SEX WITH REGULAR MALE PARTNER						
Yes	72	67.9 (56.7-79.2)	56	61.9 (49.8-73.6)	39	87.6 (68.6-100)
FREQUENCY OF USING A CONDOM DURING SEX WITH REGULAR MALE PARTNER IN PAST YEAR						
Every time	53	51.3 (39.2-63.5)	37	38.8 (27-50.2)	36	84.9 (53.2-100)
Sometimes	42	35.1 (25.6-44.6)	37	48.4 (36.3-61.1)	4	7.3 (0.0-19.4)
Never	20	13.6 (3.9-23.2)	12	12.8 (1.7-23.8)	3	7.8 (0.0-39.9)

[8]*Regular was defined as one with whom the respondent had sexual relations at least during 3 months*

REASONS FOR NOT ALWAYS USING CONDOMS						
Expensive	0	-	4	7.4 (0.0-19.8)	0	-
Ashamed to buy	0	-	4	6.5 (0.0-18.5)	0	-
Difficult to use	0	-	0	-	0	-
Not available	3	8.0 (0.0-22.9)	0	-	0	-
Reduces pleasure	31	53.2 (39.8-66.8)	38	85.8 (73.2-99.6)	5	86 (44.1-100)
Ashamed to ask	1	2.0 (0.0-11.2)	4	5.0 (0.0-11.6)	0	-
Trust partner	41	70.4 (57.6-83.7)	38	71.2 (56.3-85.3)	2	14 (0.0-46.3)
Don't know if effective	0	-	0	-	0	-
Me and my partner have HIV	0	-	0	-	0	-
I use PrEP	0	-	0	-	0	-

Non-regular sex partners

Eighty one percent in Yerevan, 80% in Gyumri and 88% in Vanadzor had a non- regular male sex partner in the past year (Table 3.9.), among which 89% in Yerevan, 65% in Gyumri and 91% in Vanadzor used condoms during their last anal penetrative sex. Seventy one percent of MSM in Yerevan, 45% in Gyumri and 80% in Vanadzor reported "always" using condoms with non-regular sex partners in the past year. Among MSM who reported not using condoms, around 60% and more in each of the three cities reported that condoms "reduce pleasure" as their primary reason for not using condoms. Fifty six percent of MSM in Gyumri also said that they "trust their partner".

Table 3.9. Anal sex behaviors with non-regular male partners

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HAD A NON-REGULAR MALE PARTNER IN PAST YEAR						
Yes	229	81.4 (75.8-86.9)	122	80.2 (73.2-87.3)	130	88.4 (78.0-98.9)
USED A CONDOM DURING LAST SEX WITH NON-REGULAR MALE PARTNER						
Yes	198	89.0 (82.7-95.4)	83	65.0 (54.1-75.7)	119	90.8 (82.2-99.3)
FREQUENCY OF USING A CONDOM DURING SEX WITH NON-REGULAR MALE PARTNER IN PAST YEAR						
Every time	161	71.2 (64.4-78.1)	61	44.5 (34.0-54.6)	106	79.9 (70.5-89.2)
Sometimes	61	26.5 (20.9-32.1)	49	40.2 (31.4-49.2)	19	14.2 (9.4-19.0)
Never	7	2.3 (0.0-6.3)	12	15.3 (5.3-25.6)	5	5.9 (0.0-14.3)
REASONS FOR NOT ALWAYS USING CONDOMS						
Expensive	0	-	17	27.3 (14.4-39.8)	0	-
Ashamed to buy	1	1.5 (0.0-8.1)	11	18 (5.5-30.5)	4	9.4 (0.0-24.0)
Difficult to use	0	-	5	8.5 (0.0-21.1)	0	-
Not available	5	12.3 (0.0-32.9)	2	2.1 (0.0-7.1)	0	-
Reduces pleasure	46	63.4 (51.0-75.6)	44	72.5 (59.1-85.7)	15	61.6 (40.7-81.6)
Ashamed to ask	0	-	7	9.8 (0.0-20.3)	0	-
Trust partner	25	41.2 (28.5-54.1)	34	56 (42.3-69.9)	5	30.8 (11.4-52.8)
Don't know if effective	0	-	1	0.6 (0.1-0.9)	0	-
Me and my partner have HIV	0	-	0	-	0	-
I use PrEP	1	0.2 (0.0-1.2)	0	-	0	-

Commercial sex partners

Fourteen percent of MSM in Yerevan, 7% in Vanadzor and only 1% in Gyumri bought sex from a man in the past year (Table 3.10.), among which 85% in Yerevan, 100% in Gyumri, and 90% in Vanadzor used a condom the last time they bought anal sex from a male partner. In Yerevan, 91%, in Gyumri, 100% and in Vanadzor, 94% always used a condom when buying anal sex from male partners in past year. Reduction of pleasure and trusting the partner were reported as the main reasons for not always using condoms in Yerevan. Three percent of MSM in Yerevan, 14% in Gyumri and 2% in Vanadzor sold sex to a man in the past year (Table 3.10), among which 81% in Yerevan, 79%, in Gyumri, and 100% in Vanadzor, used a condom the last time they sold sex to a male partner. Eighty one percent in Yerevan, 72% in Gyumri, and 75% in Vanadzor always used a condom when selling sex to male partners in the past year.

Table 3.10. Anal sex behaviors with commercial male partners

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
BOUGHT ANAL SEX FROM A MAN IN PAST YEAR						
Yes	33	13.9 (7.6-20.2)	4	1.4 (0.2-2.5)	11	7.3 (3.0-11.5)
USED CONDOM DURING LAST BOUGHT ANAL SEX WITH MALE PARTNER						
Yes	27	84.9 (66.6-100)	4	100	10	89.9 (69.8-100)
FREQUENCY OF USING CONDOMS WHEN BUYING ANAL SEX FROM MALE PARTNERS IN PAST YEAR						
Every time	30	90.7 (75.5-106)	4	100	10	94.3 (74.7-100)
Sometimes	2	8.5 (0.0-22.3)	0	0 (0-0)	1	5.7 (-14.7-25.3)
Never	1	0.8 (0.0-6.0)	0	0 (0-0)	0	0 (0-0)
REASONS FOR NOT ALWAYS USING CONDOMS WHEN BUYING SEX FROM MALE PARTNERS						
Expensive	0	-	0	-	0	-
Ashamed to buy	0	-	0	-	0	-
Difficult to use	0	-	0	-	0	-
Not available	0	-	0	-	0	-
Reduces pleasure	3	-	0	-	1	100
Ashamed to ask	0	-	0	-	0	-
Trust partner	2	88.4^	0	-	0	-
Don't know if effective	0	-	0	-	0	-
Me and my partner have HIV	0	-	0	-	0	-
I use PrEP	0	-	0	-	0	-
SOLD ANAL SEX TO A MAN IN PAST YEAR						
Yes	12	3.4 (0.7-6.2)	20	14.4 (7.5-21.3)	5	1.7 (0.5-2.9)
USED A CONDOM DURING LAST TIME WHEN SOLD ANAL SEX TO A MALE PARTNER						
Yes	9	81.0 (48.5-100)	17	78.8 (57.5-98.5)	5	100
FREQUENCY OF USING CONDOMS WHEN SELLING ANAL SEX WITH MALE PARTNERS IN PAST YEAR						
Every time	9	81 (50.1-100)	16	72.0 (57.1-85.5)	4	75.3 (44.2-100)
Sometimes	2	15.8 (0.0-44.7)	3	15.0 (7.3-22.6)	1	24.7 (0.0-55.8)
Never	1	3.1 (0.0-20.6)	1	13.0 (0.0-28.2)	0	-
REASONS FOR NOT ALWAYS USING CONDOMS WHEN SELLING SEX						
Expensive	0	-	1	46.5^	0	-
Ashamed to buy	0	-	1	24.3 (0.0-55.6)	0	-
Difficult to use	0	-	0	-	0	-
Not available	1	78.9^	1	16.4^	0	-

Reduces pleasure	1	16.6^	1	23.8 (0.0-56.6)	1	100
Ashamed to ask	0	-	0	-	0	-
Trust partner	2	20.9 (0.0-117.5)	1	12.8 (0.0-27.8)	0	-
Don't know if effective	0	-	0	-	0	-
Me and my partner have HIV	0	-	0	-	0	-
I use PrEP	0	-	0	-	0	-

^too few values to generate confidence bounds

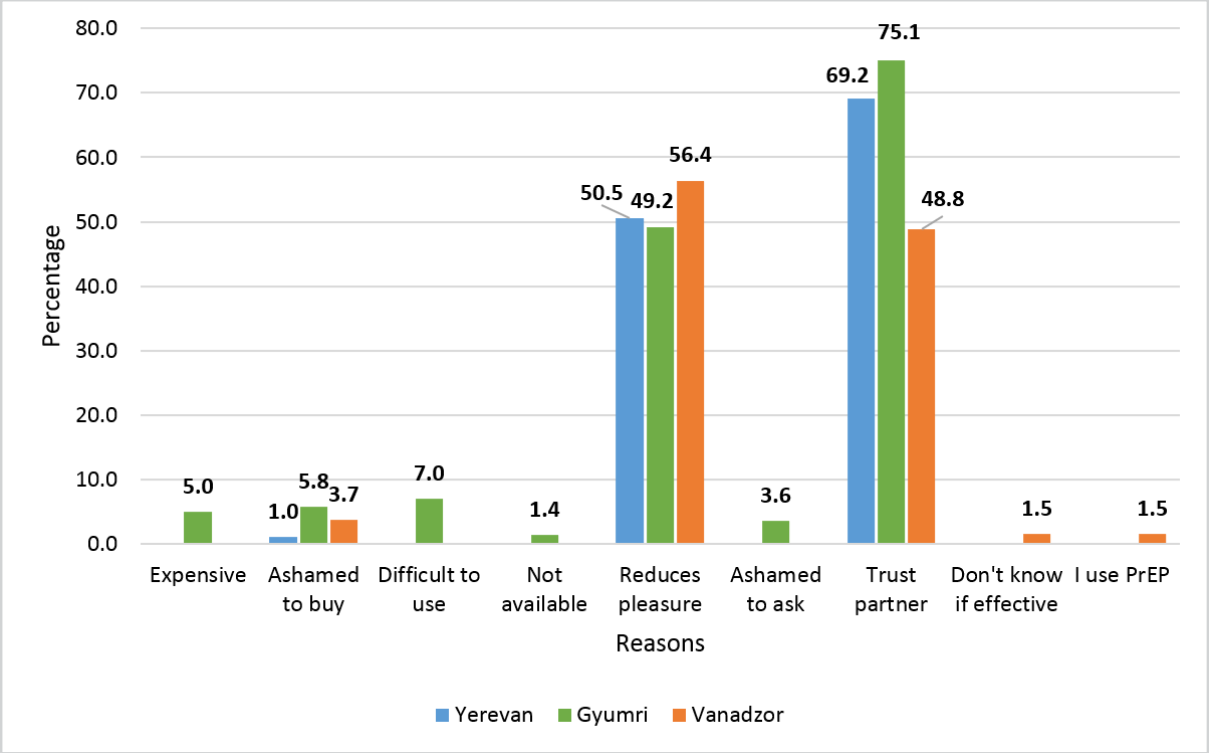
Female sex partners

The lowest percentage of MSM who ever had intercourse with a female was in Yerevan (71%) and the highest percentages were in Gyumri (84%) and Vanadzor (88%) (Table 3.11.). Among those who ever had sexual intercourse with a female, 79% in Yerevan, 48% in Gyumri and 88% in Vanadzor used a condom during their last intercourse, and 52% in Yerevan, 40% in Gyumri and 77% in Vanadzor always used a condom during sexual intercourse with a female. Among those not using condoms during sexual intercourse with a female, most MSM in Yerevan reported that it was because they trusted their partner (69%), and condoms reduce pleasure (51%), in Gyumri these percentages were 75% and 49% respectively, and in Vanadzor – 49% and 56% (Figure 3.5.).

Table 3.11. Sexual behaviors with female sex partners among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER HAD SEXUAL INTERCOURSE WITH A FEMALE						
Yes	197	70.5 (63.5-77.4)	125	83.8 (76.7-90.7)	129	87.7 (81.5-93.9)
USED CONDOM DURING LAST SEXUAL INTERCOURSE WITH A FEMALE						
Yes	147	78.5 (70.6-86.5)	66	48.2 (38.6-57.5)	117	88.4 (79.8-97.0)
FREQUENCY OF USING CONDOMS DURING SEXUAL INTERCOURSE WITH A FEMALE						
Every time	106	51.6 (41.4-61.8)	54	39.7 (30.9-48.3)	103	77.4 (67.4-87.3)
Sometimes	73	41.3 (33.6-48.9)	35	27.3 (18.5-36)	19	15.2 (9.3-21.2)
Never	17	7.2 (0.7-13.7)	36	33 (24.3-42)	7	7.3 (-1.1-15.8)
REASONS FOR NOT ALWAYS USING CONDOMS DURING SEX WITH FEMALES						
Expensive	0	-	5	5.0 (0.0-13.4)	0	-
Ashamed to buy	1	1.0 (0.0-6.8)	5	5.8 (0.0-14.6)	2	3.7 (0.0-7.5)
Difficult to use	0	-	4	7 (0.0-20.1)	0	-
Not available	0	-	1	1.4 (0.0-5.1)	0	-
Reduces pleasure	50	50.5 (40.6-60.4)	36	49.2 (35.9-62.0)	13	56.4 (35.6-78.8)
Ashamed to ask	0	-	4	3.6 (0.0-9.7)	0	-
Trust partner	58	69.2 (58.1-80.5)	51	75.1 (63.6-86.9)	13	48.8 (31.9-65.3)
Don't know if effective	0	-	0	-	1	1.5 (0.0-4.1)
Me and my partner have HIV	0	-	0	-	0	-
I use PrEP	0	-	0	-	1	1.5 (0.0-3.3)

Figure 3.5. Reasons for not always using condoms during sexual intercourse with a female among MSM



Stigma and discrimination

Most MSM in Yerevan (64%), Gyumri (81%) and Vanadzor (66%) are not ashamed that they have sex with men (Table 3.12.). Consequently, most MSM in all three cities were not ashamed to admit that they have sex with men when in a group of other MSM. From 40% in Yerevan to 83% in Gyumri were ashamed to say that they have sex with men to healthcare and social workers. Seventy five percent in Yerevan and nearly all in Gyumri and Vanadzor have told anyone that they have sex with men. Most MSM (95% in Yerevan, 98% in Gyumri and 89% in Vanadzor) have told their friends and acquaintances, who are also MSM, that they have sex with men. Out of all the respondents, 7% in Yerevan, 14% in Gyumri and 2% in Vanadzor felt excluded from family activities because they have sex with men. Fourteen percent in Yerevan, 21% in Gyumri, and 1% in Vanadzor were ever scolded for having sex with men and 7% in Yerevan, 14% in Gyumri and 0.3% in Vanadzor were blackmailed for having sex with males.

Table 3.12. Stigma and discrimination among MSM

	YEREVAN N = 300		GYUMRIN N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
ASHAMED TO HAVE SEX WITH MEN						
Agree	48	15.8 (10.4-21.2)	16	11.4 (4.8-18.0)	16	11.5 (5.3-17.8)
Neutral/ indifferent	56	20.0 (15.4-24.5)	9	7.4 (2.7-12.0)	36	22.3 (15.8-28.8)
Disagree	190	64.2 (57.1-71.4)	122	81.2 (73.4-89.1)	92	66.2 (57.5-74.9)
NOT ASHAMED TO ADMIT HAVING SEX WITH MEN IN GROUP OF OTHER PEOPLE WHO ARE MEN WHO HAVE SEX WITH MEN						
Agree	199	64.8 (58-71.6)	95	60.1 (50.5-69.6)	94	66.5 (56.4-76.7)
Neutral/ indifferent	59	22.7 (17.5-28)	24	19.1 (13.1-25.2)	19	13.3 (6.2-20.4)
Disagree	38	12.5 (7.4-17.6)	28	20.8 (12.6-29.1)	32	20.2 (9.3-31.0)
NOT ASHAMED TO ADMIT HAVING SEX WITH MEN IN MEETINGS WITH SOCIAL/HEALTH WORKING IN MY COMMUNITY						
Agree	84	27.6 (21-34.2)	14	8.1 (3.0-13.3)	44	31.8 (17-46.6)

Neutral/ indifferent	102	32.0 (27.1-36.9)	16	9.2 (5.4-13.0)	28	15.7 (9.6-21.7)
Disagree	105	40.4 (33.3-47.6)	118	82.7 (76.4-89.0)	73	52.5 (39.9-65.2)
HAS TOLD ANYONE THAT HE HAS SEX WITH MEN						
Yes	237	75.0 (68.2-82.0)	144	99.2 (98.9-99.4)	146	96.8 (93.0-100)
PERSONS TOLD THAT HE HAS SEX WITH MEN						
Partner	40	12.2 (5.7-18.5)	64	40.4 (32.7-48.0)	20	16.4 (7.2-25.7)
Family	26	8.9 (2.2-15.6)	13	10.5 (3.4-17.6)	1	0.3 (0.3-0.4)
Friends who are MSM	222	95.0 (89.5-100)	142	98.0 (96.4-99.6)	133	88.6 (80.7-96.5)
Friends who are not MSM	64	24.4 (17.2-31.7)	3	0.9 (0.6-1.1)	3	2.1 (0.8-3.4)
Healthcare providers	23	9.1 (2.9-15.3)	5	4.9 (1.4-8.5)	1	0.5 (0.2-0.8)
Don't know	1	0.7 (0.0-3.4)	0	-	2	1.1 (0.0-2.2)
EVER FELT EXCLUDED FROM FAMILY ACTIVITIES BECAUSE OF HAVING SEX WITH MEN						
Yes	28	7.2 (3.5-10.9)	16	14.1 (6.4-21.8)	6	2.4 (1.4-3.2)
EVER FELT FAMILY MADE UNFAIR COMMENTS OR GOSSIPED BECAUSE OF HAVING SEX WITH MEN						
Yes	21	13.0 (3.7-22.2)	20	66.3 (44.2-88.9)	8	4.5 (2.5-6.4)
EVER AVOIDED HEALTH CARE BECAUSE OF STIGMA AND DISCRIMINATION						
Yes	3	0.5 (0.0-1.2)	2	0.4 (0.0-0.9)	7	2.3 (1.9-2.7)
AVOIDED HEALTHCARE BECAUSE OF:						
Fear of stigma	0	-	1	50.0^	1	23.5^
Fear of others knowing about me having sex with men	0	-	1	50.0^	3	76.6 (40.5-100)
Fear of violence	0	-	1	50.0^	0	-
Fear of harassment	1	100	0	-	0	-
PERCENTAGE OF MSM WHO AVOID HIV TEST BECAUSE OF STIGMA AND DISCRIMINATION						
Yes	2	0.2 (0.0-0.4)	0	-	7	2.3 (1.7-2.9)
AVOIDED SEEKING HIV TEST IN LAST 12 MONTHS						
Fear of stigma	1	47.3^	0	-	4	61.0 (30.5-95.6)
Fear of others knowing of me having sex with men	1	52.3^	0	-	4	52.0 (20.6-76.5)
Fear of violence	0	-	0	-	0	-
Fear of harassment	0	-	0	-	0	-
EVER SCOLDED FOR HAVING SEX WITH MEN						
Yes	36	13.8 (5.2-22.5)	26	20.8 (12.2-29.4)	3	1.1 (0.5-1.7)
EVER BLACKMAILED FOR HAVING SEX WITH MEN						
Yes	25	7.2 (0.0-17.5)	20	13.7 (5.4-22.0)	1	0.3 (0.2-0.4)
EVER PHYSICALLY HARASSED/HURT FOR HAVING SEX WITH MEN						
Yes	12	2.4 (0.9-3.9)	12	9.2 (1.5-16.9)	2	0.4 (0.3-0.4)
EVER FORCED TO HAVE SEX						
Yes	11	2.4 (0.0-19.5)	7	4.7 (1.6-7.8)	1	0.2 (0.1-0.3)
FORCED TO HAVE SEX BECAUSE OF HAVING SEX WITH MEN						
Yes	4	61.5^	3	35.4 (0.0-89.0)	1	100

^too few values to generate confidence bounds

Physical violence

Few MSM ever experienced physical violence, among which the median age of first experiencing physical violence was 17 (range 5-26) in Yerevan, 15 (range: 12- 28) in Gyumri and 23 (range: 17-23) in Vanadzor. The highest proportion of MSM experienced physical violence from a "friend or acquaintance" in Yerevan and Vanadzor (39% and 52%, respectively) and "relative" in Gyumri (45%). Few MSM were ever hurt by a sexual partner. Twenty six percent in Yerevan, 7% in Gyumri and 48% (1 person) in Vanadzor tried to seek help for being physically hurt. Of those, who did not apply for help, 48% in Yerevan, 9% in Gyumri and 100% in Vanadzor (1 person) did not feel that they needed services. Eighteen percent in Yerevan, 35% in Gyumri and nobody in Vanadzor were uncomfortable accessing services. Most MSM in all cities (98% in Yerevan, 65% in Gyumri and 100% in Vanadzor) who experience violence had told someone about experiencing it, among which 86% in Yerevan, 36% in Gyumri and 52% in Vanadzor had told their friend or acquaintance. (Table 3.13.). Few or no MSM ever had sexual intercourse against their will.

Table 3.13. Physical violence among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
EVER EXPERIENCED PHYSICAL VIOLENCE						
Yes	26	9.8 (0.2-19.5)	12	11.2 (2.6-19.9)	2	0.4 (0,3-0.4)
NUMBER OF TIMES EXPERIENCED PHYSICAL VIOLENCE						
1-2 times	12	40.5 (7.7-73.0)	9	71.4 (36.5-100)	1	51.6 (45.5-62.5)
3-10 times	14	59.5 (27.0-92.3)	3	28.6 (0.0-63.5)	1	48.4 (37.5-53.6)
11+ times	0	-	0	-	0	-
RELATIONSHIP TO PERSON WHO PHYSICALLY HURT RESPONDENT FIRST TIME						
Paying sex partner	0	-	1	18.4 (0.0-56.2)	0	-
Non-paying sex partner	1	11 (0.0-25.2)	0	-	0	-
Police/ military/ authority	1	3.7 (3.7-3.7)	0	-	1	48.0 (0.0-96.4)
Relative	4	27.8 (17.1-39.0)	6	44.7 (6.6-82.4)	0	-
Friend/ acquaintance	12	39.5 (26.8-51.9)	5	34.5 (2.8-64.3)	1	52.0 (3.6-121.4)
Don't know	6	14.7 (8.7-20.3)	0	-	0	-
Other	3	3.3 (1.4-5.0)	1	2.5 (0.0-15.6)	0	-
TYPE OF PARTNER WHO PHYSICALLY HURT RESPONDENT FIRST TIME						
Spouse or live-in partner	0	-	0	-	0	-
Boyfriend/ girlfriend	1	100	0	-	0	-
Don't know	0	-	1	100	0	-
Other	0	-	0	-	0	-
EVER PHYSICALLY HURT BECAUSE RESPONDENT HAS SEX WITH MEN						
Yes	16	44.9 (27-62.5)	7	48.1 (24.1-71.1)	2	100
EVER TRIED TO SEEK PROFESSIONAL HELP BECAUSE OF BEING PHYSICALLY HURT						
Yes	8	25.8 (4.1-47.4)	3	6.9 (1.2-10.8)	1	48.3 (2.8-72.2)
WHICH PROFESSIONAL HELP SOUGHT BECAUSE OF BEING PHYSICALLY HURT						
Health care staff	2	58.2 (10.3-107.4)	0	-	0	-
Police/security	5	39.1 (16.8-60.3)	2	55.7 (14.4-90.4)	1	100
Social worker/ counselor/ NGO	2	3.7 (0.0-7.4)	1	44.3^	0	-
Religious leader	0	-	0	-	0	-
EVER REFUSED HELP WHEN SEEKING HEALTH BECAUSE OF BEING PHYSICALLY HURT						
Yes	4	26.1 (0.0-70.2)	1	26.4 (0.0-74.9)	1	100
BY WHOM REFUSED WHEN SEEKING HELP BECAUSE OF BEING PHYSICALLY HURT						
Health care professional	1	8.4 (7.7-7.7)	0	-	0	-

Police/security personnel	4	100	1	100	1	100
Legal professional	0	-	0	-	0	-
Social worker/ counselor/ NGO	0	-	0	-	0	-
NGO	0	-	0	-	0	-
REASON FOR NOT SEEKING PROFESSIONAL HELP						
Did not know what services were available/where to go	6	20.5 (8.7-31.6)	5	56.7 (25.4-88.7)	0	-
Services I wanted/ needed not Available	1	13.6 (0.0-30.2)	0	-	0	-
Could not afford services	0	-	0	-	0	-
Was uncomfortable accessing services	4	18.1 (9.5-26.5)	3	34.8 (4.2-66.2)	0	-
Did not feel that I needed services	8	47.8 (32.6-63.4)	2	8.5 (0.1-15.4)	1	100
REASONS FOR BEING UNCOMFORTABLE						
Worried service provider would treat me poorly if knew that I have sex with men	0	-	1	49.1^	0	-
Afraid my partner/family would find out that I have sex with men	0	-	1	49.5^	0	-
Afraid authorities would find out that I have sex with men	2	53.8^	0	-	0	-
Worried others would find out that I have sex with men	3	61.8 (14.2-100)	1	49.2^	0	-
Don't know	0	-	2	50.9^	0	-
TOLD ANYBODY ABOUT EVER BEING PHYSICALLY HURT						
Yes	24	97.6 (91.7-100)	8	65.3 (41.2-89.1)	2	100
PERSONS TOLD ABOUT EVER BEING PHYSICALLY HURT						
Paying sex partner	0	-	0	-	0	-
Non-paying sex partner	0	-	1	2.4^	0	-
Police/military/authority	2	7.1 (0.0-19.0)	0	-	1	48.7 (2.7-72.3)
Relative	5	10.9 (0.0-21.9)	4	32.0 (7.8-56.0)	0	-
Friend/acquaintance	20	85.9 (66-100)	5	35.6 (12.2-57.8)	1	51.5^
No one	2	2.4 (0.0-8.3)	4	34.7 (10.9-58.8)	0	-

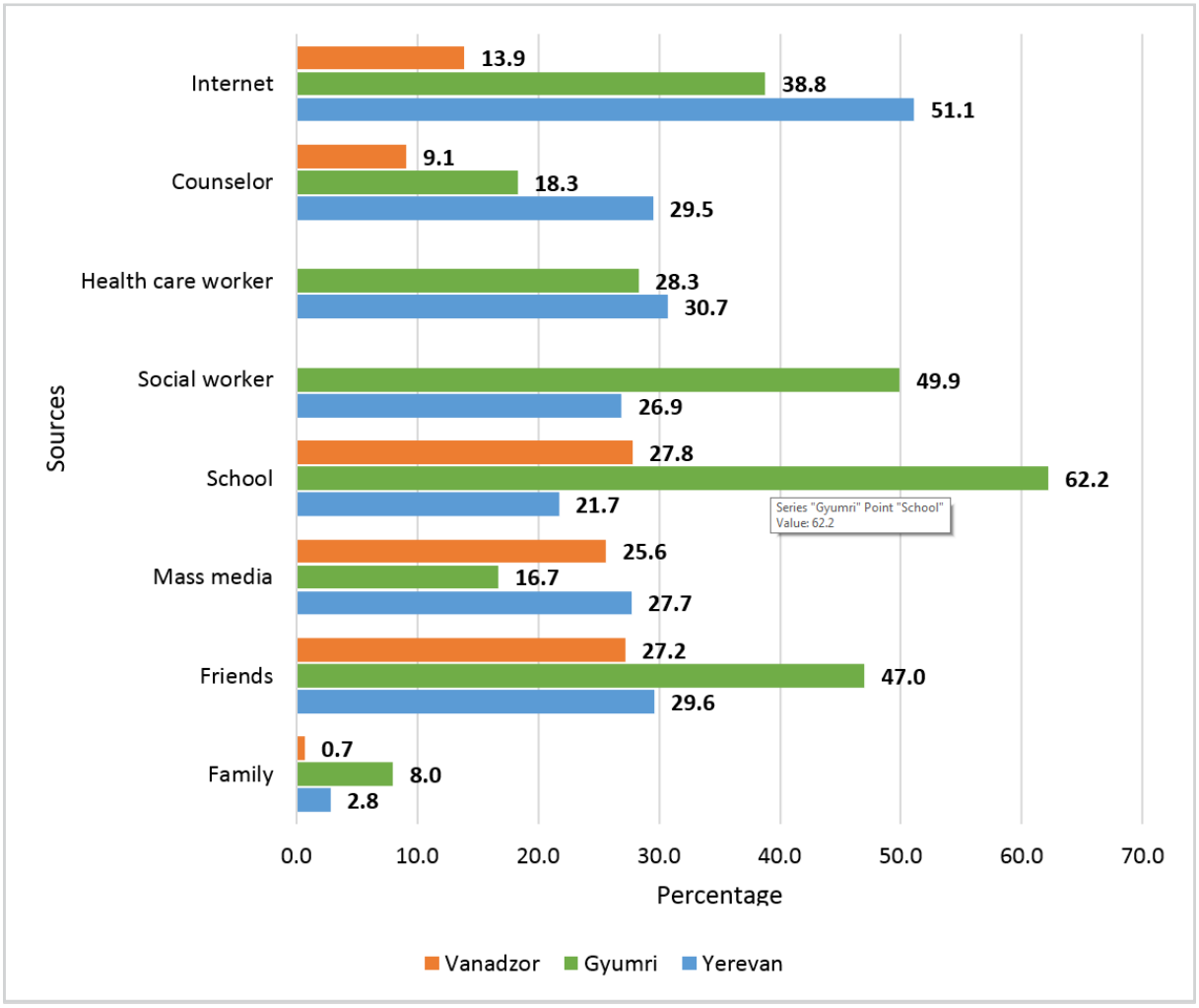
^too few values to generate confidence bounds

HIV/AIDS

HIV/AIDS risk, knowledge and beliefs

Eighty eight percent of MSM in Yerevan, 86% in Gyumri and 72% in Vanadzor had ever heard of HIV/AIDS. Most MSM reported getting HIV/AIDS information from the Internet in Yerevan, school in Gyumri and school, friends, and mass media in Vanadzor (Figure 3.6.).

Figure 3.6. Sources of HIV/AIDS information among MSM



Most MSM in all three cities believed their risk for HIV infection to be low (Table 3.14.). The composite knowledge score was low, ranging from 13% in Gyumri to 29% in Yerevan.

Table 3.14. HIV/AIDS risk, knowledge and beliefs among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HAS EVER HEARD OF HIV/AIDS						
Yes	270	88.1 (83.5-92.8)	127	85.5 (78.6-92.5)	104	72.1 (63.3-81.1)
LEVEL OF ESTIMATED PROBABILITY OF BEING INFECTED WITH HIV						
High	10	3.4 (0.2-6.6)	1	0.3 (0.0-0.6)	6	7.6 (0.0-15.5)
Low	156	53.7 (46.1-61.2)	105	85.9 (78.6-93.3)	93	86.5 (74.9-97.8)
No risk	95	38 (31.1-44.9)	19	10.5 (4.6-16.3)	5	5.9 (0.0-15.3)
HIV KNOWLEDGE SCORE						
At least one incorrect	203	71.2 (64.7-77.7)	129	86.6 (80.5-92.7)	119	76.3 (64.9-87.7)
All correct	97	28.8 (22.3-35.3)	21	13.4 (7.3-19.5)	30	23.7 (12.3-35.1)

HIV testing, condoms and prevention programs coverage among MSM

The highest percentage of MSM who knew where to get an HIV test was in Yerevan (88%), followed by Gyumri (59%) and Vanadzor (39%) (Table 3.15.). Seventy percent of MSM in Yerevan, 45% in Gyumri and 28% in Vanadzor ever had an HIV test and 55% in Yerevan, 33% in Gyumri and 24% in Vanadzor had an HIV test in the past 12 months or knew their HIV-positive status. Among those who had a test in past 12 months, all received their results. Among those, 7% in Yerevan and 7% in Gyumri were positive; all the results in Vanadzor were negative. The first of the three pillars of the 95-95-95 care cascade, "People living with HIV who know their status" was 82% among MSM across the three cities.

Table 3.15. HIV testing coverage among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
KNOWS WHERE TO GET AN HIV TEST						
Yes	228	88.4 (82.5-94.3)	72	59.0 (49.5-68.6)	39	39.4 (25.2-53.7)
KNOWS ABOUT HIV TEST AT THE NGO						
Yes	193	87.3 (80.9-93.9)	60	84.7 (73.2-96.3)	30	82.1 (62.7-100)
KNOWS ABOUT HIV TEST AT THE MEDICAL CENTER						
Yes	47	17.5 (10.6-24.5)	28	37 (23.4-50.3)	10	19.9 (4.2-34.1)
EVER HAD AN HIV TEST						
Yes	215	69.5 (62.8-76.1)	66	45.2 (34.9-55.4)	33	27.5 (11.3-43.6)
TIME OF LAST HIV TESTING						
In the last 6 months	114	51.3 (42.3-60.1)	34	51 (38.1-63.4)	27	80.3 (59.9-100)
6-12 months ago	60	24.7 (16.2-33.2)	11	19.2 (7.1-31.9)	2	5.6 (0.0-25.5)
More than 12 months ago	40	24.1 (15.6-32.6)	21	29.8 (18.2-41.3)	4	14 (0.0-28.5)
RECEIVED RESULTS OF THE LAST HIV TEST						
Yes	214	100	66	100	33	100
TESTED IN LAST 12 MONTHS AND RECEIVED TEST RESULTS DURING LAST HIV TEST (REGARDLESS OF STATUS)						
Yes	174	52.8 (47.2-58.4)	45	31.7 (21.9-41.4)	29	23.6 (8.3-39.0)
RECEIVED AN HIV TEST DURING IN THE PAST 12 MONTHS AND KNOW THEIR RESULTS (INCLUDES THOSE WHO KNOW THEY ARE HIV+)						
Yes	179	55.4 (48.5-62.3)	45	33.2 (23.3-43.1)	29	23.6 (7.7-39.6)
TEST RESULT FROM LAST HIV TEST						
Positive	9	7.0 (0.2-13.9)	2	6.5 (0.0-19.4)	0	-
Negative	204	92.9 (86.0-99.7)	60	92.1 (79.3-100)	33	100
Indeterminant	0	-	0	-	0	-
I don't know	1	0.1 (0.0-0.2)	2	1.4 (0.0-2.6)	0	-
MSM WHO KNOW THEIR HIV-POSITIVE STATUS (AMONG THOSE WHO TESTED HIV-POSITIVE IN THE STUDY)						
Yes	7	82.1 (53.0-100)	0	-	0	-

Fifty percent of MSM and less reported receiving condoms during the last 12 months, and the lowest percentage of MSM who received condoms was in Vanadzor (23%) (Table 3.16.). For consistency with the previous rounds of IBBS, there was no question on knowledge about, accessibility or uptake of PrEP among MSM.

Table 3.16. Condoms and prevention programs among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
PROVIDED WITH CONDOMS DURING THE PAST 12 MONTHS						
Yes	155	50.2 (42.7-57.7)	57	41.6 (31.5-51.7)	29	23.0 (6.1-40.0)
RECEIVED COUNSELING ON THE USE OF CONDOMS AND SAFE SEX DURING THE PAST 12 MONTHS						
Yes	151	49.2 (41.7-56.7)	57	41.6 (31.2-52.1)	27	22.0 (3.5-40.5)
RECEIVED EITHER CONDOMS OR COUNSELING IN THE PAST 12 MONTHS						
Yes	158	50.9 (43.1-58.7)	57	41.5 (31.6-51.6)	29	23.0 (5.0-40.8)
RECEIVED CONDOMS AND COUNSELING IN THE PAST 12 MONTHS						
Yes	148	48.5 (41.0-55.9)	57	41.6 (31.2-51.8)	27	22.0 (2.5-41.6)
RECEIVED 3 OF 3 SERVICES (CONDOMS, COUNSELING, STI TEST) IN THE PAST 12 MONTHS						
Yes	55	16.5 (11.5-21.6)	13	10.5 (4.6-16.4)	5	3.9 (0.0-8.0)
RECEIVED ANY 2 OF 3 SERVICES (CONDOMS, COUNSELING, STI TEST) IN THE PAST 12 MONTHS						
Yes	152	49.5 (41.8-57.1)	57	41.6 (30.9-52.1)	28	22.4 (4.0-40.8)

Sexually transmitted infections

Nine percent of MSM in Yerevan, 9% in Gyumri and 3% in Vanadzor had genital/anal inflammation, unusual discharge, and/or warts in the past twelve months. Twenty five percent in Yerevan, and only 12% in Gyumri and 11% in Vanadzor have had an STI test in the last 12 months, among which 31% in Yerevan, 46% in Gyumri and 20% in Vanadzor were diagnosed with an STI (Table 3.17.). Among those who had genital/anal inflammation, unusual discharge, and/or warts in the past twelve months, all reported visiting the hospital, policlinic, or other health care center as a precaution.

Table 3.17. Sexually transmitted infections among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HAD INFLAMMATION, SORES IN THE GENITAL AREA DURING THE LAST 12 MONTHS						
Yes	33	8.5 (5.2-11.9)	16	9.3 (4.0-14.5)	3	2.5 (0.0-5.7)
TESTED IN THE LAST 12 MONTHS FOR A STI						
Yes	89	25.3 (18.8-31.7)	16	12.0 (5.6-18.3)	13	11.4 (4.3-18.4)
DIAGNOSED IN THE LAST 12 MONTHS WITH A STI						
Yes	27	30.7 (18.3-43.0)	9	45.4 (25.0-65.8)	2	19.6 (0.0-50.9)
VISITED A CLINIC AFTER BEING DIAGNOSED WITH STI						
Yes	28	100	9	100	2	100

HIV, Syphilis and HCV and HBV prevalence

In Yerevan, HIV prevalence was 5%, Syphilis prevalence was 6%, HCV prevalence was 6 %, and HBV prevalence was 1% (Table 3.18.). In Gyumri, HIV prevalence was 2% and HCV prevalence was 1%. There were no Syphilis or HBV cases. In Vanadzor, there were no cases of HIV or HBV, HCV prevalence was 10% and Syphilis prevalence was 3%.

Table 3.18. HIV, Syphilis, HBV and HCV prevalence among MSM

	YEREVAN N = 300		GYUMRI N = 150		VANADZOR N = 150	
	N	%, (95% CIS)	N	%, (95% CIS)	N	%, (95% CIS)
HIV	11	5.2 (1.5-9.0)	1	1.9 (0.0-5.5)	0	-
Syphilis	18	6.3 (2.8-9.7)	0	-	3	3.3 (0.0-7.1)
HCV	15	6.0 (1.7-10.4)	1	1.0 (0.0-2.8)	8	9.6 (1.9-17.4)
HBV	4	1.2 (0.0-2.4)	0	-	0	-

KEY FINDINGS AND RECOMMENDATIONS - MSM[9]

MSM are mature in age, educated and single

Most MSM were older than 25 years, reported having at least a secondary school education and were single. These socio-demographic characteristics of MSM are important for planning targeted HIV prevention programs.

High levels of risky sexual behaviors and inconsistent condom use

Most MSM reported having their sexual debut (with a male or female) in their teens (median: 16 and 17), the median age of their first sexual intercourse with a male was 18 and 19. In Yerevan and Vanadzor MSM reported having anal penetrative sex with multiple male partners in the previous month, while in Gyumri around half of the respondents had just one male sexual partner. Eighty percent of MSM and more reported having a non- regular male sex partner in the past year. Condom use during last sexual act was low in Gyumri (54%) but in Yerevan and Vanadzor this it was 81% and 91%, respectively. Reasons for not using condoms with male sex partners (regular or non- regular) included most frequently reduced pleasure and partner's trust. Since there is a lot of concurrency in the sexual behavior of MSM, tailored HIV/AIDS prevention messages should emphasize the importance of consistent condom use with all partners. Condom negotiating skills should be an inherent part of these programs. PrEP should be made available to MSM engaging in high-risk behavior.

Low levels of engagement in commercial sex with other males

Fourteen percent of MSM and less bought anal sex from a man in the past year, among which 85% and more reported using a condom the last time they bought anal sex from a male partner. No more than fourteen percent of MSM reported selling anal sex to male partners, with 79% and more reported using a condom the last time they were selling anal sex. Although engaging in commercial sex is not highly prevalent among MSM in Armenia, it is important for HIV prevention interventions to encourage routine disease screening and consistent condom use and involve both patrons and sex workers. Having targeted prevention messages in venues where MSM meet clients is also recommended.

High levels of engagement in sex with females

Seventy one percent of MSM and more reported ever having an intercourse with a female. Only 52% of MSM in Yerevan reported always using condoms during sex with a female sexual partner. Development of HIV prevention interventions targeting bisexual men should focus on the risks associated with inconsistent condom use with both male and female sexual partners. It is recommended to consider having prevention messages and services for female sexual partners of MSM, as they constitute an important bridge population through which HIV spreads from KP to the general population.

[9] *A number of findings and recommendations were adapted from the "Integrated biological-behavioral surveillance survey among people who inject drugs, female sex workers, men who have sex with men and transgender persons 2018", as many findings and trends remain valid in 2021.*

MSM have active and passive roles during sex with male partner

The main proportion of MSM in Yerevan and Vanadzor reported having both active (top) and passive (bottom) roles during sexual intercourse with male partners. Since being the receptive partner in anal sexual intercourse has higher risk of HIV transmission than being the insertive partner, both types of sexual intercourses should be addressed by prevention interventions for MSM.

Insufficient MSM coverage by HIV prevention programs and low access to condoms

50% of MSM in Yerevan, 42% in Gyumri, and 23% in Vanadzor receiving condoms in the past 12 months from an NGO or outreach worker. Most MSM surveyed reported not being reached by HIV prevention programs. This finding highlights the need to investigate further the reasons for low access of MSM to prevention services and prioritize the development and implementation of effective interventions tailored to meet the needs of MSM. PrEP is an effective HIV prevention strategy that has proven itself effective among MSM in other contexts, and it should be rolled out in Armenia.

While MSM engage in sex while under the influence of alcohol, injecting drug use is not frequent

The majority of MSM reported consuming alcohol, and among MSM reporting alcohol consumption, most in all cities reported having sexual intercourse under the influence of alcohol. As alcohol affects decision-making about condom use, it can increase the risk of HIV transmission. Less than 11% of MSM reported ever injecting drugs. Prevention services for MSM should include counselling on substance use and safe sex.

MSM are aware of the signs and symptoms of STI

Up to nine percent and less of MSM reported experiencing signs and symptoms of STI in the last 12 months. Of those who were tested, 20% in Vanadzor to 46% in Gyumri reported having been diagnosed with an STI, with all reporting having visited the hospital, clinic, or other health care as a precaution. Routine screening for common STI, in addition to HIV, should be provided and promoted for MSM in both clinical and non-clinical settings.

Many MSM are not aware of the risks associated with HIV infection

Overall, HIV/AIDS knowledge was low among MSM, the composite knowledge indicator was ranging from 13% in Gyumri to 29% in Yerevan. The reported sources of HIV/AIDS information varied, from Internet and mass media to school and friends. The findings show a significant gap in the provision of HIV/AIDS education among MSM in Armenia. Despite inconsistent knowledge about HIV risk, high risk behaviors and multiple partners, the majority of MSM (from 54% in Yerevan to 86% in Gyumri and 87% in Vanadzor) perceived themselves at low risk of being infected with HIV. HIV/AIDS education programs should be expanded to ensure all men having sex with men have access to accurate HIV/AIDS prevention information.

HIV testing rates are low

Eighty eight percent of MSM in Yerevan, 59% in Gyumri and only 39% in Vanadzor knew where to get an HIV test, and between 28% and 70% have ever been tested for HIV. The UNAIDS GAM indicator on being tested over the past 12 months or knowing their HIV-positive status was 55% in Yerevan, 33% in Gyumri and 24% in Vanadzor.

Additional analysis is needed to understand whether HIV testing services are available but not sufficiently used by MSM due to stigma and discrimination, or if they are not available at sufficient scale. Efforts to control the spread of HIV among MSM should include the scale up of routine, MSM-friendly HIV testing centers.

High HIV, syphilis and HCV prevalence in Yerevan, high HCV prevalence in Vanadzor

Prevalence of HIV among MSM was 5.2% in Yerevan, 1.9% in Gyumri and no cases were detected in Vanadzor. Syphilis prevalence was 6.3% in Yerevan, 3.3% in Vanadzor and no cases detected in Gyumri. HCV prevalence was high in Yerevan at 6.0%, and 9.6% in Vanadzor. In Gyumri it was 1.0%. High HCV prevalence rates among MSM in Yerevan and Vanadzor might indicate injecting drug use. Prevalence of HBV was 1.2% in Yerevan and no cases detected in Gyumri and Vanadzor. Relatively high rates of HIV, Syphilis and HCV in Yerevan are worrying, compared to lower rates in previous years. Complex prevention programs addressing HIV, STI and HCV transmission for MSM are needed at a sufficient scale to control the number of new cases.

HIV care cascade among MSM

The first of the three pillars of the care cascade, "People living with HIV who know their status" was 82% across the three cities. For consistency with the previous rounds of IBBS, questions about receiving ART or viral load suppression were not included in the survey, neither was viral load testing part of the protocol, thus it was not possible to construct an HIV care cascade among MSM based on IBBS data. In the future rounds of IBBS it is advised to include those questions, as well as viral load testing. Ensuring achievement of the 95-95-95 goals set by UNAIDS in each KP is a prerequisite of ending the HIV epidemic.

Avoiding healthcare services due to stigma and discrimination is low

Although most MSM in all three cities did not report avoiding healthcare services or HIV testing due to stigma and discrimination, it is not clear whether this is the case, given low levels of HIV testing and comparatively high HIV prevalence rates. 40% in Yerevan, 83% in Gyumri, and 53% in Vanadzor were ashamed to tell social and healthcare workers that they have sex with males. Further research is needed to understand the extent of influence of stigma and discrimination to the accessibility of health care services.

MSM report low levels of physical violence

Most MSM in all survey sites did not report ever experiencing physical violence. Most MSM in Yerevan and Vanadzor were harassed by a friend or acquaintance, whereas in Gyumri most reported being harassed by a relative. Further research is needed to explore the cases of physical violence more in-depth.

SUMMARY OF KEY RECOMMENDATIONS

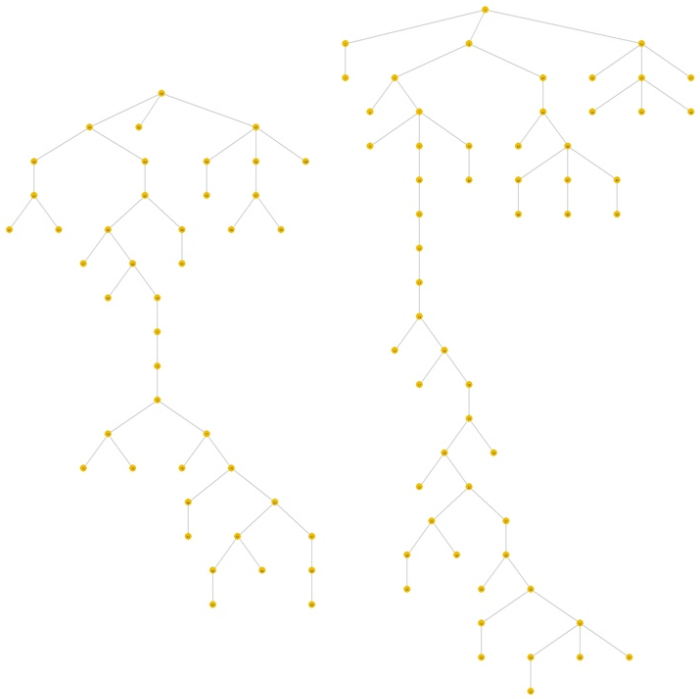
- Evidenced-based HIV prevention interventions targeting MSM should be scaled up.
- Coverage with combination prevention services, routine screening for HIV and other STI and condom distribution should be significantly scaled up.
- MSM-friendly points of HIV testing provided in both clinical and non-clinical settings should be scaled up.

- Barriers to HIV testing among MSM should be further investigated
- PrEP delivery for MSM needs to be rolled out in Armenia
- Mental health services, including substance abuse, should be integrated into HIV and STI prevention programs targeting MSM.
- Screening for syphilis, HBV, and other STI should be integrated in HIV testing and counseling service centers.
- HIV/AIDS education services should be scaled up.
- Implement a qualitative study aimed at investigating the role stigma and discrimination among MSM plays in accessing HIV testing and healthcare services.
- Include HIV care cascade questions in the next round of IBBS to be able to construct an HIV care cascade among MSM.

TRANSGENDER WOMEN (TGW)

100 Transgender women (including two seeds) from Yerevan were included into IBBS. The maximum number of waves reached in the recruitment chains of Yerevan was 20 (Figure 4.1).

Figure 4.1. Recruitment graph of the TGW sample (n=90), with two recruitment chains



Age, education and employment

The majority TGW in Yerevan are under 34 years old (Table 4.1.) with a median age of 25 (range: 18 to 64). Nearly all TGW reported being born in Armenia and 56% had secondary education.

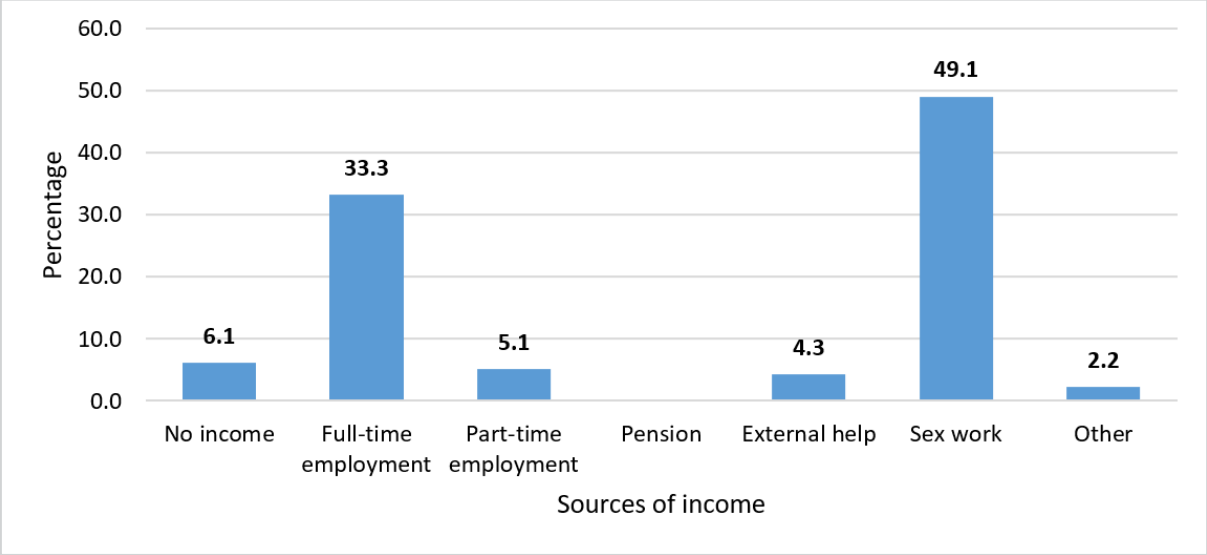
Table 4.1. Age, education and employment of TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
AGE		
<=24	46	40.0 (26.3-53.7)
25-34	45	55.0 (40.6-69.0)
35-44	5	2.8 (2.2-3.6)
45+	4	2.2 (1.7-2.8)
AGE GROUP		
<24	46	40.1 (26.5-53.5)
>=25	54	59.9 (46.5-73.5)
COUNTRY/NATION OF BIRTH		
Armenia	96	94.7 (89-100)
Other	4	5.3 (0.0-11.0)
THE HIGHEST LEVEL OF SCHOOL COMPLETED		
Primary	2	9.5 (0.0-26.4)
Secondary	42	55.8 (32.9-78.5)
Technical	33	18.5 (4.4-33.2)
Higher	23	16.1 (5.5-26.3)
Sources of income		
No income	6	6.1 (1.4-10.5)
Full-time employment	24	33.3 (15.8-49.1)
Part-time employment	5	5.1 (2.3-8.1)

Pension	0	-
External help	1	4.2 (0.0-12.6)
Sex work	62	49.1 (37.3-62.5)
Other	2	2.2 (0.4-4.0)

The highest percentage of TGW in Yerevan sell sex as their main source of income (Figure 4.2).

Figure 4.2. Sources of income among TGW



Marital status

Most TGW are single and 25% live with a sexual partner (Table 4.2.). Out of those who live with a sexual partner, all said that the biological sex of their partner is male.

Table 4.2. Marital status of TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
CURRENT MARITAL STATUS		
Single	96	96.9 (96.2-97.5)
Married to woman	0	-
Married to man	3	2.4 (1.9-2.9)
Divorced	0	-
Civil marriage	0	-
Widowed	1	0.7 (0.6-0.9)
Lives with sexual partner	10	25.0 (4.9-45.0)
BIOLOGICAL SEX OF SEXUAL PARTNER		
Female	0	-
Male	10	100

TGW Social Characteristics

Sexual preferences and identities

The majority of TGW (51%) identified themselves as heterosexual, and the vast majority (87%) was sexually attracted to only male partners (Table 4.3.).

Table 4.3. Sexual preferences and identities of TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
TRANSGENDER WOMAN IDENTITY	100	100
SEXUAL ORIENTATION		
Homosexual	21	33.7 (16.6-51.0)
Heterosexual	69	51.3 (37.7-63.1)
Bisexual	8	12.8 (1.0-26.2)
Pansexual	2	2.2 (0.8-3.5)
SEXUAL ATTRACTION TO		
Only male	92	86.7 (75.4-98.3)
Equally male and female	8	13.3 (1.7-24.6)
Only female	0	-
None	0	-
GENDER IDENTITY (ASIDE WOMAN IDENTITY)		
No other	74	77.9 (70.7-86.3)
Man	18	16.7 (9.2-23.3)
Not sure	1	0.8 (0.6-0.9)
Other	7	4.7 (3.5-5.6)

Mobility

Three percent of TGW were away from home for more than one month in the past year, among which the majority reported being in other areas of Armenia and 48% in the Russian Federation (Table 4.4.). Among TGW who were away from home, 55% engaged in sex without a condom while away from home and 7% (1 person) reported being abroad for three months or more in the last year for the purposes of labor.

Table 4.4. Mobility among TGW in last year

	YEREVAN N = 100	
	N	%, (95% CIS)
AWAY FROM HOME FOR MORE THAN 1 MONTH IN LAST YEAR	10	3.4 (0.4-6.6)
COUNTRY WHERE RESPONDENT WAS AWAY FROM HOME FOR MORE THAN 1 MONTH		
Armenia	5	52.3 (25.4-90.4)
Russia	5	47.7 (19.3-66.1)
Other	0	-
HAD SEX WITHOUT CONDOM WHILE AWAY FROM HOME FOR MORE THAN 1 MONTH IN LAST YEAR	4	54.5 (12.4-100)
ABROAD FOR THREE MONTHS OR MORE IN LAST YEAR FOR LABOR	1	6.9 (0.0-62.5)

Feminization with hormones and surgery

Eighteen percent of TGW took hormones to enhance female sex characteristics, 71% of whom had a prescription from a medical professional (Table 4.5.) The majority obtained hormones from a pharmacy without doctor's prescription. Most TGW do not know if the hormones they took had side effects. Hormones were mostly taken in the form of tablets.

Table 4.5. Feminization with hormones and surgery among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
EVER TAKEN HORMONES FOR ENHANCING FEMALE SEX CHARACTERISTICS	17	18.0 (6.9-29.9)
HORMONES PRESCRIBED BY A MEDICAL PROFESSIONAL	10	70.9 (39.9-100)
HOW HORMONES WERE OBTAINED		
Private clinic	2	6.4 (1.8-4.8)
Drugstore/without doctor's prescription	13	55.5 (29.9-61.0)
Other	2	38.1 (34.8-67.6)
Ever had health complications	1	0.9 (0.0-2.2)
CHARACTERIZATION OF SIDE EFFECTS TO HORMONES		
Mild	1	31.4 (0.0-82.9)
Severe	1	11.3 (0.0-42.9)
Don't know	3	57.4 (10.7-100)
METHODS OF TAKING HORMONES		
Injections	0	-
Tablets	17	100
Hormone patches/plaster	1	5.2 (0.0-26.1)
Gel	3	13.2 (0.0-42.1)

Surgical operations

Twenty percent of TGW ever had an operation to change body parts to appear more feminine. Among those who never had an operation to appear more feminine, 55% did not feel the need for it, 19% could not afford it and 18% were afraid of stigma (Table 4.6.). Of those who had any surgery, all reported having facial surgery. Fifty percent of TGW planned to have surgery, the majority of which wanted to have breast implants (76%).

Table 4.6. Surgical operations among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
EVER HAD AN OPERATION TO CHANGE ANY BODY PART TO APPEAR MORE FEMININE	20	20.4 (9.3-31.8)
REASONS FOR NOT HAVING HAD AN OPERATION		
I do not need	55	55.3 (24.2-80.8)
I am not informed enough	1	1.0 (0.0-1.8)
Not available	1	0.8 (0.3-1.1)
I do not have the money	13	19.4 (1.2-38.8)
My family will not accept	4	4.3 (1.9-6.3)
My partner will not accept	0	-
Afraid of the stigma	2	17.5 (0.0-56.2)
Restriction of work and study opportunities	0	-
Problems with my legal identification	0	-
I'm afraid of surgery	2	1.8 (0.5-2.9)
Religious beliefs	0	-
TYPES OF OPERATIONS HAD		
Phalectomy (removal of the penis)	2	7.7 (0.0-23.0)
Orchiectomy (removal of the testicles)	2	7.7 (0.0-23.5)
Vaginoplasty (creation of the vagina)	2	7.7 (0.0-24.0)
Breast implants	6	20.7 (0.0-46.9)
Peach removal	1	3.1 (0.0-13.4)
Vocal cords surgery	0	-
Facial plastic surgery	20	100
Buttock implants	1	0.9 (0.0-3.0)
Bone removal or replacement	0	-

PLANS TO HAVE AN OPERATION TO CHANGE ANY BODY PART TO APPEAR MORE FEMININE	41	49.9 (31.6-69.6)
TYPE OF SURGERY PLANNING TO DO		
Phalectomy (removal of the penis)	25	31.5 (16.1-45.5)
Orchiectomy (removal of the testicles)	25	31.9 (16.2-46.2)
Vaginoplasty (creation of the vagina)	27	52.5 (27.9-76.3)
Breast implants	30	76.4 (49.3-100)
Peach removal	4	4.6 (0.0-15.0)
Vocal cords surgery	6	7.1 (0.0-18.9)
Facial plastic surgery	33	56.7 (38.3-74.9)
Buttock implants	27	35.7 (18.9-50.4)
Bone removal or replacement	15	26.2 (4.1-47.1)

Sexual behavior with different types of partners

The median age at first sexual intercourse and first sexual intercourse with a male was 16 (range: 5 to 28). Sixty four percent of TGW most commonly engaged in both active and passive sex with a male partner (Table 4.7.). The median number of sex partners in the average month among TGW was 20 (range: 1 to 300). Most TGW reported having their last sexual intercourse within the week (60%) and 88% reported condom use during last anal penetrative sex with a male. The median number of times TGW reported having anal penetrative sex with male partners within the past month was 10 (range: 0 to 300). Most TGW used a condom during their last oral sex with a male partner (68%).

Table 4.7. General sexual behavior with male partners among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
AGE OF FIRST SEXUAL INTERCOURSE		
<=15	41	34.3 (22.1-46.1)
16-19	48	41.9 (28.0-55.7)
20+	11	23.9 (6.0-42.2)
AGE OF FIRST SEXUAL INTERCOURSE WITH MALE PARTNER		
<=14	26	20.9 (2.7-39.7)
15-16	39	25.4 (9.3-41.3)
17-20	26	28.9 (8.9-48.9)
21+	9	24.9 (0.0-53.3)
MOST COMMON ROLE/POSITION		
Active	16	13.1 (8.2-18.5)
Passive	35	22.5 (17.6-28.4)
Both active and passive	49	64.4 (54.3-73.1)
NUMBER OF MALE SEXUAL PARTNERS IN AVERAGE DURING A MONTH		
1	2	13.9 (0.0-35.1)
2-5	10	15.4 (3.5-26.9)
6+	88	70.7 (52.5-89.8)
LAST SEXUAL INTERCOURSE		
This week	91	59.9 (30.8-88.9)
This month	4	32.0 (1.3-62.8)
In the last 3 months	2	2.9 (0.0-6.8)
In the last 6 months	1	1.9 (0.0-5.4)
6 -12 months ago	2	3.4 (0.0-9.5)
USED CONDOM DURING LAST ANAL PENETRATIVE SEX	85	87.7 (83.2-92.3)
USED CONDOM DURING LAST ORAL SEX	69	68.4 (49.0-88.3)
EVER HAD SEXUAL INTERCOURSE AGAINST WILL BY A MALE PARTNER	18	13.3 (3.2-23.4)

FIRST ANAL SEXUAL EXPERIENCE WITH A MAN WAS FORCED	1	3.9 (0.0-11.2)

Regular male partners

Fifty three percent of TGW had a regular male partner in the past year (Table 4.8.), among which 71% used a condom during last penetrative anal sex. Seventy one percent of TGW reported "always" using condoms during anal sex with their regular male partner. The most common reason (96%) for not always using condoms during penetrative anal sex with regular male partners was that they "trust their partner".

Table 4.8. Sexual behavior with regular male sex partners among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
HAD A REGULAR MALE SEX PARTNER IN THE PAST YEAR	40	53.1 (40.3-65.3)
CONDOM USE DURING THE LAST ANAL SEX WITH A REGULAR MALE SEX PARTNER	21	71.0 (47.3-98.3)
FREQUENCY OF CONDOM USE DURING ANAL SEX WITH A REGULAR MALE SEX PARTNER IN THE PAST YEAR		
Every time	17	70.7 (29.8-100)
Sometimes	10	29.3 (0.0-70.3)
Never	0	-
REASON DID NOT USE CONDOM WITH REGULAR MALE PARTNER		
Expensive	1	1.0 (0.0-3.6)
Ashamed to buy	0	-
Difficult to use	0	-
Not available	0	-
Reduces pleasure	6	15.4 (3.3-24.0)
Ashamed to ask	0	-
Trust partner	9	95.6 (56.4-100)
Don't know if effective	0	-
Me and my partner have HIV	0	-
I use PrEP	0	-

Non-regular sex partners

Eighty six percent had a non-regular male sex partner in the past year (Table 4.9.), among which 93% used a condom during their last anal penetrative sex. Three quarters "always" used condoms with non-regular sex partners in the past year. Among TGW who reported not using condoms, 60% reported that condoms reduce pleasure, and 45% reported that they trust their partner as their primary reason for not using condoms.

Table 4.9. Sexual behavior with non-regular male sex partners among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
HAD A NON-REGULAR MALE SEX PARTNER IN THE PAST YEAR	96	85.8 (66.6-100)
CONDOM USE DURING THE LAST ANAL SEX WITH A NON-REGULAR MALE SEX PARTNER	88	93.3 (91.5-95.2)
FREQUENCY OF CONDOM USE DURING ANAL SEX WITH A NON-REGULAR MALE SEX PARTNER IN THE PAST YEAR		
Every time	69	75.1 (61.6-88.9)
Sometimes	23	20.5 (8.6-32.1)
Never	4	4.4 (0.0-12.4)

REASON DID NOT USE CONDOM WITH NON-REGULAR MALE PARTNER		
Expensive	4	3.9 (0.0-6.9)
Ashamed to buy	0	-
Difficult to use	0	-
Not available	0	-
Reduces pleasure	21	60.3 (43.2-75.8)
Ashamed to ask	0	-
Trust partner	13	44.7 (23.0-65.6)
Don't know if effective	1	18.2 (0.0-48.2)
Me and my partner have HIV	0	-
I use PrEP	0	-

Commercial sex partners

Five percent of TGW bought sex and 85% sold sex in the past year (Table 4.10.). Almost all (89%) of TGW used a condom at last anal sex with someone from whom they bought sex (81% always using condoms) and 95% used a condom at last anal sex with someone to whom they sold sex (83% always using condoms). Among those who did not use condoms, the main reason cited was that condoms reduce pleasure.

Table 4.10. Sexual behavior with commercial male sex partners among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
BOUGHT SEX FROM A MAN IN THE PAST YEAR	8	5.2 (4.0-6.2)
CONDOM USE DURING THE LAST SEX BOUGHT FROM A MAN	7	89.1 (67.3-100)
FREQUENCY OF CONDOM USE DURING ANAL SEX BOUGHT FROM A MAN IN THE PAST YEAR		
Every time	6	81.4 (51.6-100)
Sometimes	0	-
Never	2	18.6 (0.0-48.4)
REASON DID NOT USE CONDOM WHEN BUYING SEX		
Expensive	0	-
Ashamed to buy	0	-
Difficult to use	0	-
Not available	0	-
Reduces pleasure	2	100
Ashamed to ask	0	-
Trust partner	0	-
Don't know if effective	0	-
Me and my partner have HIV	0	-
I use PrEP	0	-
Sold sex to a man in the past year	95	84.9 (65.2-100)
Condom use during the last anal sex sold to a man	90	95.1 (92.8-97.3)
FREQUENCY OF CONDOM USE DURING ANAL SEX SOLD TO A MAN IN THE PAST YEAR		
Every time	75	83.2 (72.9-94.1)
Sometimes	17	13.5 (6.1-20.4)
Never	3	3.3 (0.0-9.4)
REASON DID NOT USE CONDOM WHEN SELLING SEX		
Expensive	4	23.5 (0.9-46.9)
Ashamed to buy	0	-
Difficult to use	2	5.1 (0.9-8.3)
Not available	0	-
Reduces pleasure	15	85 (63.6-100)
Ashamed to ask	1	7.4 (0.0-21.1)
Trust partner	5	32.1 (18.7-47.1)

Don't know if effective	0	-
Me and my partner have HIV	0	-
I use PrEP	0	-

Female sex partners

Thirty one percent of TGW ever had sex with a female partner (Table 4.11.), among which 85% used a condom during their last sex and 68% "always" used condoms in the past year. Among those who did not use condoms, the most common reasons were that condoms reduce pleasure and that they trust their partner.

Table 4.11. Sexual behavior with female sex partners among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
EVER HAD SEXUAL INTERCOURSE WITH A WOMAN	33	30.8 (18.8-43.0)
CONDOM USE DURING THE LAST SEX WITH A WOMAN	28	85.3 (62.6-100)
FREQUENCY OF CONDOM USE DURING SEX WITH A WOMAN IN THE PAST YEAR		
Every time	19	68.2 (37.2-98.8)
Sometimes	12	24.7 (10.8-38.4)
Never	2	7.1 (0.0-33.0)
REASON DID NOT USE CONDOM WITH A WOMAN PARTNER		
Expensive	1	19.8 (0.0-48.2)
Ashamed to buy	0	-
Difficult to use	0	-
Not available	0	-
Reduces pleasure	10	57.5 (36.2-76.5)
Ashamed to ask	0	-
Trust partner	6	30.8 (7.4-52.1)
Don't know if effective	0	-
Me and my partner have HIV	0	-
I use PrEP	0	-

Lubricant use

Seventy five percent of TGW ever used lubricants during anal sex with a male partner (Table 4.12.), the majority of which used water-based lubricants.

Table 4.12. Lubricant use with male partners among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
USE OF OINTMENTS/LUBRICANTS DURING ANAL SEX WITH MALE PARTNERS	68	75.2 (68.1-83.0)
TYPE OF LUBRICANTS USED DURING ANAL SEX WITH MALE PARTNERS		
Water based	65	97.3 (81.7-112.9)
Oil based	3	2.7 (0.0-18.3)
Other	0	-

Substance use

Most TGW never consumed alcohol in the past year. Among TGW reporting alcohol consumption, most had sexual intercourse under the influence of alcohol. Forty percent ever used drugs, among which 51% engaged in sexual intercourse while under the influence. No TGW injected drugs. The median age of first using drugs was 19 (range: 14 to 29).

Table 4.13. Substance use among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
EVER DRINK ALCOHOL		
Yes	39	38.0 (24.1-51.9)
FREQUENCY OF DRINKING ALCOHOL IN THE PAST YEAR		
Monthly or less	19	57.3 (39.8-82.5)
2-4 times a month	6	12.1 (1.4-19.7)
2-3 times a week	7	13.4 (0.9-22.2)
4 or more times a week	7	17.1 (0.0-36.1)
Number of alcohol drinks on a typical drinking day past year		
1-2	12	53.7 (28.5-86.9)
3-4	13	33.7 (13.9-38.1)
5+	2	12.5 (0.0-43.1)
FREQUENCY OF HAVING 6+ ALCOHOL DRINKS IN THE PAST YEAR		
Never	23	66.1 (42.9-90.1)
Less than monthly	10	28.7 (7.7-49.0)
Monthly	3	3.9 (0.0-9.9)
Weekly	1	1.4 (0.0-7.2)
Daily or almost daily	0	-
EVER HAD SEXUAL INTERCOURSE UNDER THE INFLUENCE OF ALCOHOL	31	81.8 (62.1-100)
EVER USED DRUGS	41	40.2 (23.6-57.0)
AGE OF FIRST DRUG USE		
<=17	10	19.0 (0.0-49.0)
18-22	25	70.3 (32-100)
22-27	5	9.7 (0.0-23.0)
28+	1	1.1 (0.0-4.5)
EVER HAD SEXUAL INTERCOURSE UNDER THE INFLUENCE OF ANY DRUG	32	51.2 (27.3-48.1)
EVER USED INJECTED DRUGS	0	-
INJECTING DRUGS USE IN THE PAST ONE MONTH	0	-

Stigma and discrimination

The majority of all TGW (88%) were not ashamed of their gender identity. Consequently, most (80%) were not ashamed of their gender identity when with other TGW. Seventy two percent of TGW were not ashamed of their gender identity with healthcare and social workers. Ninety five percent of TGW have told someone of their gender identity, among which high percentages have told their friends and acquaintances who are or who are not TGW. Fifty three percent of TGW felt excluded from family activities because of their gender identity and 61% felt that their family members made unfair comments because of their gender identity. Twenty percent of TGW ever avoided healthcare in the past 12 months, the majority of whom reported fear or stigma as the main reason for avoiding healthcare. Seventeen percent of TGW reported avoiding HIV testing because of stigma and discrimination in last 12 months. Among the reasons for avoiding HIV testing, most reported the fear or concern that someone may learn of their gender identity. Sixty four percent were scolded and 21% were blackmailed because of their gender identity. Eighteen percent were ever physically harassed and 10% were forced to have sex because of their gender identity.

Table 4.14. Stigma and discrimination among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
ASHAMED TO BE TRANSGENDER		
Agree	2	0.8 (0.0-1.9)
Neutral/ Indifferent	23	11.1 (5.8-16.5)
Disagree	74	88.1 (82.6-93.6)
NOT ASHAMED TO SAY IS TRANSGENDER WITH OTHER TRANSGENDER		
Agree	67	80.4 (71.7-88.9)
Neutral/ Indifferent	27	15.9 (9.1-22.8)
Disagree	5	3.7 (0.0-7.6)
NOT ASHAMED TO SAY IS TRANSGENDER WHEN MEETING WITH SOCIAL/HEALTH WORKER WHO WORKS IN COMMUNITY		
Agree	64	71.8 (57.3-85.4)
Neutral/ Indifferent	31	25.4 (12.7-38.8)
Disagree	4	2.9 (0.0-10.0)
HAS TOLD SOMEONE THEY ARE TRANSGENDER	90	94.9 (93.6-96.1)
PERSON(S) TOLD THEY ARE TRANSGENDER		
Partner	80	70.3 (57.5-80.7)
Family	60	65.5 (49.0-80.6)
Friends who are TGW	84	94.1 (91.8-96.3)
Friends who are not TGW	64	78.6 (72.3-86.4)
Healthcare providers	57	59.4 (43.2-74.7)
EVER FELT EXCLUDED FROM FAMILY ACTIVITIES BECAUSE OF BEING TRANSGENDER	80	52.5 (33.7-70.5)
EVER FELT FAMILY MEMBERS MADE UNFAIR COMMENTS/ GOSSIPED FOR BEING TRANSGENDER	78	61.2 (34.0-87.0)
AVOIDED HEALTH CARE OR HIV TEST BECAUSE OF STIGMA AND DISCRIMINATION	30	19.5 (15.4-25.1)
REASONS FOR AVOIDING HEALTH CARE IN LAST 12 MONTHS		
Fear of stigma	29	92.5 (74.5-94.9)
Fear of others knowing of my transgender identity	22	71.8 (47.9-91.2)
Fear of violence	6	28.6 (25.0-67.2)
Fear of harassment	1	7.2 (0.0-34.1)
PERCENTAGE OF TGW WHO AVOID HIV TEST BECAUSE OF STIGMA AND DISCRIMINATION	27	16.9 (13.3-20.7)
REASONS FOR FEELING FEAR OF OR CONCERN FOR AVOIDING HIV TEST		
Fear of stigma	0	-
Fear of others knowing of my transgender identity	23	86.1 (69.9-100)
Fear of violence	3	17.8 (17.0-54.5)
Fear of harassment	1	8.7 (3.3-36.3)
EVER SCOLDED FOR BEING TRANSGENDER	84	63.9 (38.2-89.2)
EVER BLACKMAILED FOR BEING TRANSGENDER	26	21.3 (8.3-35.5)
EVER PHYSICALLY HARASSED/HURT FOR BEING TRANSGENDER	25	18.3 (5.7-30.4)
EVER BEEN FORCED TO HAVE SEX AGAINST WILL	13	9.8 (6.7-12.8)
FORCED TO HAVE SEX AGAINST WILL BECAUSE OF TRANSGENDER IDENTITY	12	88.4 (65.3-100)

Physical violence

Thirty six percent of TGW have ever experienced physical violence, among which 65% cited that it was because of their gender identity (Table 4.15.). The median age of first experiencing physical violence was 15 (range: 5-30). Most TGW were physically hurt by a relative. Among those who were hurt by a partner, most in Yerevan were hurt by a spouse or partner with whom they were living. Nineteen percent of TGW tried to seek help for being physically hurt, most of which sought help from police. Of those who sought help, 90% were refused help by police and 29% by healthcare professionals. The main reason for not seeking help was that they did not know what services are available. Only 3% did not feel comfortable accessing services. Of those who told someone of their experiences of physical abuse, 57% told it to their friends or acquaintances.

Table 4.15. Physical violence among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
HAVE EVER EXPERIENCED PHYSICAL VIOLENCE	36	35.9 (19.9-52.0)
NUMBER OF TIMES EXPERIENCED PHYSICAL VIOLENCE		
1-2 times	9	38.7 (12.8-73.6)
3-10 times	14	32.9 (8.7-54.1)
11+ times	13	28.4 (8.8-42.1)
AGE OF FIRST PHYSICAL VIOLENCE		
<=14	15	49.6 (14.2-84.7)
15-18	12	33.0 (1.0-65.9)
18-20	5	8.2 (0.0-19.2)
21+	4	9.2 (0.0-19.5)
RELATIONSHIP TO THE PERSON WHO FIRST PHYSICALLY HURT YOU		
Paying sex partner	1	0.4 (0.0-0.6)
Non-paying sex partner	4	9.9 (0.0-32.7)
Police/military/authority figure	1	0.7 (0.0-1.7)
Relative	16	66.7 (37.0-98.6)
Friend/ acquaintance	5	8.7 (0.2-16.4)
Stranger	7	13.7 (0.0-30.8)
TYPE OF PARTNER WHO FIRST PHYSICALLY HURT YOU		
Spouse or live-in partner	2	69.3 (14.2-100)
Boyfriend/girlfriend	0	-
Other sex partner	1	15.0 (0.0-61.0)
Don't know	1	12.1 (0.0-34.7)
Other	1	3.6 (0.0-21.1)
Violence because of transgender identity	23	64.8 (45.7-68.6)
ATTEMPTS TO SEEK PROFESSIONAL HELP AFTER PHYSICAL VIOLENCE	13	18.7 (2.2-35.1)
WHICH PROFESSIONAL HELP SOUGHT BECAUSE OF BEING PHYSICALLY HURT		
Health care professional	2	14.1 (1.8-25.5)
Police/security personnel	10	88.0 (61.6-100)
Social worker/counselor/NGO	2	14.3 (2.4-24.7)
Religious leader	0	-
Ever refused help when seeking health because of being physically hurt	10	84.4 (59.0-100)
BY WHOM REFUSED HELP WHEN SEEKING HEALTH BECAUSE OF BEING PHYSICALLY HURT		
Health care professional	3	28.7 (2.1-50.0)
Police/security personnel	9	89.7 (63.8-100)
Legal professional	1	12.8 (0.0-39.4)

Social worker/counselor	0	-
Ngo	1	13.0 (0.0-39.8)
MAIN REASON FOR REFUSING TO SEEK PROFESSIONAL HELP OR SERVICES		
Did not know what services were available/where to go	15	63.6 (29.3-96.3)
Services I wanted/needed not available	1	1.7 (0.0-3.4)
Could not afford services	0	-
Was uncomfortable accessing services	2	2.7 (0.0-4.9)
Did not feel that I needed services	4	16.9 (0.0-72.5)
Other	2	15.2 (0.0-60.8)

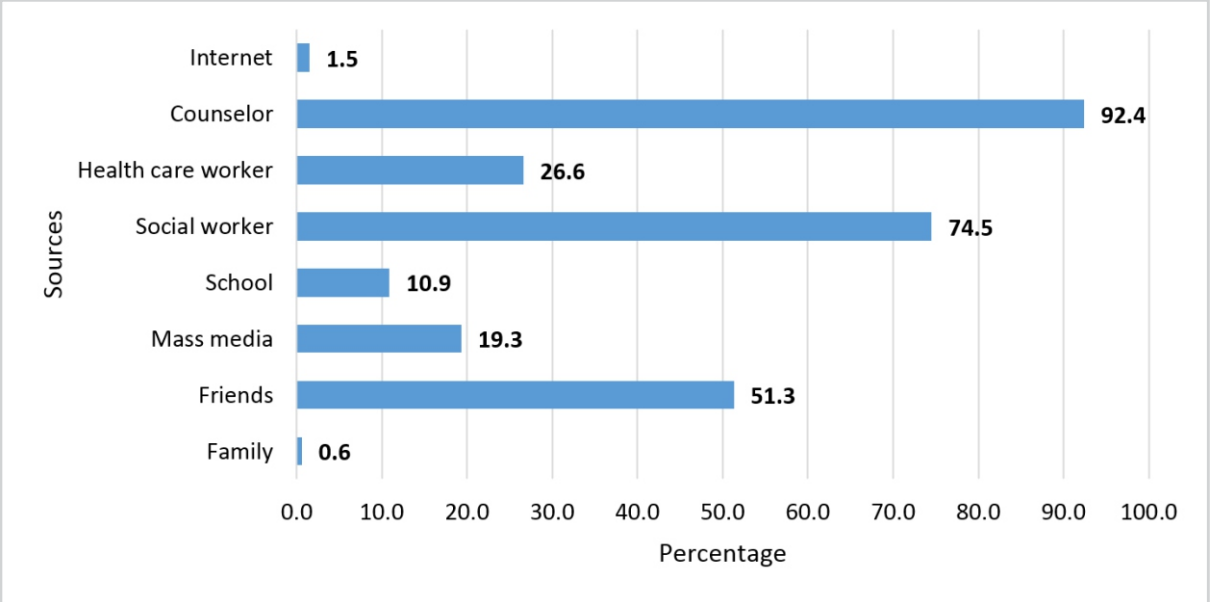
^too few values to generate confidence bounds

HIV/AIDS

HIV/AIDS risk, knowledge and beliefs

Almost all TGW had ever heard of HIV/AIDS, the majority of which reported getting HIV/AIDS information from a counselor or from a social worker (Figure 4.3).

Figure 4.3. Sources of HIV/AIDS information among TGW



Most TGW believe their risk for HIV infection to be low (59%) (Table 4.16.). The overall composite HIV/AIDS knowledge score was 58%.

Table 4.16. HIV/AIDS risk, knowledge and beliefs among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
HAS EVER HEARD OF HIV/AIDS	98	99.3 (98.1-100)
LEVEL OF ESTIMATED PROBABILITY OF BEING INFECTED WITH HIV		
High	0	-
Low	63	58.9 (37.5-81.3)
No risk	32	40.8 (18.5-62.3)
HIV KNOWLEDGE SCORE		
At least one incorrect	30	42.4 (25.0-57.3)
All correct	70	57.6 (42.7-75.0)
SOURCES OF HIV/AIDS INFORMATION		
Family	1	0.6 (0.3-0.8)

Friends	56	49.8 (34.6-65.9)
Mass media	17	19.0 (8.5-29.8)
School	6	10.9 (0.0-22.3)
Social worker	77	73.7 (60.9-86.2)
Health care worker	11	27.5 (7.9-46.8)
Counselor	89	91.3 (87.9-94.7)
Other	2	1.5 (1.0-1.9)

HIV testing, condoms and prevention programs

Almost all TGW know where to get an HIV test. Ninety five percent of TGW reported having ever had an HIV test, and 92% had an HIV test in the past 12 months or knew their HIV status. Among 94 TGW who had a test in past 12 months, 93 received their results. Two people had positive test results (Table 4.17.). The numbers were too small to assess the percentage of those who knew their HIV positive status (1st pillar of the UNAIDS 95-95-95 HIV care cascade).

Table 4.17. HIV testing among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
KNOWS WHERE TO GET AN HIV TEST	94	97.9 (92.8-100)
KNOWS ABOUT HIV TEST AT THE NGO	28	48.4 (33.0-64.4)
KNOWS ABOUT HIV TEST AT THE MEDICAL CENTER	82	62.7 (41.7-84.8)
EVER HAD AN HIV TEST	94	95.1 (93.0-97.1)
TIME OF LAST HIV TESTING		
In the last 6 months	62	78.0 (66.0-91.2)
6-12 months ago	29	20.3 (8.4-31.2)
More than 12 months ago	3	1.7 (0.0-4.5)
RECEIVED RESULTS OF THE LAST HIV TEST	93	100
TESTED IN LAST 12 MONTHS AND RECEIVED TEST RESULTS DURING LAST HIV TEST (REGARDLESS OF STATUS)	91	93.0 (90.8-95.5)
RECEIVED AN HIV TEST DURING IN THE PAST 12 MONTHS AND KNOW THEIR RESULTS (INCLUDES THOSE WHO KNOW THEY ARE HIV+)	89	91.8 (89.0-94.7)
TEST RESULT FROM LAST HIV TEST		
Positive	2	0.5 (0.0-1.1)
Negative	90	99.5 (98.9-100)
Indeterminant	0	-
AWARE ABOUT HIV STATUS AND DISCLOSED IT IN THE SURVEY	2	45.2 (2.0-53.1)

Eighty nine percent of TGW were reached by counseling for condom use and safer sex and received condoms in past 12 month from an NGO or outreach worker (Table 4.18.).

Table 4.18. Condoms and prevention programs among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
KNOWS WHERE TO GET AN HIV TEST	94	97.9 (92.8-100)
KNOWS ABOUT HIV TEST AT THE NGO	28	48.4 (33.0-64.4)
KNOWS ABOUT HIV TEST AT THE MEDICAL CENTER	82	62.7 (41.7-84.8)
PROVIDED WITH CONDOMS DURING THE PAST 12 MONTHS	88	89.0 (84.4-93.5)
RECEIVED COUNSELING ON THE USE OF CONDOMS AND SAFE SEX DURING THE PAST 12 MONTHS	89	88.9 (80.1-97.9)
RECEIVED EITHER CONDOMS OR COUNSELING IN THE PAST 12 MONTHS	89	89.4 (84.6-94.3)

RECEIVED CONDOMS & COUNSELING IN THE PAST 12 MONTHS	88	88.9 (83.6-94.0)
RECEIVED 3 OF 3 SERVICES (CONDOMS, COUNSELING, STI TEST) IN THE PAST 12 MONTHS	8	5.7 (4.2-6.6)
RECEIVED ANY 2 OF 3 SERVICES (CONDOMS, COUNSELING, STI TEST) IN THE PAST 12 MONTHS	77	89.2 (83.9-95.0)

Sexually transmitted infections

Five percent of TGW had genital/anal inflammation, unusual discharge, and/or warts in the past twelve months, and 6% were tested for an STI in the past 12 months. Out of them, all were diagnosed with an STI and 73% visited a private clinic for treatment (Table 4.19.).

Table 4.19. Sexually transmitted infections among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
INFLAMMATION OR DISCHARGE FROM THE GENITAL AREA IN THE PAST YEAR	9	4.8 (0.0-19.4)
TESTING FOR AN STI IN THE PAST YEAR	8	5.7 (4.2-6.6)
DIAGNOSED WITH STI IN THE PAST YEAR	8	100
POST-INFECTION MEASURES		
Visited private clinic/hospital	6	72.8^
Self-treatment	0	-
Did nothing	1	13.6 (12.8-14.8)
Other (specify)	1	13.6 (0.0-87.6)

^too few values to generate confidence bounds

HIV, Syphilis and HCV and HBV prevalence

HIV prevalence among TGW was 2.5% and syphilis was 8%. One percent of TGW were positive for HCV (Table 4.20.). No cases of HBV were detected.

Table 4.20. HIV, Syphilis, HBV and HCV prevalence among TGW

	YEREVAN N = 100	
	N	%, (95% CIS)
HIV	4	2.5 (1.8-3.1)
Syphilis	12	8.3 (5.7-10.8)
HCV	2	1.4 (1.1-1.8)
HBV	0	-

FINDINGS AND RECOMMENDATIONS - TGW[10]

TGW are younger in age, with primary education and single

The majority of TGW in Yerevan are under 34 years old, had secondary school education and were single. These socio-demographic characteristics of TGW are important for planning targeted HIV prevention programs.

Risky sexual behaviors and condom use

Most TGW reported having their sexual debut in their teens (median: 16). TGW reported having anal penetrative sex with multiple male partners several times in the previous month; 88% reported using a condom at last anal sex and 68% reported using a condom at last oral sex with a male partner. Around 85% of TGW reported providing commercial sex, most of whom reported always using condom. Reasons for not using condoms with male sex partners (regular, non-regular and clients) included: reduced pleasure and trusting their partner. Tailored HIV/AIDS prevention messages should emphasize the importance of consistent condom use with all partners, especially when concurrency is involved. These programs should provide training on condom negotiating skills.

TGW prefer only or mostly male sex partners

About 87% of TGW were only attracted to males as sexual partners. Thirty one percent of TGW reported ever having sex with female partner, and of those 85% used a condom during last sex. Development of HIV prevention interventions targeting TGW should focus on the risks associated with inconsistent condom use with both male and female sexual partners. Health care providers and related NGOs should encourage routine HIV testing.

TGW have active and passive roles during sex with male partner

Most TGW reported having both active (top) and passive (bottom) roles during sexual intercourse with male partners. Being the receptive partner in anal sexual intercourse has higher risk of HIV transmission than being the insertive partner. Interventions targeting sexual risk behaviors among TGW should include education about the risks associated with receptive and insertive anal sexual behavior. Widespread access to condoms, lubricants and prevention services is needed.

Access to condoms and lubricant is high

Most TGW reported using lubricants during anal sex. Among TGW who reported the use of lubricant during anal sex, most reported using water-based lubricant. Findings suggest the need for the expansion of sexual health education programs and improved access to condoms and lubricants for TGW.

TGW are reached by HIV prevention programs

Most TGW were reached by HIV prevention programs and received condoms from an NGO. Since TGW are reachable by prevention programs, it is of key importance to develop and implement effective interventions tailored to meet the needs of TGW. Government, NGOs and other stakeholders should conduct formative research to determine the best prevention strategies needed to reach TGW.

[10] *A number of findings and recommendations were adapted from the "Integrated biological-behavioral surveillance survey among people who inject drugs, female sex workers, men who have sex with men and transgender persons 2018", as many findings and trends remain valid in 2021.*

TGW engage in sex while under the influence of alcohol and drugs

Few TGW reported frequent consumption of alcohol and 40% reported ever using drugs. While engaging in sex under the influence of alcohol was common among those who did use alcohol, it was less common under the influence of drugs. Alcohol affects decision-making about safer sex, which can increase risk of HIV transmission. Provision of substance abuse assessments, counseling and treatment should be provided as a complete package of care to TGW.

Sizable proportion of TGW are not aware of the risks associated with HIV infection

Overall, about 42% of TGW did not have complete knowledge on HIV transmission and prevention. The main reported sources of HIV/AIDS information were counseling services or social workers. The findings show a moderate gap in the provision of HIV/AIDS education among TGW in Armenia. Despite inconsistent knowledge about HIV risk, high risk behaviors and multiple partners, a large proportion of TGW perceived themselves at low risk of being infected with HIV. HIV/AIDS education programs to ensure all transgenders have access to accurate HIV/AIDS prevention information should be expanded.

TGW are routinely testing for HIV

Almost all TGW knew where to get an HIV test, and about the same proportion have ever been tested for HIV. Ninety two percent of TGW reported having an HIV test within the last 12 months or knowing their status. Stigma and discrimination may deter TGW from accessing testing services, even if they are accessible. Efforts to control the spread of HIV among TGW should include the scale up of routine HIV testing centers.

Low prevalence of HIV, Syphilis and HBV

Prevalence of HIV among TGW was 2.5% and the prevalence of syphilis was 8%. One percent was positive for HCV and no cases of HBV were detected. Although disease prevalence (except for syphilis) was low, efforts to prevent the continued spread is needed.

Avoiding healthcare services due to stigma and discrimination is low

Although only 20% of TGW reported avoiding healthcare services due to stigma and discrimination, further exploratory surveys are needed to understand the level of stigma and discrimination. About twenty eight percent of TGW were ashamed to tell social and healthcare workers about their gender identity. Further research is needed to understand the extent of influence of stigma and discrimination to the accessibility of health care services.

TGW report low levels of physical violence

Most TGW did not report ever experiencing physical violence. Of those being hurt most TGW mentioned being harassed by a relative. At the same time, among those who were hurt and did not seek professional help, most did not do so because they did not know what services are available. Further research is needed to explore the cases of physical violence more in-depth. Information about professional support in cases of physical violence should be made available to TGW.

SUMMARY OF KEY RECOMMENDATIONS

- Evidenced-based HIV prevention interventions targeting TGW including condoms should be continuously provided to TGW.
- Routine screening for HIV and other STI should be scaled up in clinical and non-clinical settings and integrated with other service delivery.
- Effective interventions tailored to meet the needs of TGW should be developed and implemented.
- Mental health services should be integrated into HIV and STI prevention programs targeting TGW to include substance abuse.
- HIV/AIDS education services should be scaled up.

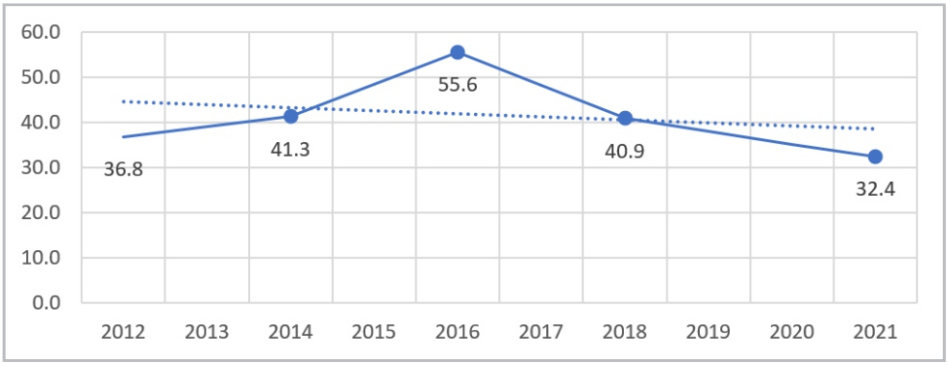
Appendix 1

TRENDS IN KEY INDICATORS FROM SURVEYS AMONG PWID, FSW AND MSM IN 2012, 2014, 2016, 2018 AND 2021

Below are trend analyses of key variables for five data points (2012, 2014, 2016, 2018 and 2021) for PWID, FSW and MSM. Each survey year used RDS to sample these populations. Data on numerators and denominators for key variables from the previous rounds were not available, which precluded statistical testing for significance of trend.

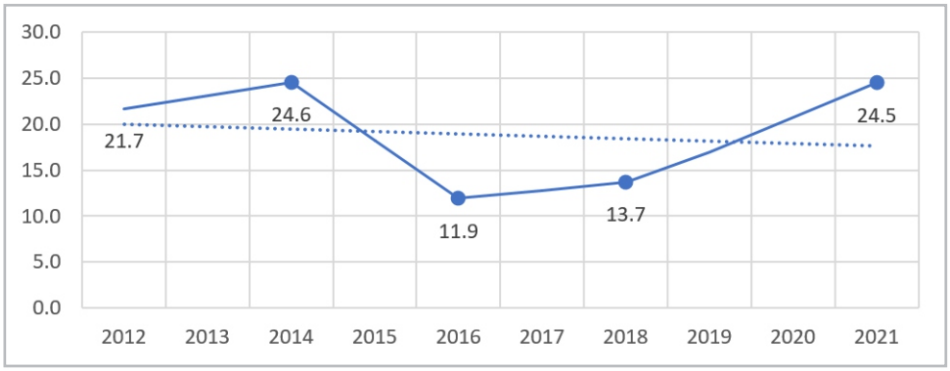
People who inject drugs

Fig. 1. Trends in reported condom use at last sex (%) among PWID, Armenia, 2012-2021



There was a significant increase in condom use during last sex, from 36.8% in 2012 to 55.6% in 2016, and then a fall back to 32.4 % in 2021.

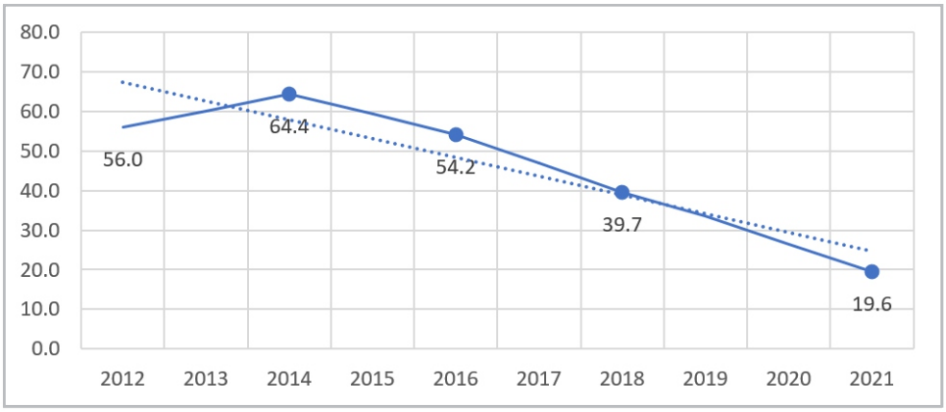
Fig. 2. Trends in HIV test in past 12 months and received results or has known positive HIV status, among PWID, Armenia, 2012-2021



The percentage of PWID who tested in past 12 months or knew their positive status increased from 2016 when there was a drop, from 11.9% in 2016 to 24.5 % in 2021[11].

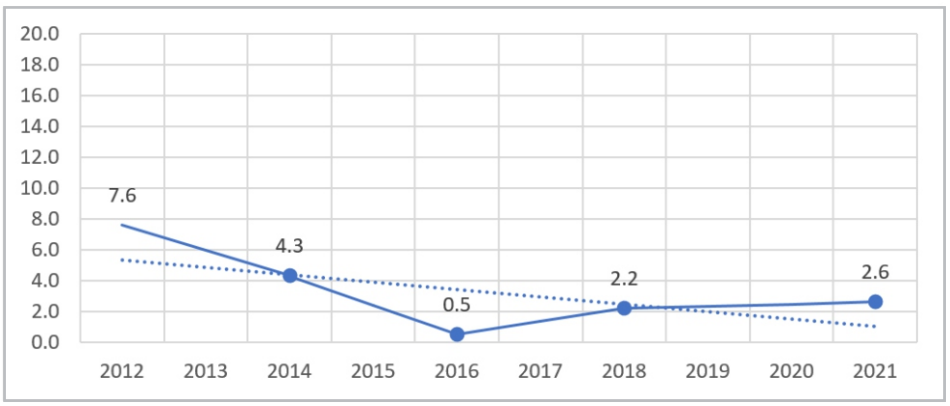
[11] *It should be noted that the UNAIDS Global AIDS Monitoring (GAM) definition of this indicator has slightly changed since the last round of IBBS in 2018, and currently also includes those who knew their HIV-positive status. Although due to this the 2021 data are not directly comparable to the previous data, in fact the difference*

Fig. 3. Trends in correct knowledge about HIV transmission (5 questions) among PWID, Armenia, 2012-2021



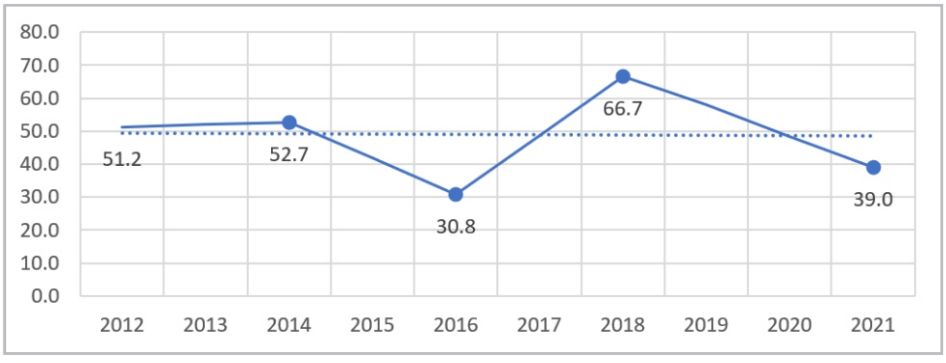
The percentage of PWID who correctly identified ways of HIV transmission (composite HIV knowledge index) decreased steadily since 64.4% in 2014 to 19.6% in 2021.

Fig. 4. Trends in HIV infection (%) among PWID, Armenia, 2012-2021



After a sharp downward trend from 2012 to 2016, HIV prevalence among PWID was slightly increasing since 2016, from 0.5% in 2016 to 2.6% in 2021.

Fig. 5. Trends in HCV (%) among PWID, Armenia, 2012-2021

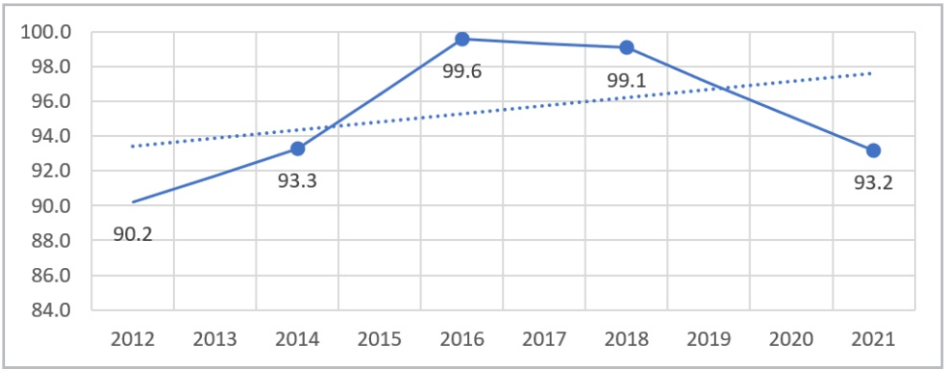


The HCV prevalence among PWID in 2021 (39.0%) was lower than in the previous round of IBBS, but in line with the previous data (in the past indicator varied from 30.8% in 2016 to 66.7% in 2018).

in values between the two indicators is not considerable, and thus this change in definitions was neglected for the purposes of this analysis.

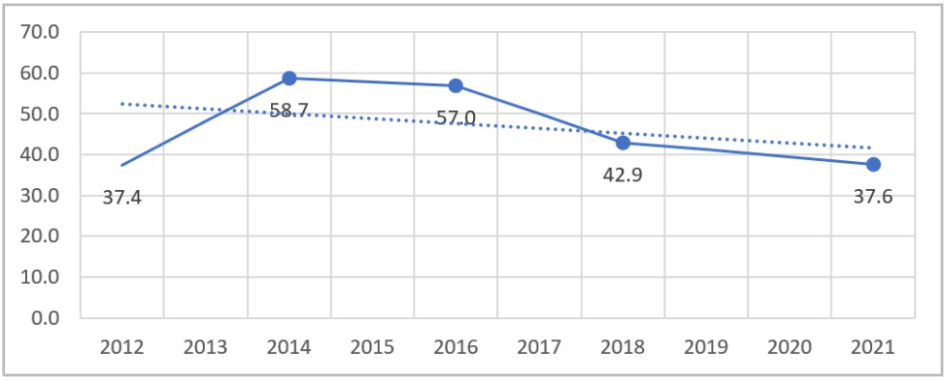
Female sex workers

Fig. 6. Trends in reported condom use with most recent client (%) among FSW, Armenia, 2012-2021



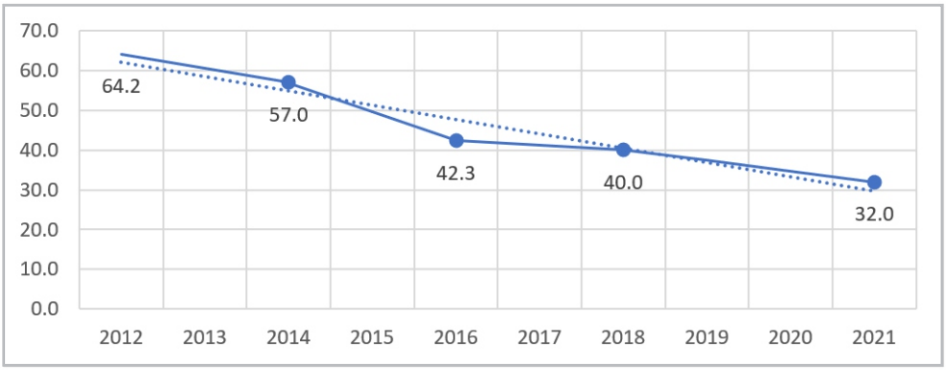
There was a slight decrease in condom use at last sexual act among FSW from 99.1% in 2018 to 93.2% in 2021

Fig. 7. HIV test in past 12 months and received results or has known positive HIV status among FSWs, Armenia, 2012-2021



The percentage of FSW who tested in past 12 months or knew their positive status remained low, with a slight decrease from 42.9% in 2018 to 37.6% in 2021[12].

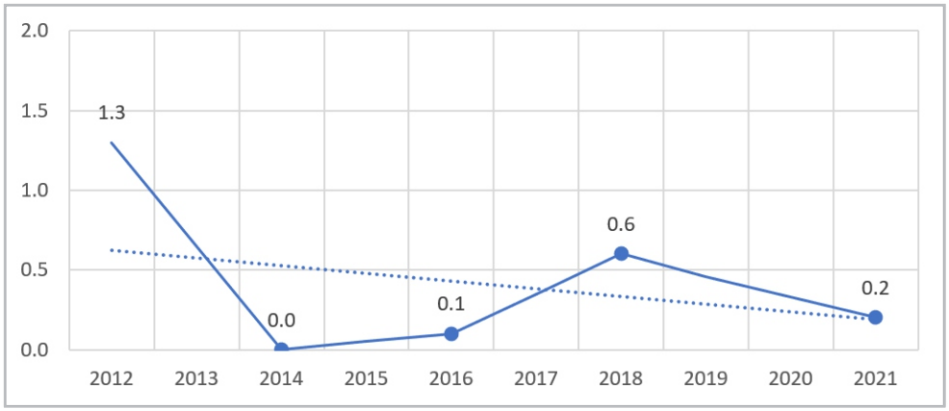
Fig. 8. Correct knowledge about HIV transmission (5 questions) among FSW, Armenia, 2012-2021



[12] *It should be noted that the UNAIDS Global AIDS Monitoring (GAM) definition of this indicator has slightly changed since the last round of IBBS in 2018, and currently also includes those who knew their HIV-positive status. Although due to this the 2021 data are not directly comparable to the previous data, in fact the difference in values between the two indicators is not considerable, and thus this change in definitions was neglected for the purposes of this analysis*

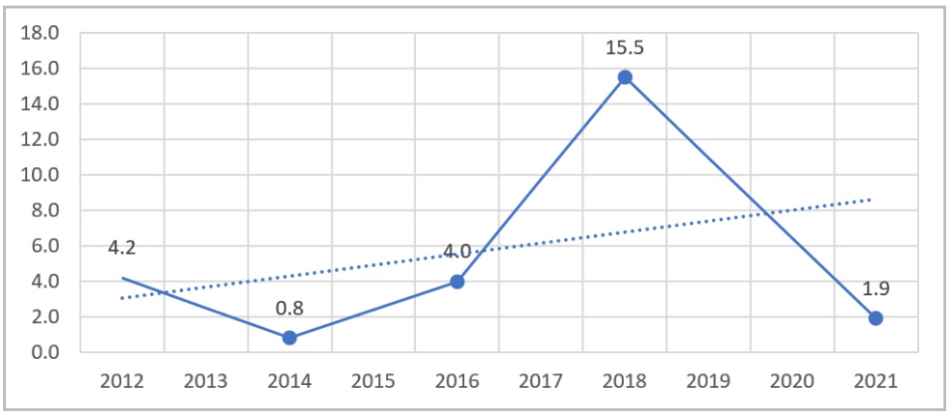
The percentage of FSW who correctly identified ways of HIV transmission (composite HIV knowledge index) decreased steadily since 64.2% in 2012 to 32.0% in 2021.

Fig. 9. Trends in HIV infection (%) among FSW, Armenia, 2012-2021



HIV prevalence among FSW was consistent with previous years' results at the level of 0.2%.

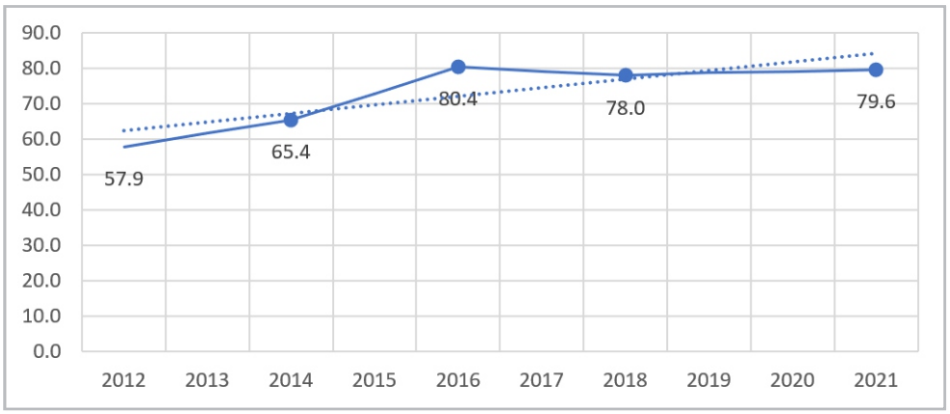
Fig. 10. Trends in HCV infection (%) among FSW, Armenia, 2012-2021



The level of HCV among FSW was low at 1.9% compared to the previous round of IBBS when it was 15.5%.

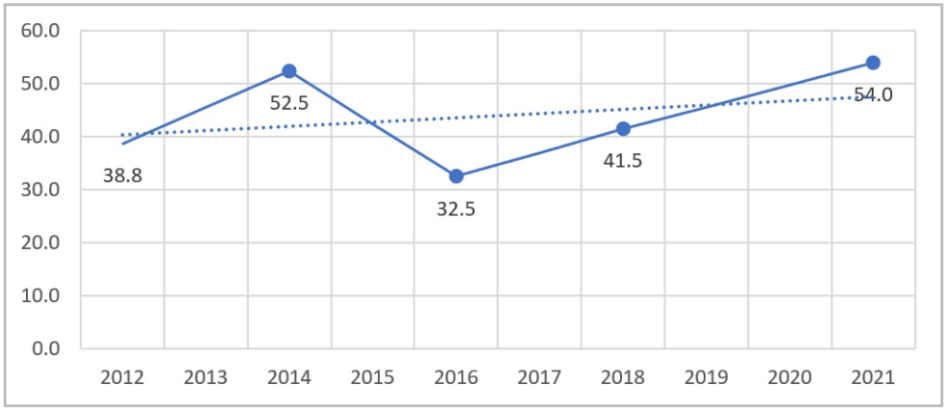
Men who have sex with men

Fig. 11. Trends in reported condom use at last anal sex (%) among MSM, Armenia, 2012-2021



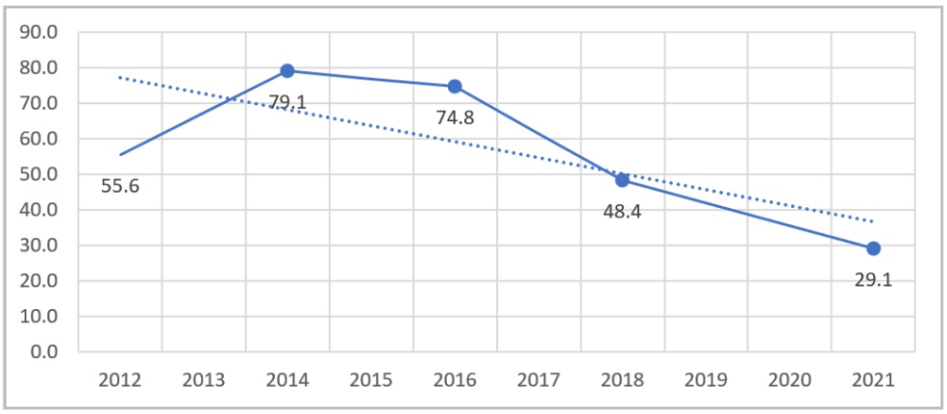
Reported condom use at last sex among MSM was similar to that of the previous rounds of IBBS at 79.6%

Fig. 12. HIV test in past 12 months and received results or has known positive HIV status among MSM, Armenia, 2012-2021



The percentage of MSM who tested in past 12 months or knew their positive status has increased in comparison to the previous two rounds of IBBS and constitutes 54.0%[13].

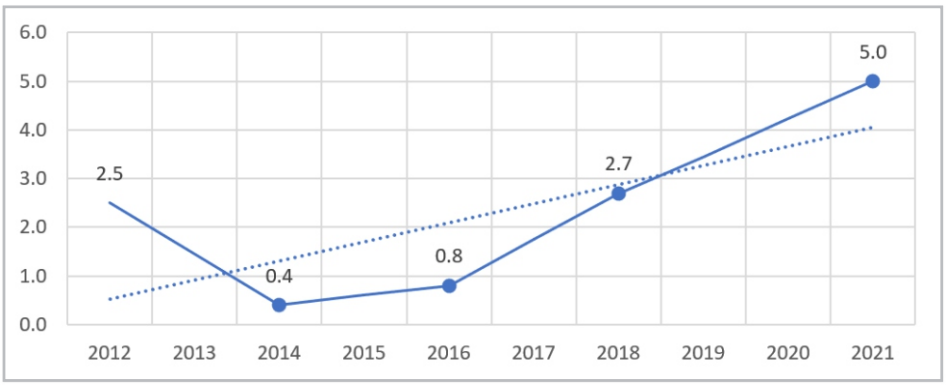
Fig. 13. Correct knowledge about HIV transmission (5 questions) among MSM, Armenia, 2012-2021



The composite HIV knowledge indicator among MSM was declining steadily since 2014 when it was 79.1% In 2021 it was only 29.1%

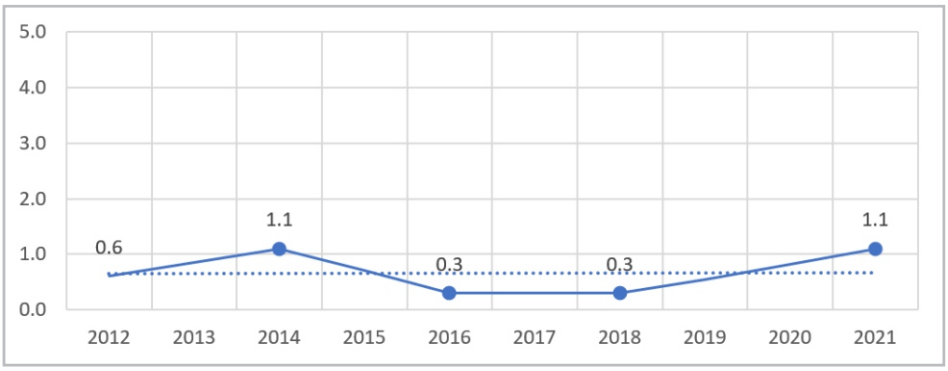
[13] *It should be noted that the UNAIDS Global AIDS Monitoring (GAM) definition of this indicator has slightly changed since the last round of IBBS in 2018, and currently also includes those who knew their HIV-positive status. Although due to this the 2021 data are not directly comparable to the previous data, in fact the difference in values between the two indicators is not considerable, and thus this change in definitions was neglected for the purposes of this analysis.*

Fig. 14. Trends in HIV infection (%) among MSM, Armenia, 2012-2021



HIV prevalence among MSM indicates an increase with 5.0% in 2021 as compared to 2.7% in 2018 and 0.8% in 2016.

Fig. 15. Trends in HBV infection (%) among MSM, Armenia, 2012-2021



The HBV level was slightly higher than in the previous years at 1.1%.

Transgender women

The 2021 IBBS study was only the second conducted among TGW, after the first IBBS among TGW people in 2018, thus no trend data was available.

Appendix 2.

KEY POPULATION SIZE ESTIMATION

METHODS

The population sizes of FSW, MSM, PWID and TGW in each city were estimated using three different methods: 1) the multiplier methods (service provision, participation in previous survey, and unique object multipliers), 2) Wisdom of the Crowds, and 3) successive sampling populations size estimation (SS-PSE). City-level results were then extrapolated to the national level.

Multiplier methods

The multiplier methods use two overlapping data sources specific to the population of interest, one being a count or registry of unique individuals belonging to the population and another one being a representative survey that assessed whether the participants are present in the first data source. Using data from several registries with corresponding data from the survey produces separate multiplier estimates that can be combined to produce more robust resulting estimates. The following data sources were used in the 2021 estimation.

HIV prevention service coverage

Data on the number of individuals who received specific services (syringes, condoms, HIV test, STI test) between March 1 and May 31 of the current year were obtained from the local HIV prevention programs. This information was matched in the survey by asking during the survey: "Did you receive a service [service specified] from [specific name of NGO] between March 1 and May 31 of this year?".

During the consensus meeting (see below) the validity of three-month HIV testing coverage data for MSM and PWID was questioned. As a result, this multiplier was replaced by 12-month HIV testing program data (July 2020 – June 2021) with corresponding questions in the survey: "Have you ever been tested for HIV?" and "When was the last time you underwent HIV testing?".

Unique object

The unique object calculation involved distributing face masks with specific print to eligible populations by outreach workers two weeks before the RDS survey. The outreach workers reported the precise number of masks they distributed. This was matched in the survey by the question "Did you receive a mask in the past 1-2 weeks that was given to you by outreach workers of [specific name of NGO]?".

Drug treatment

Statistics on drug treatment (the number of patients receiving methadone treatment, anonymous or non-anonymous detoxification) for March-May 2020 was obtained from the National Center for Addictions Treatment (NCAT). These data were matched with the questions "Between March 1 to May 31 of previous year did you receive methadone substitution therapy?", "Between March 1 to May 31 of previous year did you receive treatment of drug addiction (excluding the methadone)", "What type of treatment was it? (registered or anonymous)".

Civil penalty

The number of individuals charged with civil penalty for sex work or drug use in 2020 was obtained from Police. This was matched with the question "Between January 1 to December 31 of last year have you been charged with civil penalty?".

Participation in the previous survey

The count in this calculation is the number of participants in the previous IBBS round in 2018 in each city (the same as in 2021). It was matched in the questionnaire by the questions "Did you participated in a similar survey in 2018 (received coupons, gave blood sample, got tested)?" and "In which town did you participated in a similar survey in 2018?", which were combined to produce the proportion of participants who also participated in the previous round in the same city.

Multiplier Calculation

The formula to calculate the population size using the multiplier method is: N= M/P, Where:

N = Estimated Size

P = Proportion of survey participants who reported belonging to the registry (receiving the service, the object, or participating in the survey).

M = Number of individuals in the registry.

The 95% confidence intervals (RDS-weighted) for proportions derived from the survey were used to calculate the lower- and upper limits for the population estimates.

Wisdom of the crowds

Participants in the survey were asked for their best guesstimate on the average number and range (minimum and maximum) of the population size of populations in their city. This method is based on the assumption that, in aggregate, the responses of sufficient number of key populations on their numbers will provide a good estimate of the actual number of their population. The medians of self-reported average, minimum, and maximum population for each sample were used for analysis.

SS PSE

The SS-PSE method uses data collected during the RDS survey: each participant's social network size, time of enrollment, number of people recruited by each participant. First, these data were used to impute a new degree (the number of people they know and have seen in the past two weeks who fulfill the study eligibility criteria) for each participant to reduce the recall bias. Prior knowledge about the population size, the imputed degree and other sampling data were used in a Bayesian framework (i.e., quantifies uncertainty about unknown quantities by relating them to known quantities) to quantify a population estimate with probability bounds. The SS-PSE was conducted in "sspse" package v.0.11 (14-01-2020) in R v.4.0.5, using the imputed visibility option.

The following prior estimates were used:

- FSW Yerevan: 2500, Gyumri: 270, Vanadzor: 200
- MSM Yerevan: 7400, Gyumri: 800, Vanadzor: 580
- PWID: Yerevan: 4490, Gyumri: 500, Vanadzor: 350
- TGW: 150

The resulting posterior estimates with 95% probability bounds were used in the analysis.

Developing city-level consensus estimates

Consensus on city-level population estimates was developed during a workshop of national and international experts. Participants included officials from the Ministry of Health, M&E staff and researchers, NGO and civil society representatives, and specialists that were involved in survey implementation. Participants were divided into four groups corresponding to each key population. Each group was tasked to review the results of each estimation method (presented in a summary table), assess the biases inherent in each of the data sources and potential biases resulting from survey implementation, and in data sources (including the registries and the survey), and evaluate the validity of each estimate. Based on the group discussion, the estimates that were considered biased, or were more than two times lower or three times greater than the previous estimate were excluded from further calculation. The average of the remaining estimates was used as the resulting population size for each city. The 2021 total population size from the Statistical Committee of the Republic of Armenia (https://www.armstat.am) and 2011 census data were used to calculate the actual (rather than officially registered) population in each city, which was used as a denominator for the percentages of each group in total population.

Extrapolation to the national level

The same groups at the workshop were additionally asked to evaluate relative density of each key population (high, medium or low) in each administrative region in Armenia, divided into region capital and remaining population. The categorization was based on a combination of economic, socio-cultural and other factors. Considering the city-level percentage estimates, the participants then had to come up with a final estimate for percentages of each KP for the high-, medium-, and low-density areas defined at the previous step. The respective area percentages were multiplied by the corresponding total population (i.e., males for MSM and PWID, females for FSW) in all administrative regions in Armenia. The national estimate was calculated as a sum of all region-level estimates.

Given that so few women who inject drugs were sampled in the survey, the separate estimation could not be done for female PWID population. To account for the female population, the proportion of women who inject drugs based on the findings in the IBBS was multiplied by the estimated population size of male PWID.

RESULTS

The complete results of city-level estimation are presented in Table 1.2. and Figure 1.1.

The results of the consensus workshop were as follows. Due to the low absolute numbers in the registries, the estimates based on civil penalty statistics (FSW and PWID, all cities), STI testing (FSW in Yerevan and Gyumri), detoxification treatment (PWID in Yerevan), and HIV prevention services (TGW in Yerevan) were implausibly low and were excluded from further calculation. The wisdom of the crowds tended to strongly overestimate the population of FSW in all three cities, and MSM in Gyumri, and underestimate PWID in all cities. The last survey multiplier produced results with varying plausibility – underestimating MSM in Yerevan, and overestimating MSM and PWID in Gyumri and Vanadzor. The validity of program data on HIV testing for three months was questioned, and the estimator was instead calculated with 12 months data.

The following total actual (rather than officially registered) population sizes were used for the proportion calculation (Source: Statistical Committee of the Republic of Armenia (https://www.armstat.am).

- Yerevan: 588,715 females, 501,760 males
- Gyumri: 57,234 females, 47,265 males
- Vanadzor: 40,698 females, 32,365 males

The resulting city-based proportion estimates with uncertainty bounds are presented in Figure 2.2.

The population density percentages suggested during the consensus workshop are presented in Table 1.1.

Table 1.1. Population density percentages for population size extrapolation.

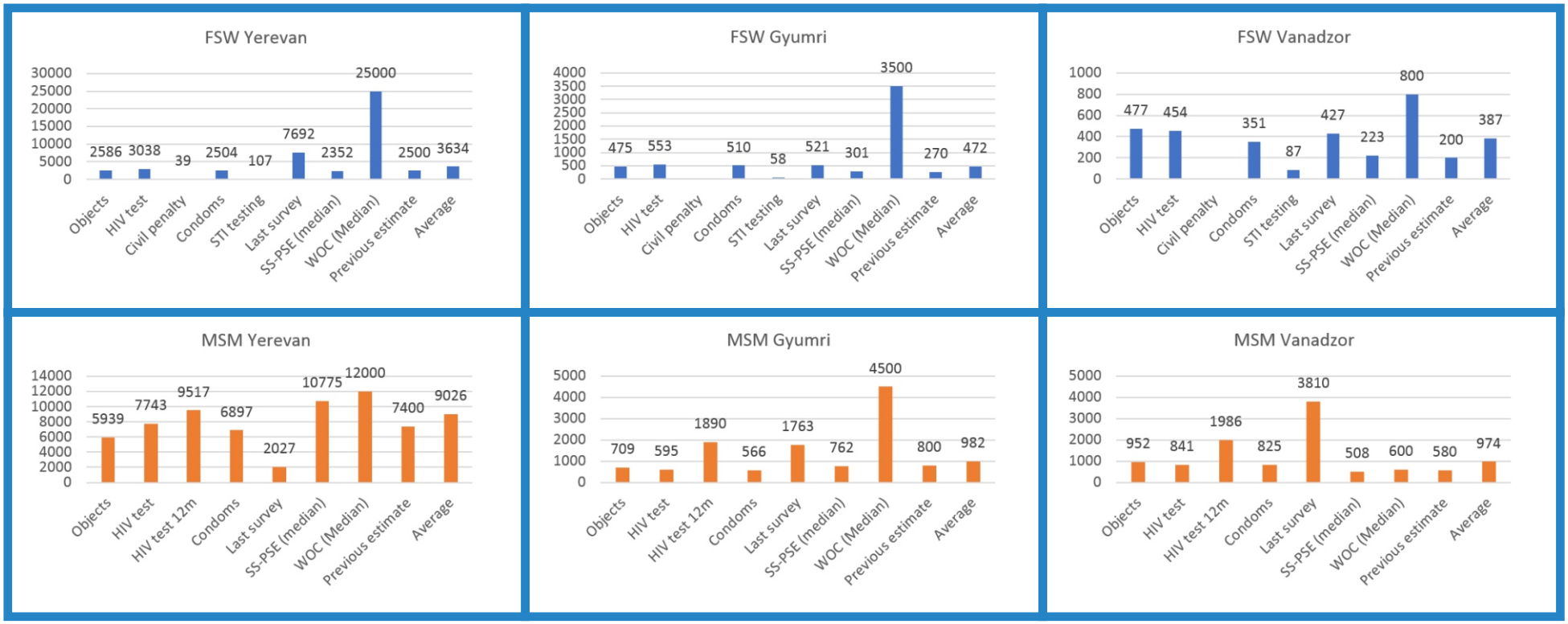
Tercile	FSW	MSM	PWID	TGW
Whigh	0.95%	3.00%	2.18%	0.11%
Medium	0.62%	1.80%	1.32%	0.07%
Low	0.15%	1.50%	0.60%	0.05%

All regions in Armenia, additionally divided in capital city and other population, were categorized in low, medium or high density terciles and assigned the population percentages. These percentages were then multiplied by the corresponding total population to calculate the estimated size of each of the four key populations in each subregion. These estimates were summed to produce the national estimates. The results of the extrapolation to the national level are presented in Table 1.3. The number of PWID females is estimated as 2.9% of the total national population of PWID males, according to the proportion in the 2021 IBBS.

The final national population sizes are as follows:

- FSW: 8,140 FSW (0.61% of the total female population)
- MSM: 22,716 (1.71% of the total male population)
- PWID: 13,712 PWID males (1.03% of the total male population) and 398 PWID females (0.03% of the total female population)
- TGW: 1015 (0.08% of the total male population).

Figure 1.1. The results of city-level population size estimation for three cities in Armenia in 2021.



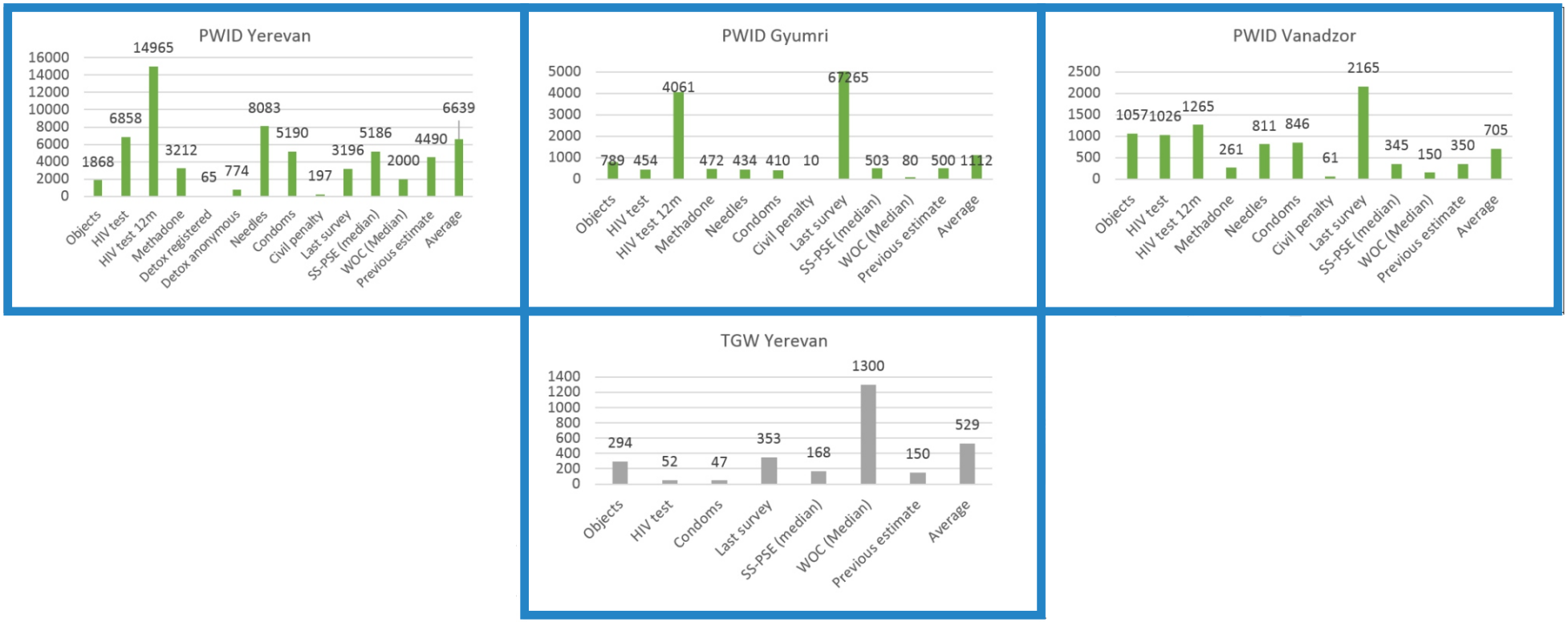

PWID Yerevan
16000
14000
12000
10000
8000
6000
4000
2000
0
1868
6858
14965
3212
65
774
8083
5190
197
3196
5186
2000
4490
6639
Objects
HIV test
HIV test 12m
Methadone
Detox registered
Detox anonymous
Needles
Condoms
Civil penalty
Last survey
SS-PSE (median)
WOC (Median)
Previous estimate
Average
PWID Gyumri
5000
4000
3000
2000
1000
0
789
454
4061
472
434
410
10
67265
503
80
500
1112
Objects
HIV test
HIV test 12m
Methadone
Needles
Condoms
Civil penalty
Last survey
SS-PSE (median)
WOC (Median)
Previous estimate
Average
PWID Vanadzor
2500
2000
1500
1000
500
0
1057
1026
1265
261
811
846
61
2165
345
150
350
705
Objects
HIV test
HIV test 12m
Methadone
Needles
Condoms
Civil penalty
Last survey
SS-PSE (median)
WOC (Median)
Previous estimate
Average
TGW Yerevan
1400
1200
1000
800
600
400
200
0
294
52
47
353
168
1300
150
529
Objects
HIV test
Condoms
Last survey
SS-PSE (median)
WOC (Median)
Previous estimate
Average

Table 1.2. The results of city-level population size estimation for three cities in Armenia in 2021.

	Yerevan							Gyumri							Vanadzor						
	Multiplier			Registry	Estimate			Multiplier			Registry	Estimate			Multiplier			Registry	Estimate		
FSW		LL	UL			LL	UL		LL	UL			LL	UL		LL	UL			LL	UL
Objects	0.17	0.08	0.25	437	2586	1717	5240	0.47	0.38	0.55	221	475	399	589	0.46	0.41	0.51	221	477	430	537
HIV test	0.21	0.14	0.28	632	3038	2271	4553	0.24	0.18	0.30	134	**553**	442	738	0.30	0.26	0.34	135	**454**	402	522
Civil penalty	0.03	0.00	0.05	1	39	21	493	0.08	0.04	0.12					0.04	0.02	0.06				
Condoms	0.26	0.19	0.33	661	2504	1980	3395	0.28	0.22	0.34	142	**510**	416	658	0.40	0.36	0.45	142	**351**	315	397
STI testing	0.12	0.07	0.17	13	107	75	183	0.04	0.01	0.08	2	**58**	32	347	0.11	0.09	0.13	10	**87**	74	107
Last survey	0.04	0.01	0.07	300	7692	4405	29703	0.29	0.23	0.34	150	521	440	639	0.35	0.31	0.39	150	427	384	484
SS-PSE (median)					**2352**	664	14296					**301**	161	906					**223**	155	470
WOC (median)					25000	10000	30000					3500	500	4000					800	400	1300
Previous estimate					2500	2500	2500					270	270	270					200	200	200
Average					**3634**	**2207**	**11437**					**472**	**372**	**706**					**387**	**337**	**482**
% of population					**0.62%**	**0.37%**	**1.94%**					**0.82%**	**0.65%**	**1.23%**					**0.95%**	**0.83%**	**1.18%**
MSM		LL	UL			LL	UL		LL	UL			LL	UL		LL	UL			LL	UL
Objects	0.08	-0.02	0.17	449	5939	2698		0.29	0.19	0.38	205	709	535	1056	0.21	0.04	0.38	200	952	524	5168
HIV test	0.18	0.11	0.24	1355	7743	5646	12431	0.23	0.15	0.32	139	**595**	436	928	0.20	0.09	0.30	164	**841**	552	1752
HIV test 12 months	0.53	0.47	0.59	5025	**9517**	8568	10710	0.32	0.21	0.42	599	**1890**	1429	2790	0.24	0.08	0.39	469	**1986**	1204	5717
Condoms	0.22	0.16	0.29	1538	6897	5353	9759	0.28	0.19	0.37	158	**566**	429	829	0.22	0.03	0.41	182	**825**	443	5821
Last survey	0.15	0.07	0.23	300	2027	1332	4219	0.09	0.02	0.17	150	1763	864	6288	0.04	-0.05	0.13	150	3810	1172	
SS-PSE (median)					**10775**	1057	51413					**762**	200	4140					**508**	172	2544
WOC (median)					12000	10000	15000					4500	1500	7000					600	250	1500
Previous estimate					7400	7400	7400					800	800	800					580	580	580
Average					**9026**	**5535**	**21720**					**982**	**648**	**2204**					**974**	**519**	**4150**
% of population					**1.80%**	**1.10%**	**4.33%**					**2.08%**	**1.37%**	**4.66%**					**3.01%**	**1.60%**	**12.82%**

	Yerevan							Gyumri							Vanadzor						
	Multiplier			Registry		Estimate		Multiplier			Registry		Estimate		Multiplier			Registry		Estimate	
PWID		LL	UL			LL	UL		LL	UL			LL	UL		LL	UL			LL	UL
Objects	0.23	0.17	0.30	437	**1868**	1455	2606	0.28	0.20	0.36	221	**789**	617	1100	0.21	0.16	0.26	221	**1057**	852	1399
HIV test	0.176	0.109	0.243	1207	**6858**	4967	11073	0.19	0.12	0.25	84	**454**	339	692	0.20	0.15	0.25	207	**1026**	816	1383
HIV test 12 months	0.25	0.19	0.32	3801	**14965**	11837	20283	0.16	0.10	0.22	642	**4061**	2906	6649	0.29	0.22	0.36	368	**1265**	1021	1661
Methadone	0.179	0.113	0.245	575	**3212**	2348	5071	0.04	0.00	0.09	21	**472**	247	5556	0.08	0.05	0.12	22	**261**	182	455
Detox registered	0.26	0.11	0.43	17	**65**	39	149														
Detox anonymous	0.02	0.00	0.06	18	**774**	280	12300														
Needles	0.18	0.13	0.23	1463	**8083**	6301	11159	0.27	0.20	0.34	117	**434**	342	594	0.29	0.22	0.36	236	**811**	659	1060
Condoms	0.17	0.11	0.24	903	**5190**	3775	8254	0.27	0.19	0.34	110	**410**	323	567	0.25	0.18	0.31	207	**846**	672	1142
Civil penalty	0.13	0.04	0.22	26	**197**	118	622	0.10	0.05	0.14	1	**10**	7	19	0.10	0.04	0.15	6	**61**	39	141
Last survey	0.09	0.01	0.21	300	**3196**	1452	27882	0.00	0.00	0.00	150	**67265**	39422	240385	0.07	0.03	0.10	150	**2165**	1433	4348
SS-PSE (median)					**5186**	758	28125					**503**	178	2324					**345**	164	1314
WOC (median)					**2000**	1000	4000					**80**	30	120					**150**	100	300
Previous estimate					**4490**	4490	4490					**500**	500	500					**350**	350	350
Average					**6639**	**4412**	**16796**					**1112**	**769**	**2798**					**705**	**540**	**1127**
% of population					**1.32%**	**0.88%**	**3.35%**					**2.35%**	**1.63%**	**5.92%**					**2.18%**	**1.67%**	**3.48%**
TGW		LL	UL			LL	UL														
Objects	0.44	0.33	0.57	130	**294**	227	392														
HIV test	0.63	0.50	0.77	33	**52**	43	66														
Condoms	0.70	0.57	0.83	33	**47**	40	57														
Last survey	0.28	0.19	0.36	100	**353**	275	518														
SS-PSE (median)					**168**	108	401														
WOC (median)					**1300**	1000	2000														
Previous estimate					**150**	1000	1000														
Average					**529**	**402**	**828**														
% of population					**0.11%**	**0.08%**	**0.16%**														

Figure 1.2. Population size estimates for FSW, MSM, PWID and TGW in three cities of Armenia in 2021

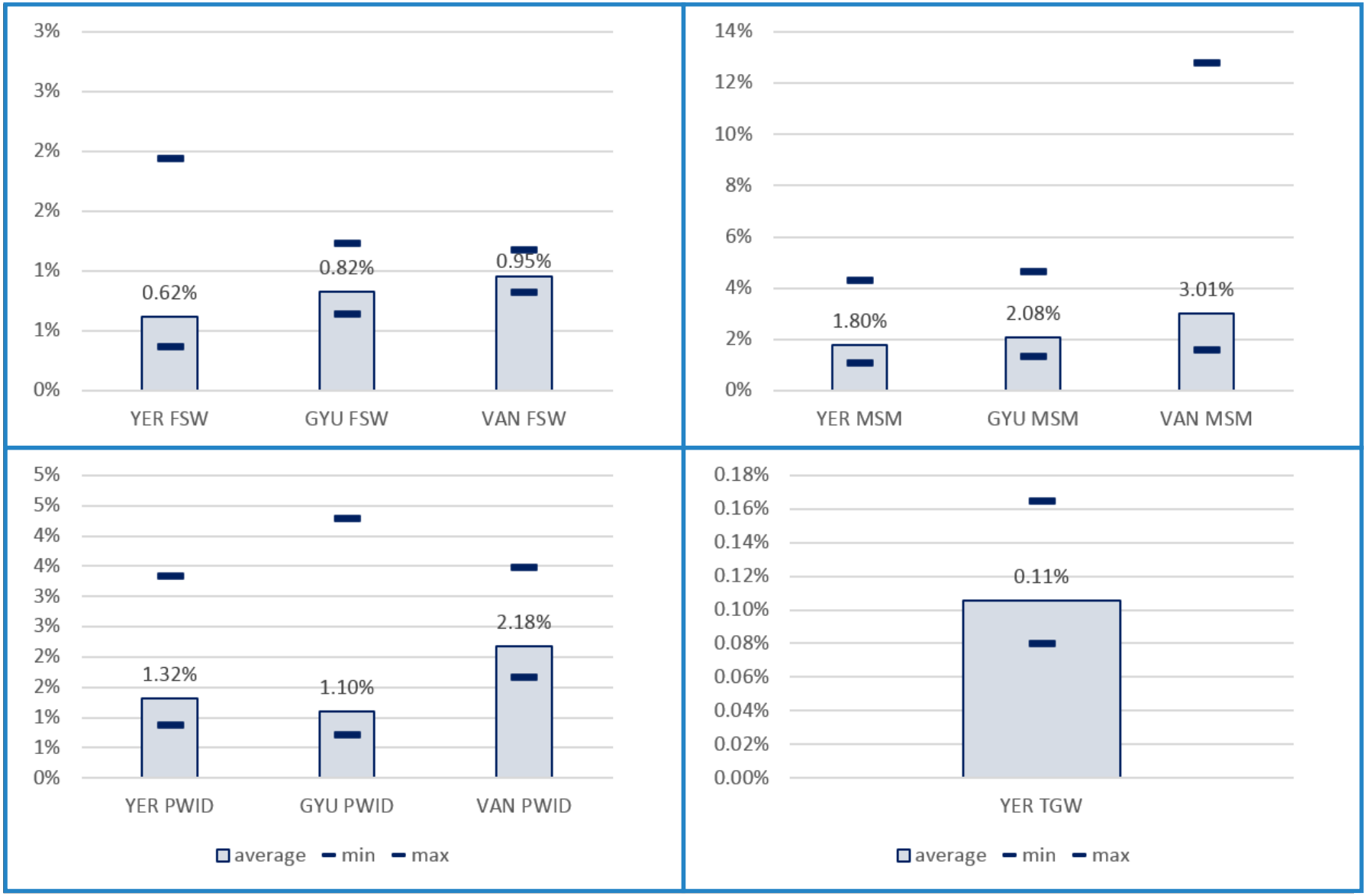


Table 1.3. Results of the population size extrapolation to the national level in Armenia in 2021.

FSW											
	Capital	Tercile	Proportion	Females	FSW	Outside capital	Tercile	Proportion	Females	FSW	**Total**
	Ashtarak	medium	0.62%	8099	51	Aragatsotn	low	0.15%	51873	78	**129**
	Artashat	medium	0.62%	9782	61	Ararat	low	0.15%	116890	176	**237**
	Armavir	high	0.95%	14374	137	Armavir	high	0.95%	117933	1121	**1258**
	Yerevan		0.62%	588715	3634			0.15%	0		**3634**
	Gavar	medium	0.62%	8804	55	Gegharkunik	low	0.15%	96682	146	**201**
	Hrazdan	high	0.95%	20251	193	Kotayk	high	0.95%	107676	1023	**1216**
	Vanadzor		0.95%	40698	387	Lori	low	0.15%	66987	101	**488**
	Gyumri		0.82%	57234	472	Shirak	low	0.15%	58258	88	**560**
	Kapan	high	0.95%	18026	172	Syunik	low	0.15%	40528	61	**233**
	Ijevan	medium	0.62%	3502	22	Tavush	low	0.15%	18779	29	**51**
	Yeghegnadzor	medium	0.62%	10046	63	Vayots Dzor	low	0.15%	46823	71	**134**
	Total				**5246**					**2894**	**8140**
MSM											
	Capital	Tercile	Proportion	Males	MSM	Outside capital	Tercile	Proportion	Males	MSM	**Total**
	Ashtarak	medium	1.80%	7748	140	Aragatsotn	low	1.50%	50051	751	**891**
	Artashat	high	3.00%	8353	251	Ararat	low	1.50%	109042	1636	**1887**
	Armavir	high	3.00%	12675	381	Armavir	low	1.50%	110721	1661	**2042**
	Yerevan		1.80%	501760	9026			1.50%	0		**9026**
	Gavar	medium	1.80%	7712	139	Gegharkunik	low	1.50%	91624	1375	**1514**
	Hrazdan	medium	1.80%	17486	315	Kotayk	low	1.50%	97696	1466	**1781**
	Vanadzor		3.01%	32365	974	Lori	low	1.50%	55543	834	**1808**
	Gyumri		2.08%	47265	982	Shirak	low	1.50%	50511	758	**1740**
	Kapan	medium	1.80%	16637	300	Syunik	low	1.50%	38619	580	**880**
	Ijevan	high	3.00%	2953	89	Tavush	low	1.50%	16560	249	**338**
	Yeghegnadzor	medium	1.80%	8357	151	Vayots Dzor	low	1.50%	43802	658	**809**
	Total				**12748**					**9968**	**22716**
PWID											
	Capital	Tercile	Proportion	Males	PWID	Outside capital	Tercile	Proportion	Males	PWID	**Total**
	Ashtarak	medium	1.32%	7748	103	Aragatsotn	low	0.60%	50051	301	**404**
	Artashat	medium	1.32%	8353	111	Ararat	low	0.60%	109042	655	**766**
	Armavir	high	2.18%	12675	277	Armavir	low	0.60%	110721	665	**942**
	Yerevan		1.32%	501760	6639			0.60%	0		**6639**
	Gavar	high	2.18%	7712	169	Gegharkunik	low	0.60%	91624	550	**719**

	Hrazdan	medium	1.32%	17486	232	Kotayk	low	0.60%	97696	587	**819**
	Vanadzor		2.18%	32365	705	Lori	low	0.60%	55543	334	**1039**
	Gyumri		2.18%	47265	1031	Shirak	low	0.60%	50511	304	**1335**
	Kapan	high	2.18%	16637	363	Syunik	low	0.60%	38619	232	**595**
	Ijevan	medium	1.32%	2953	40	Tavush	low	0.60%	16560	100	**140**
	Yeghegnadzor	low	0.60%	8357	51	Vayots Dzor	low	0.60%	43802	263	**314**
	Total				**9721**					**3991**	**13712**
TGW						Outside					
	Capital	Tercile	Proportion	Males	TG	capital	Tercile	Proportion	Males	TG	**Total**
	Ashtarak	medium	0.07%	7748	6	Aragatsotn	low	0.05%	50051	26	**32**
	Artashat	medium	0.07%	8353	6	Ararat	low	0.05%	109042	55	**61**
	Armavir	medium	0.07%	12675	9	Armavir	low	0.05%	110721	56	**65**
	Yerevan		0.11%	501760	529			0.05%	0		**529**
	Gavar	medium	0.07%	7712	6	Gegharkunik	low	0.05%	91624	46	**52**
	Hrazdan	medium	0.07%	17486	13	Kotayk	low	0.05%	97696	49	**62**
	Vanadzor	high	0.11%	32365	36	Lori	low	0.05%	55543	28	**64**
	Gyumri	high	0.11%	47265	52	Shirak	low	0.05%	50511	26	**78**
	Kapan	medium	0.07%	16637	12	Syunik	low	0.05%	38619	20	**32**
	Ijevan	medium	0.07%	2953	3	Tavush	low	0.05%	16560	9	**12**
	Yeghegnadzor	medium	0.07%	8357	6	Vayots Dzor	low	0.05%	43802	22	**28**
	Total				**678**					**337**	**1015**