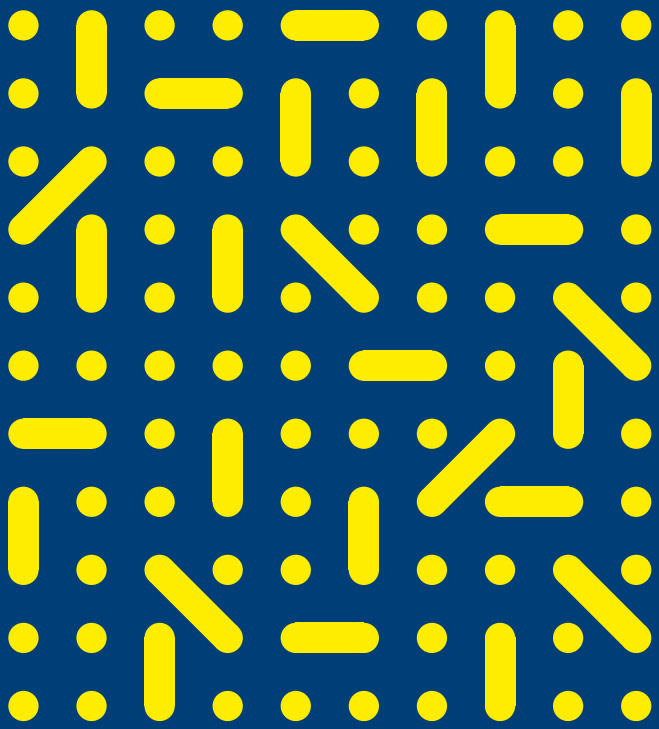
# HIV AND OTHER SEXUALLY TRANSMITTED INFECTIONS AMONG FEMALE SEX WORKERS IN MOSCOW (RUSSIA)

PREVALENCE AND ASSOCIATED RISK FACTORS



SCIENTIFIC REPORT

Steps Fund

MÉDECINS DU MONDE

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## ACKNOWLEDGEMENTS

We would like to thank everyone who contributed to this research. We sincerely hope that this report will be of help in improving the situation of sex workers in Russia in relation to HIV and other STIs, as well as to violence and recognition of their fundamental rights.

Firstly, we would like to thank the people involved directly in the field who campaign every day for sex workers' rights and access to healthcare: all the staff of Steps Fund, a recognised Russian grassroots organisation (Igor Pchelin, Natalia Volkova, Olga Belousova, Ludmila Gladilina, Andrei Petrov, Alexander Nosov, Kirill Barski and so many others) and the staff of Médecins du Monde in Russia (Olga Maximov, Svetlana Tsukanova and Igor Rudenok). Their commitment over many months, day and night, to finding new places where female sex workers (FSWs) work and new participants was crucial to the success of this research. Humanity and solidarity are the sole values that guide their action alongside sex workers.

We would also like to thank the Russian Central Research Institute of Epidemiology (CRIE) (Alexander Guschin, Tatiana Rumiantseva, Tamara Makhova and Elena Goloveshkina), for its ongoing support in analyzing swabs and offering follow-up consultations for participants.

Our thanks also go to everyone who was involved in designing and implementing the study: Jade Assoukpa (MdM), Olga Belousova (Steps Fund), Julie Bouscaillou (MdM), Adeline Bernier (MdM), Eve Derriennic (MdM), Ludmila Gladilina (Steps Fund), Yan Kyburz (MdM), Niklas Luhmann (MdM), Clémence Malet (MdM), Irina Maslova (Silver Rose), Olga Maximov (MdM), Dominique Pataut (MdM), Igor Pchelin (Steps Fund), Andrei Petrov (Steps Fund), Tatiana Rumiantseva (CRIE), Svetlana Tsukanova (MdM) and Natalia Volkova (Steps Fund).

Finally, our sincere thanks go to all the women SWs who participated in this survey. It would not have been possible without them! Beyond answering a questionnaire, they participated in something useful for their community.

## INVESTIGATORS AND PARTNERS

The study was designed and implemented by **Médecins du Monde** (MdM), in partnership with **Steps Fund**, and the **Russian Central Research Institute of Epidemiology** (CRIE).

Médecins du Monde (MdM) was principal investigator in this project. MdM designed the methodology and the Standard Operating Procedures for the study, and had an implementing role including staff training, technical assistance, study monitoring and data analysis.

In-country partner Steps Fund was the principal operator for the implementation of the survey. The organisation was responsible for supervising survey staff and interviewers, identifying survey seeds, recruiting participants, collecting data and biological samples, delivering prevention sessions and orienting the participants depending on their results. Steps Fund ensured that peer workers were included in the study team.

The CRIE ensured centralised testing of biological specimens and health management of participants with STIs.

## FUNDING

The study was funded by Médecins du Monde and the Elton John AIDS Foundation (EJAF). In addition, the Central Research Institute of Epidemiology provided the STI testing (*Chlamydia trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis, Mycoplasma genitalium* and bacterial vaginosis).

## DRAFTING COMMITTEE

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This report was endorsed by MdM and Steps Fund.
**Report publication date:** April 2019

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## ABBREVIATIONS AND ACRONYMS

**AIDS** Acquired immune deficiency syndrome
**ARV** Antiretroviral
**BV** Bacterial vaginosis
**CRIE** Central Research Institute of Epidemiology (of Russia)
**CT** *Chlamydia trachomatis*
**DIC** Drop-in centre
**FSW** Female sex worker
**GC** *Neisseria gonorrhoeae*
**HIV** Human immunodeficiency virus
**ID** Identity document
**MdM** Médecins du Monde
**MG** *Mycoplasma genitalium*
**MKAD** Moskovskaya Koltsevaya Avtomobilnaya Doroga (= Moscow ring road)
**MSM** Men who have sex with men
**MSW** Male sex worker
**NGO** Non-Governmental Organization
**PCR** Polymerase chain reaction
**PEP** Post-exposure prophylaxis
**PLHIV** People living with HIV
**PrEP** Pre-exposure prophylaxis
**RDS** Respondent-driven sampling
**RDT** Rapid diagnostic test
**STI** Sexually transmitted infection
**SW** Sex worker
**TSW** Trans sex worker
**TV** *Trichomonas vaginalis*
**WHO** World Health Organization

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# EXECUTIVE SUMMARY

## INTRODUCTION

It is estimated by the Russian Ministry of Health that 0.8 million people are living with HIV and that 85,800 new infections occurred in 2017.[1] In the general population (15-49 years) prevalence is estimated to be 1.2% (0.9% among women and 1.4% among men).[2] In 2017, the main HIV transmission routes were heterosexual sex (53.5%) and drug injection (43.6%).[3]

Globally, female sex workers (FSWs) are disproportionately affected by HIV and other sexually transmitted infections (STIs).[4,5] In Russia, in a context of economic slowdown and growing migratory flows after the collapse of the Soviet Union, the number of women engaging in sex work increased considerably. It is estimated by NGOs working on the field that there are 120,000 FSWs working in Moscow region. There are two main categories of FSW: outdoor FSWs, who work at volatile spots along roads in the urban periphery ("tochkas") and indoor FSWs who work in apartments, salons or hotels.

Regarding HIV and other STI prevalence among FSWs, there is a critical lack of data in Russia in general and in Moscow city and Moscow region in particular. In addition, although new prevention methods such as pre-exposure prophylaxis (PrEP) exist and are available in other countries, the interest of FSWs in this new prevention tool is little known for this population.

The aim of this study was thus to estimate the prevalence of HIV and 5 other STIs among FSWs in Moscow city and Moscow region, to identify factors associated with HIV/STIs and to estimate PrEP awareness and interest.

## METHODOLOGY

The study was a cross-sectional survey of FSWs recruited using respondent-driven sampling (RDS). RDS is a methodology developed to sample hard-to-reach populations like FSWs.[6] In brief, RDS begins with a non-random selection of participants (referred to as seeds) who are known members of the target population. The seeds themselves recruit other FSWs from their social circle, who in turn are enrolled (if eligible) and instructed to refer other FSWs and so on. Each person can recruit a limited number of participants, so that recruitment chains progress through diverse social networks.

Data collection was conducted at the drop-in centre (DIC) run by Steps Fund in Moscow as well as at a mobile unit located at metro stations or directly in places where FSWs work (i.e. tochkas for outdoor FSWs or salons for indoor FSWs). It consisted of:

- a face-to-face socio-behavioural questionnaire;
- two rapid diagnostic tests for HIV and syphilis (lifetime contact);
- a screening for *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis* and *Mycoplasma genitalium* conducted on throat, vaginal and anal swabs. Vaginal swabs were analyzed for bacterial vaginosis (BV).

Firstly, a descriptive analysis was conducted of socio-demographic characteristics, sex work history, knowledge and practices regarding HIV/STIs, access to HIV/STI prevention and care, as well as awareness of and interest in taking PrEP.

HIV and STI prevalence was weighted using an RDS-II estimator to take into account the sampling method. Several models were constructed using multivariate logistic regression methodology. P-values less than 0.05 were considered significant.

The protocol was validated by the CRIE ethics committee. All participants took part voluntarily and gave oral informed consent prior to inclusion in the survey. The study was anonymous and confidentiality was ensured. Participants who tested positive for at least one STI were referred for confirmation and treatment, depending on their situation.

## RESULTS

In total, 388 participants (208 indoor FSWs and 180 outdoor FSWs) were recruited between October 2017 and July 2018. Among them were 18 seeds (11 indoor FSWs and 7 outdoor FSWs) of diverse ethnic origins. Due to extensive missing data for 3 participants, 385 participants (206 indoor FSWs and 179 outdoor FSWs) were included in the analysis.

In terms of socio-demographic characteristics, the mean age was 31.4 years and more than 7 out of 10 participants (73.2%) were Russian, the rest of them coming from states of the former Soviet Union (19.5%) or Sub-Saharan Africa (5.7%). Regarding sex work activity, the mean age of sex work debut was 23.9 years. Three quarters of the participants (75.1%) had 10 clients or fewer in a typical week and more than a third (36.9%) reported inconsistent condom use with clients in the previous month, mainly because of client refusal.

With regard to HIV and STI history, 17.9% had been diagnosed with at least one STI in the previous 12 months and more than one in 10 participants (14.0%) had never been tested for HIV. In terms of knowledge of HIV modes of transmission, one third (34.0%) of the participants had low or medium knowledge (6 or fewer correct answers out of 9). In terms of violence in the previous 12 months, 13.8% of participants reported having experienced physical violence because of sex work and 28.8% reported an unwanted sexual relationship.

Regarding alcohol and drug use, 33.1% of participants reported drinking alcohol regularly (i.e. a few times a week or more) while selling sex, 6.8% said they had injected drugs in their lifetime and 10.1% of participants reported having taken drugs (i.e. any illicit product, including cannabis) in the previous 6 months. Regarding PrEP, 22.9% of participants already knew what PrEP was before the study and 54.8% declared potentially being interested in taking PrEP after having received a short explanation about it. The main cause of concern was side effects.

Major and significant differences were observed between indoor and outdoor FSWs in the descriptive analysis. Regarding socio-demographic characteristics, outdoor FSWs were younger than indoor FSWs, a higher proportion were either internal migrants (from other regions of Russia) or external migrants (from other countries) and had a lower level of education. In terms of sex work activity, they had an earlier sex work debut and they declared having more clients in a typical week. They reported having more difficulties in accessing male condoms and they had a higher level of inconsistent condom use with clients. Regarding HIV and STI history, outdoor FSWs had a lower STI diagnosis (albeit higher needs) and a higher proportion reported never having been tested for HIV. Their knowledge of HIV modes of transmission was lower. Regarding violence, they reported having experienced violence more frequently, be it physical or sexual violence. In addition, a higher proportion reported regularly drinking alcohol while selling sex. Thus, outdoor FSWs had a different profile, were more vulnerable to violence and were more likely to engage in at-risk behaviours than indoor FSWs.

The weighted overall HIV prevalence was 3.1% (95% Confidence Interval: 1.5-7.0). It was 2.8% [0.8-9.0] among indoor FSWs and 3.8% [1.7-8.0] among outdoor FSWs, suggesting a higher HIV prevalence among outdoor FSWs, although the difference was not significant. Regarding other STIs, positive carriage weighted prevalence (i.e. positive sample for anal and/or vaginal and/or throat swab) was as follows: 4.1% [2.2-8.0] for *Neisseria gonorrhoeae*, 8.8% [5.9-13.0] for *Chlamydia trachomatis*, 12.7% [8.6-18.0] for *Trichomonas vaginalis*, 13.9% [9.9-19.0] for syphilis (lifetime contact) and 14.9% [10.5-21.0] for *Mycoplasma genitalium*. Weighted bacterial vaginosis prevalence was 41.8% [35.5-48.0].

In total, 43.2% [36.6-50.0] of participants had at least one STI infection at the time of the study (including HIV; excluding BV). Prevalence was significantly higher among outdoor FSWs for 3 STIs: *Chlamydia trachomatis* (4.0% [2.0-8.0] among indoor FSWs vs 17.8% [11.1-27.0] among outdoor FSWs), *Trichomonas vaginalis* (4.3% [1.6-11.0] among indoor FSWs vs 28.0% [19.2-39.0] among outdoor FSWs) and *Mycoplasma genitalium* (7.2% [3.4-15.0] among indoor FSWs vs 28.9% [20.5-39.0] among outdoor FSWs). The number of participants with at least one STI infection at

the time of the study was much higher among outdoor FSWs (66.3% [57.5-74.0]) compared to indoor FSWs (30.6% [22.7-40.0], p<0.001). Thus, the level of STI infection was much higher among outdoor FSWs.

Factors positively, significantly and independently associated with being an outdoor FSW in the multivariate analysis were: being under 25 years old (Odds Ratio: 4.46, 95% Confidence Interval: 1.64-12.13, p=0.004); having gone either to primary school (OR: 23.75 [7.28-77.46], p<0.001), secondary school (OR: 5.29 [1.63-17.16], p=0.006) or having done vocational training (OR: 3.05 [1.11-8.36], p=0.03); having had an unwanted sexual relationship in the previous 12 months (OR: 2.37 [1.10-5.11], p=0.03); drinking alcohol while selling sex either a few times a week (OR: 5.06 [2.01-12.70], p<0.001) or every day (OR: 8.28 [1.39-49.24], p=0.02); and having at least one STI infection at the time of the study (OR: 3.54 [1.73-7.22], p<0.001).

Factors negatively associated with being an outdoor FSW were: being 40 years old or more (OR: 0.24 [0.07-0.80], p=0.02) and having had an STI diagnosis in the previous 12 months (OR: 0.15 [0.06-0.35, p<0.001). Thus, outdoor FSWs were younger and had a lower education level; they were more at risk of sexual violence and alcohol consumption while selling sex; they had a higher probability of being infected with at least one STI at the time of the study, but had a lower probability of having been diagnosed with an STI in the previous 12 months, which highlights the gap between healthcare needs and effective access.

Factors positively, significantly and independently associated with having at least one STI infection (including HIV; excluding BV) at the time of the study were: being an outdoor FSW (OR: 3.29 [1.72-6.27], p<0.001); being registered for healthcare access in another region of Russia (OR: 2.61 [1.05-6.48), p=0.04); having never been tested for HIV (OR: 2.51 [0.98-6.41], p=0.05); and having a low level of knowledge about HIV modes of transmission (OR: 4.88 [0.96-24.78], p=0.06 – marginally significant). Thus, outdoor FSWs, participants whose primary residence was in another Russian region, participants who had never been tested for HIV and those who had a low level of knowledge of HIV modes of transmission were at higher risk of having an STI infection.

Regarding violence, two multivariate models were done. Firstly, factors positively, significantly and independently associated with having experienced physical violence because of sex work in the previous 12 months were: being an outdoor FSW (OR: 2.28 [1.01-5.17], p=0.05); having inconsistently used condoms with clients in the previous month (OR: 3.71 [1.65-8.38], p=0.002); and having taken drugs in the previous 6 months (OR: 3.34 [1.14-9.79], p=0.03). Secondly, factors positively, significantly and independently associated with having had an unwanted sexual relationship in the previous 12 months were: being an outdoor FSW (OR: 2.32 [1.09-4.91], p=0.02); having inconsistently used condoms with clients in the previous month (OR: 2.71 [1.27-5.76], p=0.01); having more than 10 clients in a typical week (OR: 3.47 [1.20-10.03], p=0.02); having experienced physical violence because of sex work in the previous 12 months (OR: 35.91 [13.40-96.23], p<0.001); and being 25 or younger at sex work debut (OR: 2.37 [1.06-5.33], p=0.04). Thus, outdoor FSWs were more vulnerable to both physical and sexual violence. Violence was also associated with inconsistent condom use, drug taking, workload of the FSWs and age at sex work debut.

## CONCLUSION AND RECOMMENDATIONS

This survey produced crucial data on HIV and other STIs among FSWs in Moscow city and Moscow region. Using a robust methodology (i.e. RDS), we recruited 385 participants. Two groups of FSWs (indoor/outdoor) were identified, outdoor FSWs being more likely to engage in at-risk behaviours and being more vulnerable to violence. HIV and STI prevalence were high among the sample: HIV prevalence was 3.1% (that is to say more than three times that among women in the general population in Russia) and other STI prevalence ranged between 4.1% and 14.9%. STI prevalence was higher among outdoor FSWs, with more than 60% of the participants having at least one STI at the time of the study. Despite high needs, healthcare access was limited, in particular for outdoor FSWs. Finally, violence was frequent, both physical and sexual.

Consequently, based on these findings and in line with some recommendations issued by the Ministry of Health in Russia, the following recommendations are formulated for stakeholders.

### FOR ALL ACTORS INVOLVED

- Fight against any form of stigmatisation and discrimination practised against sex workers;
- Meaningfully involve sex workers and their organisations in the development, implementation and evaluation of programmes and policies affecting them.

### FOR NGOS

Promote and implement programmes for access to sexual healthcare and rights adapted to the needs of sex workers, including:

- provision of relevant information and empowerment activities on HIV diversified prevention package;
- distribution of means of protection against HIV and other STIs;
- provision of HIV and other STI testing;
- provision of relevant information on where to be tested for HIV and other STIs;
- provision of individualised support to get access to care and treatment in case of a positive test result for HIV or another STI;
- provision of relevant information on their rights and individualised support in case of violence.

A specific focus should be given to outdoor FSWs, with dedicated and adapted services, including outreach services involving FSWs or ex-FSWs.

A comprehensive approach including sexual and reproductive health services (e.g. family planning) would be of major interest to sex workers.

### FOR RESEARCHERS

Promote and implement research projects regarding sexual health and a diversified prevention package among sex workers in Russia, including:

- studies aimed at estimating HIV and other STI prevalence among sex workers;
- studies aimed at describing the use of various available means of protection against HIV and other STIs among sex workers in Russia;
- studies aimed at estimating sex workers' interest in taking PrEP and potential barriers;
- studies aimed at describing violence against sex workers and the consequences on physical and mental health;
- studies aimed at describing the application of sex workers' rights and their access to justice.

The particular vulnerability of outdoor sex workers should be taken into account when designing such studies.

### FOR HEALTHCARE PROVIDERS

Provide quality and inclusive sexual healthcare services to any sex worker, regardless of their activity and situation, including the provision of anal and throat testing for some STIs. Specific attention should be paid to outdoor sex workers, considering their higher healthcare needs.

### FOR POLICY MAKERS

- Fund programmes for access to sexual healthcare and rights adapted to the needs of sex workers recognized as a key-population by the Ministry of Health;
- Put in place public policies to increase the availability of affordable and inclusive sexual health services for sex workers within mainstream services, regardless of their activity and situation;
- Combat all forms of violence, regardless of who the perpetrators and the victims are;
- Guarantee the protection, rights and access to care for all sex workers, regardless of their activity and situation.

A specific focus should be given to outdoor sex workers, considering their higher needs in terms of healthcare access and their greater vulnerability to violence.

### FOR DONORS

- Fund comprehensive health programmes (not just limited to HIV) adapted to the needs of sex workers and focused on the needs identified by the sex workers themselves;
- Fund health programmes implemented with a community approach, recognising the operational skills and expertise developed by sex workers and their organisations.

# INTRODUCTION

## HIV/AIDS SITUATION IN RUSSIA

It is estimated by the Russian Ministry of Health that 0.8 million people are living with HIV and that 85,800 new infections occurred in 2017.[1] In the general population (15-49 years) prevalence is estimated to be 1.2% (0.9% among women and 1.4% among men).[2] In 2017, the main HIV transmission routes were heterosexual sex (53.5%) and drug injection (43.6%).[3]

The Russian authorities have demonstrated a strong political will to fight HIV. A national strategy for combating the spread of HIV was published in October 2016.[7] For the first time, sex workers (SWs) were mentioned as a key population, even though no specific measure was detailed in the strategy. In December 2018, the Ministry of Health published guidelines for HIV prevention programmes in key populations, including sex workers.

## FEMALE SEX WORKERS' EXPOSURE TO HIV

Due to a wide array of factors, female sex workers (FSWs) worldwide are more exposed and more afflicted by HIV and other sexually transmitted infections (STIs).[4] They are on average 13 times more likely to be infected with HIV than adults in the general population.[8] The global HIV prevalence among FSWs is estimated to be 10.4%.[9]

**Social and legal factors:** Even though sex work is at least partially legal in some countries, the law rarely protects sex workers. Around the world, there is a severe lack of legislation and policies protecting sex workers who may be at risk of violence from both state and non-state actors such as law enforcement, partners, family members and their clients. For example, a sex worker who is raped will generally have little hope of bringing charges against their attacker. This lack of protection leaves sex workers open to abuse,

violence and rape, creating an environment which can facilitate HIV transmission.[10]

In addition, the stigma that sex workers face creates isolation and is a barrier to seeking healthcare, legal and social services.[4]

**Multiple partners and inconsistent condom use:** In some cases, sex workers have little or no access to condoms or are not aware of their importance. Sometimes, sex workers are not in a position to negotiate safer sex. Clients may refuse to pay for sex if they have to use a condom and use intimidation or violence to force unprotected sex.[11] They may also offer more money for unprotected sex.

**Injecting drug use:** Because sex work and drug use are illegal in most countries, sex workers who use drugs are more vulnerable to frequent arrest, bribes and extortion, as well as physical and sexual abuse.[12] In turn, this discourages many sex workers who inject drugs from seeking HIV prevention and treatment.[13] Researchers investigating HIV prevalence among sex workers have raised particular concerns about epidemics in Eastern Europe and Central Asia, where there is a significant overlap between sex work and injecting drug use.[14]

Altogether, the discriminatory environment, the punitive legal framework, violent attitudes towards SWs and injecting drug use are key determinants of increased vulnerability to HIV among SWs.

## SEX WORK IN MOSCOW

Following the collapse of the Soviet Union, in a context of economic slowdown and growing migratory flows (both internally in Russia and from the former Soviet Union states), sex work has significantly increased in Russia. Sex work is not legal in Russia, making it difficult to obtain reliable statistics. In 2012, the Ministry of Internal Affairs estimated the number of sex workers to be 1 million. Informal SW organisations such as Silver Rose estimate their number to be up to 3 million. This figure includes women, men and transgender people.

Moscow is home to an estimated 120,000 FSWs among its 12 million inhabitants.[15] Local experts agree about three specificities of Moscow-based SWs: (i) a large percentage of migrants, (ii) significant heterogeneity, and (iii) a low percentage of SWs who inject drugs.

In Moscow, it is estimated that a large proportion of SWs do not originate from the city. They are either internal migrants (Russian citizens living away from their registered place of residence) or immigrants, mainly from former Soviet Union states (e.g. Central Asia, Ukraine, Moldova, Belarus and the South Caucasus), but also from Africa (Nigeria and Ivory Coast) and Vietnam (unpublished data).

The spectrum of sex work runs from SWs working in marketplaces and construction sites to independent SWs working in elite venues, with a high degree of disparities in vulnerability factors, accessibility and rates.[16] Broadly speaking, the two main categories for female sex workers are:

**Outdoor FSWs:** in the last few years, prohibitive measures have driven most street-based FSWs out of the city centre towards the urban periphery at the side of roads, in particular near the MKAD, the Moscow ring road. They work in volatile spots ("tochkas") within organised networks. Each tochka comprises approximately between 10 and 40 FSWs. They are highly vulnerable, exposed to violence and insecurity, with limited choice of clients, sexual practices and condom use.

**Indoor FSWs:** they work in dedicated apartments, salons or hotels. Some of them are independent FSWs working on their own; others work in organised networks. Apartments may accommodate 3 to 10 FSWs. They are considered to be less vulnerable than outdoor FSWs because working conditions are more regulated and can be discussed beforehand with the dispatcher and client.

Another category of SW is male and trangender sex workers (MSWs and TSWs). They mostly offer sex to other men, regardless of their sexual orientation. The connotations of female sex work often cannot be directly extrapolated to MSWs.[17] MSWs are prone to great variance in regularity of practice and they are less visible than their female counterparts.

## HIV AND STI PREVALENCE AMONG SEX WORKERS

There is a critical lack of data on HIV and STI prevalence among SWs in Russia in general and in Moscow in particular. The few available estimates are based on limited samples, different cities and years, making it difficult to develop a general interpretation.

Studies conducted in the late 1990s and early 2000s showed very high prevalence ranging between 17% in St Petersburg and 65% in Kaliningrad.[18] Lower prevalence was estimated by more recent studies. A study conducted by Decker *et al.* (2011) in 3 large cities showed the following HIV prevalence: 1.6% in Tomsk, 3.6% in Krasnoyarsk and 6.4% in Kazan.[19] A study conducted in 2017 in 4 cities (Yekaterinburg, Krasnoyarsk, Perm and St Petersburg) showed prevalence ranging between 2.3% and 15.0%.[20] Additional data suggest that the prevalence may be high in some large cities: 13% in St Petersburg (unpublished data) and 20% in Irkutsk.[21]

In Moscow, a study conducted in 2003 among 135 FSWs estimated a prevalence of 14.1%.[22] A study conducted by Decker *et al.* in 2005 using a more robust methodology showed a prevalence of 4.8%.[23] In MSWs, HIV prevalence is consistently higher. In Moscow in 2006, Baral *et al.* estimated an HIV prevalence of 16% (8 HIV+ out of 50 participants).[24]

Regarding STIs, SWs are considered a high-risk group.[25] The four most commonly assessed pathogens, excluding HIV, are *Treponema pallidum* (syphilis), *Neisseria gonorrhoeae*, *Chlamydia trachomatis* and *Trichomonas vaginalis*. In the Decker study, almost one third of the FSW sample (31.3%) tested positive for at least one STI, including HIV. The most prevalent STI was *Chlamydia trachomatis* (15.0%), followed by syphilis (11.6%) and *Neisseria gonorrhoeae* (6.8%).[23]

## PRE-EXPOSURE PROPHYLAXIS (PREP) IN SEX WORKERS

Effective interventions to prevent and manage HIV and STIs in SWs exist and are recommended by the World Health Organization (WHO). These include health sector interventions like regular testing, counselling on risk-reduction methods, access to condoms, immediate treatment and care combined with biomedical approaches (like post-exposure prophylaxis). Moreover, strategies for an enabling environment like community empowerment are of importance.[26]

Oral pre-exposure prophylaxis, or PrEP, is the use of an antiretroviral (ARV) regimen (based on tenofovir) by high-risk HIV-uninfected people to prevent the acquisition of the virus. PrEP provides a new prevention tool for those situations where FSWs are unable to mitigate their risk.

Since the demonstration of its effectiveness in serodifferent couples, men having sex with other men (MSMs), people who inject drugs (PWIDs) and transgender people, PrEP is recommended by the WHO as an additional prevention choice for people at substantial risk of HIV infection.[27]

To benefit, HIV-negative FSWs need to: (i) know their HIV status, (ii) perceive that they are at risk, (iii) be motivated and able to take PrEP daily, and (iv) attend health services for prescription refill and clinical monitoring[28]. It might be challenging for FSWs to find energy and time to respect all those steps. Moreover, some sex workers may be afraid of taking PrEP because clients may potentially ask for condomless sex

and put them at risk of other STIs and violence in case of refusal.

The complexities of social and behavioural factors that influence biomedical approaches to prevention are thus of great importance[29] and a study evaluating these factors would potentially be of significant help for future interventions.

## MÉDECINS DU MONDE IN RUSSIA

Médecins du Monde (MdM) is an international aid organisation caring for the most vulnerable populations, for victims of armed conflicts and natural disasters and for those who are gradually being forgotten about. MdM has a long history and expertise in the area of sex work and HIV/AIDS in France and at the international level.[30]

MdM has been implementing projects in the Russian Federation. In 2015, assessment missions conducted by MdM showed that no programme specifically tailored for SWs existed in the Russian capital. MdM approached local organisations, Steps Fund and Silver Rose, which have demonstrated their leadership in community building (PLHIV and SWs). Since 2015, MdM and Steps Fund have been implementing an HIV/STI and violence prevention pilot project targeting SWs in Moscow city and Moscow region. The project consists of delivering adapted testing and prevention services to SWs with a community-based approach in outreach through a mobile unit and at a drop-in-centre based in Moscow. The project team comprises social and peer workers, who have been trained to address the specific needs of SWs (outreach methods, peer counselling, pre- and post-test counselling, HIV/STI prevention, self-support groups, etc.). MdM also supports Silver Rose's advocacy activities on a federal and international level.

## AIM OF THE PRESENT STUDY

Monitoring the course of HIV prevalence among sex workers is essential for developing appropriate and effective interventions, shaping policy and estimating future spread. In this context, MdM implemented a cross-sectional study in the city of Moscow and Moscow region among the SW population on HIV and other STIs, in partnership with Steps Fund and the Central Research Institute of Epidemiology of Russia.

# STUDY OBJECTIVES

The **primary objective** of this study was to estimate the prevalence of HIV in the female sex worker (FSW) population of Moscow city and Moscow region, Russia.

The **secondary objectives** were to:

- estimate the prevalence of five sexually transmitted infections – *Treponema pallidum* (syphilis), *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis* and *Mycoplasma genitalium*, as well as bacterial vaginosis;
- identify the factors associated with HIV/STIs;
- assess the participants' knowledge regarding HIV, STIs and their access to prevention and care;
- estimate the level of PrEP awareness and interest among this population of FSWs;
- assess the prevalence of HIV and the five aforementioned STIs in male sex workers (MSWs) and trans sex workers (TSWs) in Moscow (ancillary sample).

# METHODS

Between January and July 2017, MdM and Steps Fund conducted a formative assessment to inform the methodology, the material development and the practical organisation of the study. This step consisted of about 15 semi-structured qualitative interviews with sex workers of different profiles and a series of meetings with partners and health system representatives. Subsequently, the following methodology was decided on and implemented.

## STUDY TYPE

The study consisted of a cross-sectional survey of FSWs sampled using respondent-driven sampling (RDS) methodology. An ancillary purposive sample concerned 50 MSWs and 10 TSWs. No further mention of this ancillary sample will be made in this report; the results will be presented in a separate document.

## STUDY POPULATION

The survey was implemented in the city of Moscow (Russia) and immediate geographical area.

Inclusion criteria were the following:

- being born female;
- being an adult (≥ 18 years);
- having received money, drugs or goods in exchange for sex in the last three months from someone other than their main partner;
- being a seed or being in possession of a valid peer recruitment coupon;
- being capable and willing to provide verbal informed consent to participate;
- understanding Russian or English.

Exclusion criteria were the following:

- being born male;
- having already participated in the study;
- not being able to provide informed consent (including persons incapable of providing

consent due to the influence of alcohol or drugs or because of an altered state of mind).

Nationality and citizenship were neither inclusion nor exclusion criteria. Sex workers who knew their positive HIV or STI status were not excluded from the sample. Based on our experience and formative assessment, the use of Russian and English enabled us to cover most FSWs working in Moscow.

## SAMPLING METHODOLOGY

Worldwide, FSWs comprise a highly stigmatised population, making them hard to reach through conventional survey methods. This is the reason why a specific method, i.e. respondent-driven sampling (RDS), was chosen to reach FSWs in our study.[6,31,32]

In brief, RDS begins with the non-random selection of known members of the FSW population, referred to as seeds. The seeds are asked to refer other FSWs from their social circle, who in turn are enrolled (if eligible) and asked to refer other FSWs and so on. The number of referrals per person is restricted in order to ensure that recruitment chains progress through diverse social networks. Coded coupons are used to link who refers whom. A primary incentive is given for completion of the survey and secondary incentives are given for each successfully referred peer.

### NUMBER OF COUPONS

At the beginning of the study, 3 coupons were distributed to the participants. As the pace of recruitment was too slow, this number was increased to 5 in November 2017 until the end of the study.

### INCENTIVES

The primary incentive was 300 roubles (around €4) in mobile credit or cash, and 150 roubles (around €2) per participant recruited were given as the secondary incentive.

## SAMPLE SIZE

The sample size was calculated using the following elements:

- an expected HIV prevalence of 8%;
- an unknown FSW population size;
- a design effect of 2 related to RDS;
- a level of precision for HIV prevalence of 5%.

Thus, the target sample size of 450 FSWs was chosen to: (i) allow reasonable precision for the HIV prevalence estimate; (ii) allow a reasonable number of recruitment waves; (iii) and fit the logistical capacities of MdM and Steps Fund.

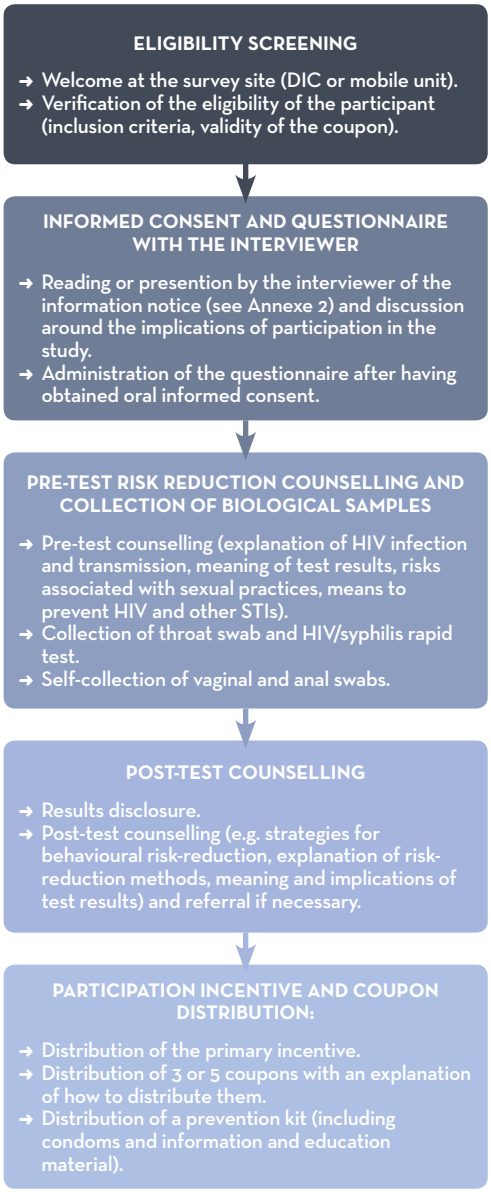
## STUDY MATERIAL

### BIO-BEHAVIOURAL QUESTIONNAIRE

A standardised questionnaire adapted for FSWs in Moscow was used. This questionnaire collected data on socio-demographic characteristics, sexual history and sexual practices, condom access and use, STI symptoms, HIV testing, HIV-related knowledge, violence and alcohol and drug use. A specific section investigated awareness of and interest in taking PrEP. The questionnaire can be found in Annexe 1. The questionnaire was adapted after a pre-test stage among a small sample of FSWs.

Data were collected face-to-face. The questionnaire was available in Russian and English. In case of an English-speaking participant, bilingual MdM staff trained on the questionnaire conducted the interview.

**FIGURE 1** Participant pathway through the study




## BIOLOGICAL ANALYSIS

### *HIV DIAGNOSIS*

HIV status was assessed using a rapid test on capillary blood from a finger prick. We used the SD Bioline HIV-1/2 3.0 Rapid Diagnostic Test (RDT) (Standard Diagnostics, Korea). It was performed at the study site. People with a negative result were considered HIV negative. People with a positive result were supported to undergo free confirmation at a local AIDS centre.

### *SYPHILIS DIAGNOSIS*

Syphilis status was determined using the rapid test, SD Bioline Syphilis 3.0 (Standard Diagnostics, Korea). It was also performed at the study site. People with a negative result were considered negative for syphilis. People with a positive result were supported to undergo confirmation at a clinic or laboratory.

### *STI AND BACTERIAL VAGINOSIS (BV) TESTING*

Each study participant self-collected a vaginal swab and anal swab. A throat swab was collected by the trained social worker. Laboratory analyses were conducted by the CRIE. This consisted of testing the specimen by means of polymerase chain reaction (PCR). The following kits were used for PCR testing: AmpliSens® for Neisseria gonorrhoeae / Chlamydia trachomatis / Mycoplasma genitalium / Trichomonas vaginalis-MULTIPRIME-FL and AmpliSens® Florocenosis / Bacterial Vaginosis-FL, in accordance with the manufacturer's instructions. The collected swabs were stored according to CRIE regulatory rules.

## STUDY SITE AND TEAM

The drop-in centre (DIC) run by Steps Fund in Moscow was used as the study site. The location had central access, was quiet and secure and

had enough rooms to ensure confidentiality. To avoid stigma by the public, signs did not reveal the actual purpose of the office. The survey office remained open up to 8 weeks after the last enrolment to ensure all participants received results, referrals and secondary incentives. A mobile unit was also used as a study site. Depending on the daily situation, the mobile unit was located at metro stations or directly in places where FSWs were working (mostly tochkas).

The study team included a field supervisor and four interviewers. The survey staff were trained and provided a field operating procedures manual. Training covered the protocol, procedures, data management, ethics, safety, confidentiality and information on HIV and STIs.

## PARTICIPANT'S PATHWAY IN THE STUDY

The pathway of participants in the study is described in Figure 1.

After at least 10 days, and when the FSWs recruited by the participant had themselves participated, the participant could come back to a study site (DIC or mobile unit) to collect her secondary incentives. Laboratory results were delivered in a sealed envelope.

## MANAGEMENT OF PEOPLE DIAGNOSED HIV OR STI POSITIVE IN THE FRAMEWORK OF THE STUDY

Collaborations were developed between the survey team and local providers to offer appropriate HIV, syphilis and other STI treatment services and linkage to care:

- participants who tested positive to at least one STI on the swab were referred to the CRIE for STI consultation;
- participants with confirmed syphilis could access medical consultation and treatment at the CRIE;
- participants with confirmed HIV were referred for care depending on their status to the Moscow AIDS Center, Moscow Regional AIDS Center or the Federal AIDS Center (consultations). They also received support from a social worker from Steps Fund, as already developed in the framework of the MdM/Steps Fund project.

## DATA MANAGEMENT

The study was anonymous as the study team did not ask for any identification (e.g. ID or fingerprints) from participants. A unique study code was given to each participant. This code was used by participants to retrieve their STI results.

The questionnaire was collected using Kobotoolbox, which ensured safe storage, transfers and back-ups. Data entered in electronic files (e.g. test results) were stored on a password-protected computer. Access to data was limited to the research team, data analysts and investigators. All databases were password protected and data was encrypted before transmission over public networks.

## DATA ANALYSIS

### INDOOR/OUTDOOR DEFINITION

The following elements were used to determine if an FSW was considered indoor or outdoor:

- FSWs were considered outdoor when they were recruited at tochkas;
- FSWs were considered indoor when they were recruited in salons;
- FSWs who were recruited either at the DIC or at metro stations, and who answered that they met their clients either on the street, in parks, at metro stations or along the MKAD, were considered outdoor;
- The rest of the participants were considered indoor.

## STATISTICAL ANALYSIS

For the descriptive analysis, mean ± standard deviation or median and interquartile range for continuous data were used, and percentages with 95% confidence interval for categorical variables. According to distribution and headcounts, the Student t-test or Kruskal Wallis test were used for continuous variables and chi2 or Fisher exact test for categorical variables. Descriptive analysis was conducted on socio-demographic characteristics, sex work history, knowledge and practices regarding HIV/STIs, access to HIV/STI prevention and care and PrEP awareness and interest. A stratified analysis on indoor/outdoor status was conducted and results were compared for these two categories.

Crude and weighted HIV and STI prevalence were calculated to take into account the sampling method. The weight was based on the RDS-II estimator.[33] Via a weighted multivariate logistic regression using backward selection procedure and adjusting for indoor/outdoor status, several multivariate analyses were conducted to identify factors associated with variables of interest. A p-value of less than 0.05 was considered significant.

Dedicated software (RDS-Analyst and NetDraw) were used to draw the recruitment tree (i.e. the graph showing who recruited whom), as well as to determine some specific indicators linked to the RDS methodology (e.g. number of waves, number of participants per wave). For the rest of the analysis, R software was used.[34]

## ETHICAL CONSIDERATIONS

The study was approved by the CRIE ethics committee (see Annexe 3) and was conducted according to the ethics principles of the Declaration of Helsinki regarding medical research on human subjects.[35]

Participation in the study was completely free and voluntary. Oral consent was obtained from participants before any data collection and after comprehensive information had been provided about the study. No pressure was put on people to obtain their participation in the study. Consent could be withdrawn at any moment during the study.

Interviews, testing and counselling sessions were performed in spaces which ensured participants' confidentiality and privacy were respected. Data collection, entry, storage and analysis were performed in a way that ensured respect for anonymity. No identifying information was recorded at any time during the study. All staff of the study signed a confidentiality agreement.

A primary ethical concern of this study was the fact that participation in the survey might reveal that respondents were engaging in illegal and stigmatised practices, including sex work and drug use. HIV status could also subject participants to stigma and discrimination if inadvertently revealed to persons outside of the survey. Several procedures were taken to minimise the risk of these disclosures (anonymity, measures to protect data, training of the study team on confidentiality and signing of a confidentiality agreement).

Diagnosis of HIV infection may also subject participants to psychological and emotional stress. To minimise these harms, participants diagnosed were supported by trained social workers from the MdM/Steps Fund project. Likewise, people reporting having been victims of violence or rape in the questionnaire were notified by the interviewer that social workers from the MdM/Steps Fund project were available to provide information and support to individuals to assert their rights.

# RESULTS

**Table 1** Ethnic origin of the seeds (N=18)

| | From Russia | From former Soviet Union states | From Sub-Saharan Africa |
|---|---|---|---|
| **Indoor FSWs** | 9 | 2 | 0 |
| **Outdoor FSWs** | 5 | 0 | 2 |

**Figure 2**: Weekly study recruitment (N=388)

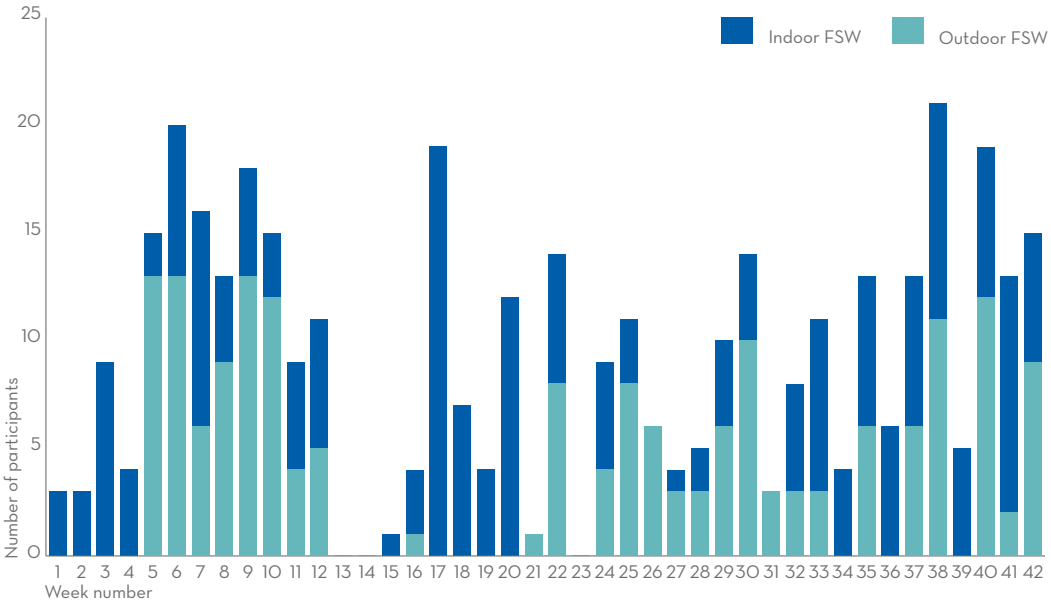
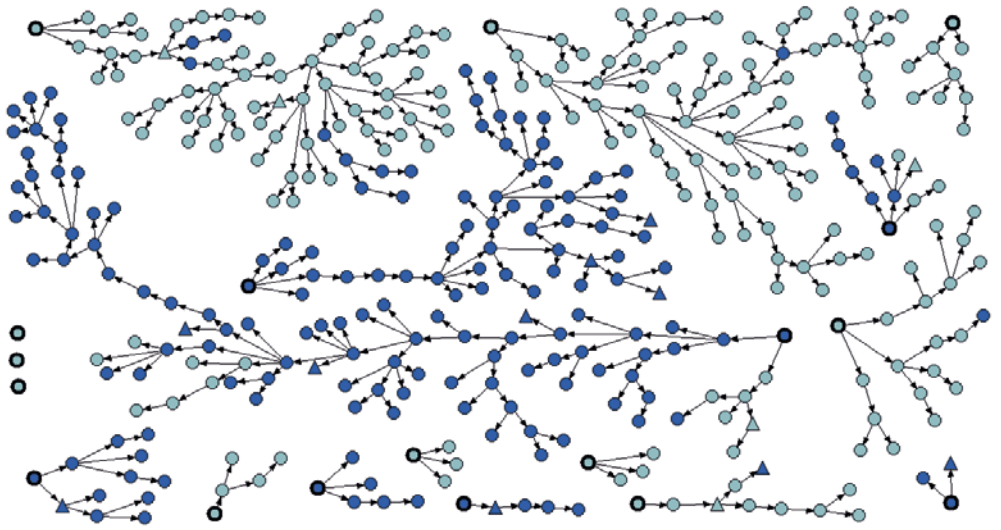



**Figure 3**: Recruitment tree, showing who recruited whom (N=388)



Each participant is represented by a circle or triangle. Seeds are identified by circles with thicker rims. Indoor FSWs are represented in green, outdoor FSWs in blue. HIV negative participants are represented by circles and HIV positive participants by triangles.

## RECRUITMENT OVERVIEW

Between October 2017 and July 2018, a total of 388 participants were recruited. Using the definition presented in the methods section, 208 were indoor FSWs and 180 were outdoor FSWs. Among them, there were 18 seeds (11 indoor FSWs and 7 outdoor FSWs). The profile of these seeds is presented in **Table 1**. They were identified to reflect the theoretical diversity of FSWs in Moscow, and some of them were added during the course of data collection because the recruitment speed was too slow.

The recruitment took place over 42 weeks. The weekly number of participants is described in **Figure 2**.

At the beginning of the study, only on-site recruitment at the DIC was planned, but since we observed during the first four weeks of the study that outdoor FSWs did not want to come to the DIC , we decided to use a mobile site to go and recruit outdoor FSWs directly where they worked or at metro stations. There was no recruitment during weeks 13, 14 and 23, due to holidays (Christmas and International Women's Day). Moreover, from week 15 to 21, the recruitment of outdoor FSWs was very low, because of police controls in tochkas. Due to all these constraints, we were unable to reach the target sample size of 450 FSWs.

The recruitment tree, showing who recruited whom, is described in **Figure 3**.

Three indoor seeds did not recruit any participants (on the left of the graph). The maximum number of participants recruited by one seed was 94. The maximum number of waves was 20 (wave 0 represents the seeds; wave 1 represents the people recruited by the seeds, and so on). The mean and median size of network (i.e. the number of FSWs known by the participant and who would fulfil the inclusion criteria of the study) was 7.8 and 5, respectively (minimum: 1 / maximum: 80). As can be observed in the recruitment tree, some outdoor FSWs recruited some indoor FSWs and vice versa. Thus, there might be some connections between indoor and outdoor FSWs and the two networks may overlap.

Due to extensive missing data, 3 participants were not included in the analysis. Consequently, 385 participants (206 indoor FSWs and 179 outdoor FSWs) were considered for the rest of the analysis.

**Table 2**: Socio-demographic characteristics of study participants (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **Age** | | | | <0.001[b] |
| 18-25 | 99 (25.7%) | 21 (10.2%) | 78 (43.6%) | |
| 26-30 | 97 (25.2%) | 44 (21.4%) | 53 (29.6%) | |
| 31-35 | 88 (22.9%) | 61 (29.6%) | 27 (15.1%) | |
| 36-40 | 46 (11.9%) | 32 (15.5%) | 14 (7.8%) | |
| >40 | 55 (14.3%) | 48 (23.3%) | 7 (3.9%) | |
| **Age (mean ± SD[a])** | 31.4 ± 8.0 | 34.7 ± 8.0 | 27.6 ± 6.1 | <0.001[b] |
| **Ethnic origin** | | | | 0.005[b] |
| Russian | 282 (73.2%) | 163 (79.1%) | 119 (66.5%) | |
| From former Soviet Union states | 75 (19.5%) | 28 (13.6%) | 47 (26.2%) | |
| From Sub-Saharan Africa | 22 (5.7%) | 10 (4.9%) | 12 (6.7%) | |
| Missing data | 6 (1.6%) | 5 (2.4%) | 1 (0.6%) | |
| **Primary residence** | | | | <0.001[b] |
| Moscow | 70 (18.2%) | 61 (29.6%) | 9 (5.0%) | |
| Moscow region | 100 (26.0%) | 58 (28.2%) | 42 (23.5%) | |
| Other Russian region | 120 (31.1%) | 59 (28.6%) | 61 (34.1%) | |
| Other country | 73 (19.0%) | 22 (10.7%) | 51 (28.5%) | |
| Missing data | 22 (5.7%) | 6 (2.9%) | 16 (8.9%) | |
| **Education level** | | | | <0.001[b] |
| Primary school or lower | 78 (20.3%) | 14 (6.8%) | 64 (35.7%) | |
| Secondary school | 86 (22.3%) | 33 (16.0%) | 53 (29.6%) | |
| Vocational or technical training | 121 (31.4%) | 70 (34.0%) | 51 (28.5%) | |
| University | 99 (25.7%) | 89 (43.2%) | 10 (5.6%) | |
| Missing data | 1 (0.3%) | 0 (0.0%) | 1 (0.6%) | |

a. SD: Standard Deviation b. p<0.05, meaning a significant difference

**Table 3** Sexual history and sex work activity of participants (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **Age at first sexual intercourse (year) (mean ± SD[a])** | 16.7 ± 2.1 | 17.3 ± 2.3 | 16.4 ± 1.7 | <0.001[b] |
| **Age at first transactional sexual intercourse (year) (mean ± SD[a])** | 23.9 ± 5.9 | 25.6 ± 6.6 | 21.9 ± 4.3 | <0.001[b] |
| **Number of clients in a typical week** | | | | 0.02[b] |
| ≤ 5 | 105 (27.3%) | 66 (32.0%) | 39 (21.8%) | |
| 6-10 | 184 (47.8%) | 101 (49.0%) | 83 (46.4%) | |
| >10 | 86 (22.3%) | 37 (18.0%) | 49 (27.4%) | |
| Missing data | 10 (2.6%) | 2 (1.0%) | 8 (4.5%) | |
| **Number of non-paying partners in the previous month** | | | | 0.002[b] |
| 0 | 278 (72.2%) | 136 (66.0%) | 142 (79.3%) | |
| 1 | 99 (25.7%) | 67 (32.5%) | 32 (17.9%) | |
| -2 | 6 (1.6%) | 2 (1.0%) | 4 (2.2%) | |
| Missing data | 2 (0.5%) | 1 (0.5%) | 1 (0.6%) | |

a. SD: Standard Deviation b. p<0.05, meaning a significant difference

## SOCIO-DEMOGRAPHIC CHARACTERISTICS

The socio-demographic characteristics of the participants are presented in Table 2.

Most of the participants (73.8%) were aged between 18 and 35, with a mean age of 31.4 years. Indoor FSWs were significantly older than outdoor FSWs (mean age of 34.7 vs 27.6, p<0.001). Almost three quarters of the participants were Russian (73.2%); the other participants came from former Soviet Union states (19.5%) and Sub-Saharan Africa (5.7%). Regarding primary residence (indicating access to the healthcare system, as participants registered in another region or from another country don't have free access to the public healthcare system), most of the sample was not registered in Moscow, but rather in Moscow region (26.0%), in another Russian region (31.1%) or came from another country (19.0%). The percentage of participants registered in Moscow was particularly low among outdoor FSWs (5.0%). Regarding education level, all levels of education were represented. The level of education among outdoor FSWs was significantly much lower than indoor FSWs (p<0.001).

**➜ The sample was quite young, with many of the participants coming from the region of Moscow, another Russian region (internal migrants) or another country (external migrants; mainly from former Soviet Union states or Sub-Saharan Africa). The level of education was quite diverse, with a much lower level for outdoor FSWs.**

## SEXUAL HISTORY AND SEX WORK ACTIVITY

The sexual history and sex work activity of participants are presented in Table 3.

The mean age at first sexual intercourse was 16.7 years and the mean age at first transactional sexual intercourse was 23.9 years. Indoor FSWs had their first sexual intercourse older than outdoor FSWs and they started sex work much older than outdoor FSWs (25.6 vs 21.9, p<0.001). Most of the sample (75.1%) had fewer than 10 clients a week. Outdoor FSWs had significantly more clients than indoor FSWs (p=0.02). A majority (72.2%) reported having no non-paying partners in the previous month.

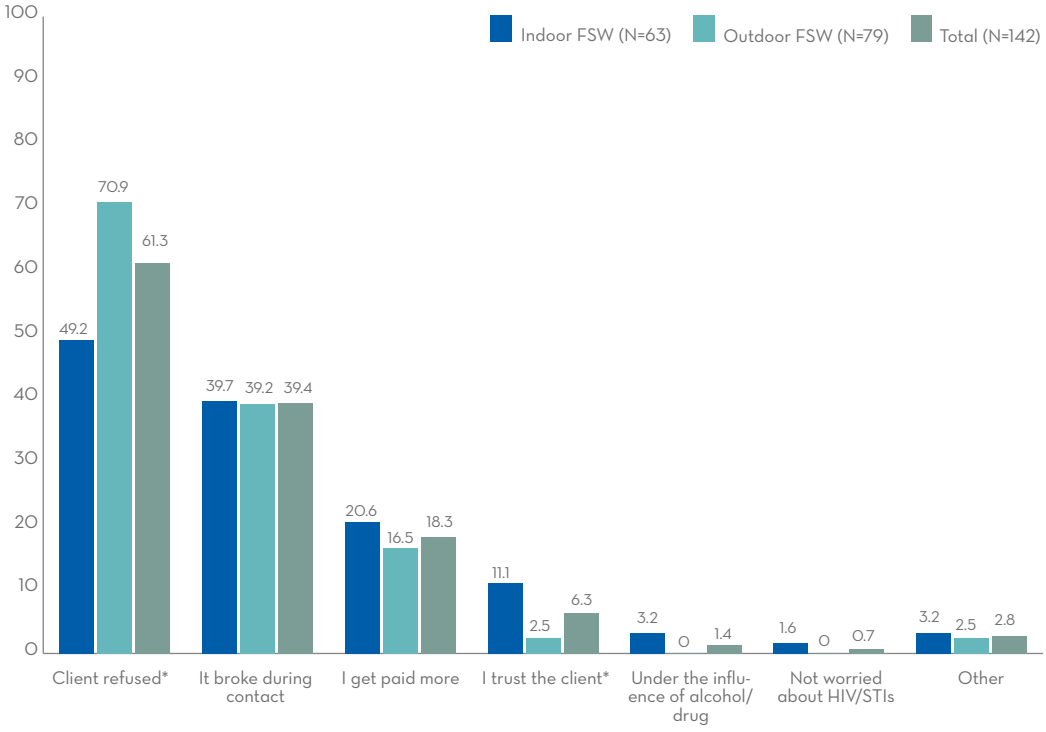
**➜ The mean age at sexual debut was 16.7 years and the mean age of sex work debut was 23.9 years, with an earlier start to sex work for outdoor FSWs. A majority of participants had fewer than 10 clients a week, and most of them reported having no non-paying partners in the last month, suggesting the absence of a regular partner for most of the participants.**

**TABLE 4** Condom access and use among participants (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **Male condom access** | | | | <0.001[a] |
| Very easy | 75 (19.5%) | 49 (23.8%) | 26 (14.5%) | |
| Somewhat easy | 187 (48.5%) | 126 (61.2%) | 61 (34.1%) | |
| Not easy | 122 (31.7%) | 31 (15.0%) | 91 (50.8%) | |
| Missing data | 1 (0.3%) | 0 (0.0%) | 1 (0.6%) | |
| **Consistent condom use with clients in the previous month** | | | | 0.008[a] |
| Yes | 243 (63.1%) | 143 (69.4%) | 100 (55.9%) | |
| No | 142 (36.9%) | 63 (30.6%) | 79 (44.1%) | |

b. p<0.05, meaning a significant difference

**FIGURE 4** Reasons for not using condoms with clients in the previous month (N=142)




This question was asked only to those who declared having used condoms inconsistently with clients in the previous month (N=142). The sum may exceed 100% as it was a multiple choice question. *: p<0.05, meaning there is a significant difference between indoor FSWs and outdoor FSWs.

## CONDOM ACCESS AND USE

Condom access and use with clients are presented in Table 4.

Almost a third of participants (31.7%) declared that it was not easy to have access to male condoms. This percentage goes up to more than 50% of participants for outdoor FSWs (vs 15.0% for indoor FSWs, p<0.001), suggesting significant difficulties in accessing male condoms when working outdoors. Regarding condom use with clients in the previous month, 36.9% of participants did not consistently use condoms with clients (see definition in the Methods section), with a significantly higher level of inconsistent condom use for outdoor FSWs (30.6% for indoor FSWs vs 44.1% for outdoor FSWs, p=0.008).

The reasons for not using condoms with clients in the previous month are presented in Figure 4.

The reasons for not using condoms were predominantly because the client refused (61.3%), because it broke during contact (39.4%) and because the participants get paid more when not using condoms (18.3%). Client refusal to use condoms was more frequent for outdoor FSWs than for indoor FSWs (70.9% vs 49.2%, p=0.03).

**➜ A meaningful number of study participants reported difficulties in accessing male condoms, and these difficulties were greater for outdoor FSWs. Inconsistent condom use with clients was quite frequent, particularly among outdoor FSWs. Refusal by clients was the most frequent reason for not using condoms, and this situation happened more frequently for outdoor FSWs than for indoor FSWs.**

## STI HISTORY

The STI history of study participants is presented in Table 5.

Half of the participants (49.9%) reported having had STI symptoms in the previous 12 months. The percentage was higher for indoor FSWs than outdoor FSWs, but the difference was not significant (p=0.06). Regarding STI diagnosis, 17.9% of participants had an STI diagnosis in the previous 12 months. STI diagnosis was significantly higher among indoor FSWs than outdoor FSWs (24.7% vs 10.1%, p<0.001). When looking at the year of last consultation with a dermato-venereologist/gynaecologist, almost 70% of participants had had a consultation in 2017 or 2018. The indoor FSWs had had a consultation more recently than outdoor FSWs, among whom less than half (47.5%) had had a consultation in 2017 or 2018 and 7.8% had never had a consultation with a dermato-venereologist. Thus, access to doctors was more complicated for outdoor FSWs than indoor FSWs, which might explain the difference in STI diagnosis. Indoor FSWs may consult doctors more frequently, thus improving health literacy and facilitating diagnosis and treatment of STIs.

**➜ Half of the participants reported having had STI symptoms in the previous 12 months and 17.9% had an STI diagnosis. More than a quarter of participants (26.7%) had either never had a consultation with a dermato-venereologist/gynaecologist or had had a consultation in 2016 or earlier. This percentage goes up to 43% for outdoor FSWs, which suggests significant difficulties for outdoor FSWs in accessing doctors.**

**Table 5** STI history of study participants (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **STI symptoms in the previous 12 months** | | | | 0.06 |
| No | 189 (49.1%) | 92 (44.7%) | 97 (54.2%) | |
| Yes | 192 (49.9%) | 113 (54.8%) | 79 (44.1%) | |
| Missing data | 4 (1.0%) | 1 (0.5%) | 3 (1.7%) | |
| **STI diagnosis in the previous 12 months** | | | | <0.001[a] |
| No | 306 (79.5%) | 154 (74.8%) | 152 (84.9%) | |
| Yes | 69 (17.9%) | 51 (24.7%) | 18 (10.1%) | |
| Missing data | 10 (2.6%) | 1 (0.5%) | 9 (5.0%) | |
| **Year of last consultation with dermato-venereologist/gynaecologist** | | | | <0.001[a] |
| 2017 or 2018 | 264 (68.6%) | 179 (86.9%) | 85 (47.5%) | |
| 2016 | 54 (14.0%) | 18 (8.7%) | 36 (20.1%) | |
| 2015 or before | 32 (8.3%) | 5 (2.4%) | 27 (15.1%) | |
| Never went | 17 (4.4%) | 3 (1.5%) | 14 (7.8%) | |
| Missing data | 18 (4.7%) | 1 (0.5%) | 17 (9.5%) | |

a. p<0.05, meaning a significant difference.

**Table 6** HIV testing history of study participants (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **Ever tested for HIV** | | | | <0.001[a] |
| No | 54 (14.0%) | 16 (7.8%) | 38 (21.2%) | |
| Yes | 330 (85.7%) | 190 (92.2%) | 140 (78.2%) | |
| Missing data | 1 (0.3%) | 0 (0.0%) | 1 (0.6%) | |
| **Date of the last HIV test (N=330)** | | | | 0.42 |
| 2017 or 2018 | 283 (85.8%) | 161 (84.7%) | 122 (87.1%) | |
| 2016 | 22 (6.7%) | 15 (7.9%) | 7 (5.0%) | |
| 2015 or before | 21 (6.4%) | 14 (7.4%) | 7 (5.0%) | |
| Missing data | 4 (1.2%) | 0 (0.0%) | 4 (2.9%) | |

a. p<0.05, meaning a significant difference

## HIV TESTING HISTORY

Several questions were asked about HIV testing (see **Table 6**).

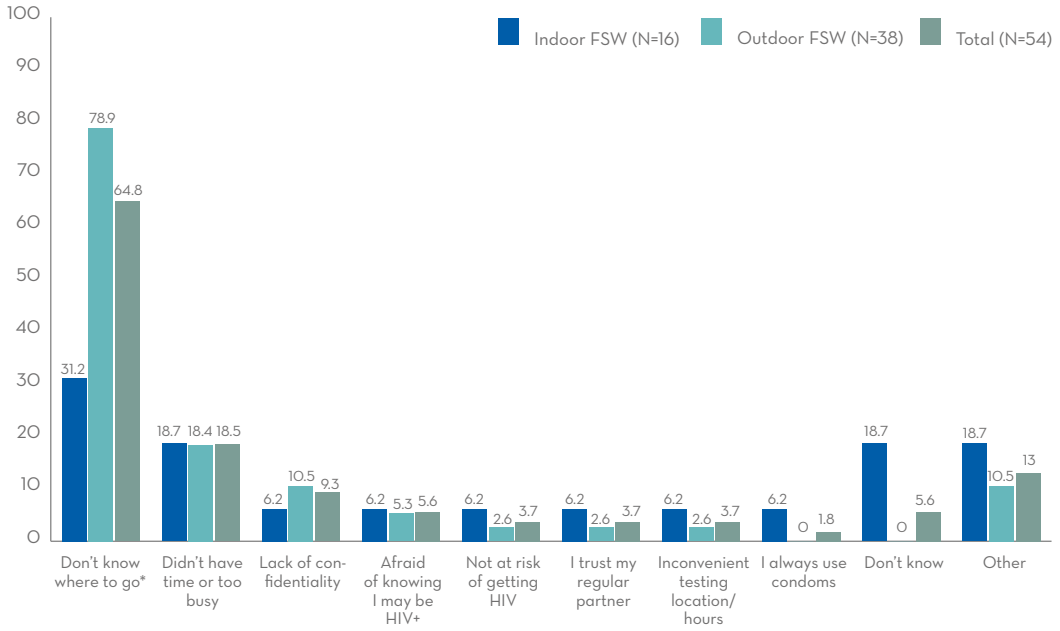
Among the participants, 14.0% had never been tested for HIV. This percentage was significantly higher for outdoor FSWs (21.2% for outdoor FSWs vs 7.8% for indoor FSWs, p<0.001), suggesting poorer access to HIV testing for outdoor FSWs. Among those who had already been tested for HIV, a great majority (85.8%) had been tested in 2017 or 2018. Thus, 283 participants out of 385 (73.5%) had done an HIV test in 2017 or 2018, and 102 participants (26.5%) had either never done an HIV test or done an HIV test in 2016 or earlier.

The reasons for not testing for those who had never done an HIV test are presented in **Figure 5**.

The main reasons for not having been tested for HIV were lack of knowledge of places where one can be tested for HIV (64.8%), lack of time (18.5%) and lack of confidentiality (9.3%). Outdoor FSWs reported significantly much more often that they didn't know where to go to get tested for HIV (78.9% vs 31.2%, p=0.001).

**➜ Almost one in 6 participants (14.0%) had never been tested for HIV, and this percentage was more than one in 5 (21.2%) for outdoor FSWs. The main reason for not getting tested was lack of knowledge of the places where one can be tested, highlighting the lack of information among some participants, in particular outdoor FSWs. Overall, 26.5% of participants had either never done an HIV test or had been tested in 2016 or earlier.**

**Figure 5** Reasons for having never done an HIV test (N=54)




The sum may exceed 100% as it was a multiple choice question. *: p<0.05, meaning there is a significant difference between indoor FSWs and outdoor FSWs.

**Figure 6** Knowledge of HIV modes of transmission of study participants (N=385)

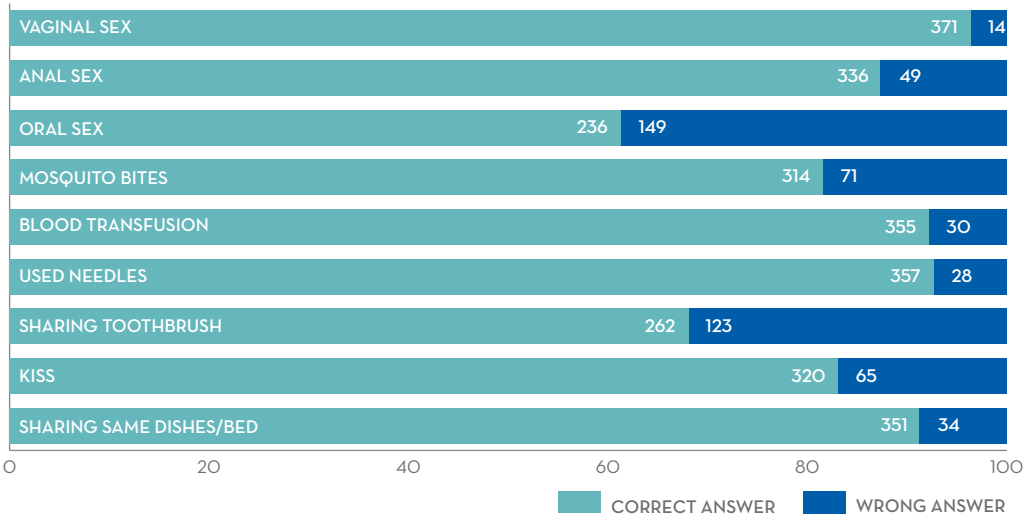



**Table 7** Score of knowledge of HIV modes of transmission of study participants (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **Score of knowledge regarding HIV modes of transmission** | | | | |
| Low (0-3) | 21 (5.4%) | 4 (1.9%) | 17 (9.5%) | <0.001[a] |
| Medium (4-6) | 110 (28.6%) | 43 (20.9%) | 67 (37.4%) | |
| High (7-9) | 254 (66.0%) | 159 (77.2%) | 95 (53.1%) | |

a. p<0.05, meaning a significant difference

**Table 8** Violence experienced by study participants in the previous 12 months (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **Physical violence because of sex work in the previous 12 months** | | | | 0.003[a] |
| No | 325 (84.4%) | 185 (89.8%) | 140 (78.2%) | |
| Yes | 53 (13.8%) | 18 (8.7%) | 35 (19.6%) | |
| Missing data | 7 (1.8%) | 3 (1.5%) | 4 (2.2%) | |
| **Unwanted sexual relationship in the previous 12 months** | | | | <0.001[a] |
| No | 270 (70.1%) | 170 (82.5%) | 100 (55.9%) | |
| Yes | 111 (28.8%) | 34 (16.5%) | 77 (43.0%) | |
| Missing data | 4 (1.0%) | 2 (1.0%) | 2 (1.1%) | |

a. p<0.05, meaning a significant difference.

## KNOWLEDGE OF HIV MODES OF TRANSMISSION

The knowledge of participants regarding HIV modes of transmission is presented in Figure 6. Potential modes of transmission were suggested to participants who had to answer if they thought it was indeed an HIV mode of transmission. Answers were categorised as right or wrong for each item.

Participants' knowledge about each item comprised between 61.3% (oral sex) and 96.4% (vaginal sex). The level of knowledge was quite high for vaginal sex (96.4%), blood transfusion (92.2%) and used needles (92.7%). It was lower for anal sex (87.3%) and oral sex (61.3%).

A score of knowledge was calculated to reflect the global knowledge of HIV modes of transmission of participants. One point was scored for each correct answer and the points were added up to obtain a score ranging between 0 and 9. Three categories were then created: low knowledge (score between 0 and 3), medium knowledge (score between 4 and 6) and high knowledge (score between 7 and 9). The results are presented in Table 7.

Most of the participants (66.0%) gave 7 or more correct answers. The level of knowledge was significantly higher among indoor FSWs than outdoor FSWs (1.9% of indoor FSWs with a low score vs 9.5% for outdoor FSWs, $p<0.001$).

**➜ The level of knowledge regarding HIV modes of transmission was quite high among participants, but was lower for specific modes of transmission, including anal sex. Given the high level of risk of HIV infection associated with unprotected anal sex, this result may raise concern and suggests the need for information activities. Outdoor FSWs had poorer knowledge than indoor FSWs.**

## PHYSICAL AND SEXUAL VIOLENCE

Two questions were asked to participants about violence they might have experienced in the previous 12 months. The results are presented in Table 8.

In total, 13.8% of participants had experienced physical violence because of sex work in the previous 12 months and 28.8% had had an unwanted sexual relationship. In total, 47 participants (12.2%) reported having experienced both forms of violence, and 117 participants (30.4%) reported either physical or sexual violence (not shown in the table). The level of violence was significantly higher for outdoor FSWs than indoor FSWs ($p=0.003$ and $p<0.001$), with almost half of the outdoor FSWs (43.0%) having experienced an unwanted sexual relationship (i.e. rape) in the previous 12 months.

**➜ The level of violence, both physical and sexual, was quite high for participants. This level was particularly high for outdoor FSWs, with almost half of them reporting having experienced an unwanted sexual relationship in the previous 12 months.**

**Table 9** Alcohol and drug taking by study participants (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **Alcohol consumption while selling sex** | | | | <0.001[d] |
| Never | 106 (27.5%) | 69 (33.5%) | 37 (20.7%) | |
| Rarely | 151 (39.2%) | 95 (46.1%) | 56 (31.3%) | |
| A few times a week | 89 (23.1%) | 35 (17.0%) | 54 (30.1%) | |
| Every day | 39 (10.1%) | 7 (3.4%) | 32 (17.9%) | |
| **To what extent do you drink alcohol? (N=279)** | | | | 0.02[d] |
| To give me courage to work | 167 (59.9%) | 82 (59.8%) | 85 (59.9%) | |
| Until dizzy | 79 (28.3%) | 46 (33.6%) | 33 (23.2%) | |
| Until drunk | 27 (9.7%) | 7 (5.1%) | 20 (14.1%) | |
| Missing data | 6 (2.1%) | 2 (1.5%) | 4 (2.8%) | |
| **Drug injection at least once in lifetime** | | | | 0.87 |
| No | 359 (93.2%) | 193 (93.7%) | 166 (92.7%) | |
| Yes | 26 (6.8%) | 13 (6.3%) | 13 (7.3%) | |
| **Drug taking in the previous 6 months (N=335)[a]** | | | | 0.43 |
| No | 301 (89.8%) | 142 (88.2%) | 159 (91.4%) | |
| Yes | 34 (10.1%) | 19 (11.8%) | 15 (8.6%) | |
| **Modality of drug consumption in the previous 6 months (N=34)[b]** | | | | |
| Snorting/sniffing | 22 (64.7%) | 12 (63.2%) | 10 (66.7%) | 1 |
| Smoking | 17 (50.0%) | 9 (47.4%) | 8 (53.3%) | 1 |
| Ingestion | 4 (11.8%) | 3 (15.8%) | 1 (6.7%) | NA[c] |
| IV injection | 2 (5.9%) | 0 (0.0%) | 2 (13.3%) | NA |

a. Due to a change in the phrasing of this question in the questionnaire, there were 50 cases of missing data for this question – these missing data being unbalanced between the two groups due to the recruitment dynamics of indoor FSWs and outdoor FSWs, they are not included here.

b. The sum may exceed 100% as it was a multiple choice question.

c. NA: Not available, because numbers were too small.

d. $p<0.05$, meaning a significant difference.

## ALCOHOL AND DRUG USE

Participants were asked about their habits in terms of alcohol and drug taking. Here, 'drug' refers to any illicit product, including cannabis. Results are presented in TABLE 9.

A third of participants (33.2%) declared regularly drinking alcohol while selling sex (either a few times a week or every day). This percentage goes up to almost half of the participants (48.0%) for outdoor FSWs (vs 20.4% for indoor FSWs, p<0.001). Among those who reported drinking while selling sex, most (59.9%) drink small quantities to give them courage to work but 9.7% declared drinking until drunk. As alcohol consumption is associated with sexual risk taking, some participants may lose their power to negotiate safe sex when drunk.[36] The level of binge drinking was higher among outdoor FSWs, with 14.7% of them reporting drinking until drunk (vs 5.1% for indoor FSWs, p=0.02). Regarding drug taking, 6.8% of the participants reported having injected during their lifetime and 10.1% reported having taken drugs in the previous 6 months. The main modalities of drug consumption were snorting/sniffing (64.7%) or smoking (50.0%). Two participants (0.5%) declared having injected in the previous 6 months (i.e. active injectors).

**➜ Alcohol consumption while selling sex was quite frequent among participants and a small percentage of them reported drinking until drunk, thus losing control and the power to negotiate safe sex and avoid risky situations. Alcohol consumption and binge drinking were more frequent among outdoor FSWs. Regarding drug taking, the sample comprised only a small fraction of people who had ever injected drugs or had taken drugs in the previous 6 months. Less than 1% of the sample were active injectors.**

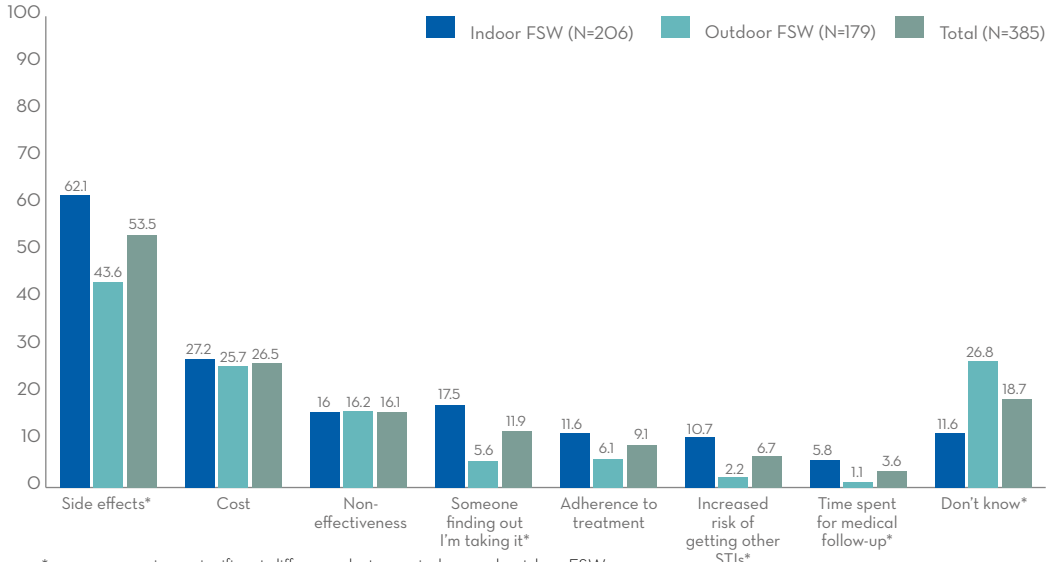
**TABLE 10** PrEP awareness and interest of study participants (N=385)

| | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
|---|---|---|---|---|
| **PrEP awareness** | | | | 0.48 |
| No | 293 (76.1%) | 155 (75.2%) | 138 (77.1%) | |
| Yes | 88 (22.9%) | 51 (24.8%) | 37 (20.7%) | |
| Missing data | 4 (1.0%) | 0 (0.0%) | 4 (2.2%) | |
| **PrEP interest** | | | | 0.01[b] |
| No, definitely or No, probably | 59 (15.3%) | 41 (19.9%) | 18 (10.1%) | |
| Maybe | 65 (16.9%) | 37 (18.0%) | 28 (15.6%) | |
| Yes, probably or Yes, definitely | 211 (54.8%) | 108 (52.4%) | 103 (57.5%) | |
| Don't know | 36 (9.4%) | 14 (6.8%) | 22 (12.3%) | |
| Missing data | 14 (3.6%) | 6 (2.9%) | 8 (4.5%) | |
| **Monthly price they would be willing to pay for PrEP (in roubles)[a]** | | | | 0.009[b] |
| 0 | 142 (36.9%) | 68 (33.0%) | 74 (41.3%) | |
| 1-1000 | 98 (25.4%) | 47 (22.8%) | 51 (28.5%) | |
| 1001-2000 | 42 (10.9%) | 32 (15.5%) | 10 (5.6%) | |
| >2000 | 50 (13.0%) | 27 (13.1%) | 23 (12.9%) | |
| Missing data | 53 (13.8%) | 32 (15.5%) | 21 (11.7%) | |
| **Anticipated condom use if PrEP taking** | | | | 0.46 |
| More frequently | 7 (1.8%) | 3 (1.5%) | 4 (2.2%) | |
| As frequently as before | 341 (88.6%) | 184 (89.3%) | 157 (87.7%) | |
| Less frequently | 6 (1.5%) | 3 (1.5%) | 3 (1.7%) | |
| Stop using condoms | 3 (0.8%) | 3 (1.5%) | 0 (0.0%) | |
| Missing data | 28 (7.3%) | 13 (6.3%) | 15 (8.4%) | |

a. At the time of writing of the report, 1,000 roubles = €13.70.

b. p<0.05, meaning a significant difference.

**FIGURE 7** Potential sources of concern regarding PrEP among study participants (N=385)




*: p<0.05, meaning a significant difference between indoor and outdoor FSWs.

## PRE-EXPOSURE PROPHYLAXIS (PREP) AWARENESS AND INTEREST

First, participants were asked one question about PrEP awareness. Then a small text explaining what PrEP is was read to the participants and additional questions were then asked about their interest in taking PrEP and how they would use this prevention tool (see **Table 10**).

One participant in 5 (22.9%) declared knowing what PrEP is before the study. More than half of the participants (54.8%) declared being interested in taking PrEP (Yes, probably or Yes, definitely). Regarding the price they would be willing to pay to get PrEP, more than a third of participants (36.9%) did not want to pay anything to get PrEP and another third would be willing to pay between 1 and 2,000 roubles (around €26-27). Indoor FSWs were ready to pay more to get PrEP than outdoor FSWs (p=0.009). Regarding anticipated condom use if taking PrEP, a great majority of participants (88.6%) responded that they would use condoms as frequently as before taking PrEP.

Potential sources of concern regarding PrEP are presented in **Figure 7**.

The main sources of concern were side effects (53.5%) and cost (26.5%). Outdoor FSWs were less concerned for all items but were more likely to answer "Don't know", which suggests that they had more trouble identifying potential sources of concern and answered the "Don't know" item instead.

**➜ More than one participant in 5 already knew what PrEP was. After a short explanation of PrEP, the level of PrEP interest was quite high, with more than half of the participants saying that they might be interested in taking PrEP. A third of participants would not want to pay anything to get PrEP, highlighting the importance of price in case of PrEP roll-out. The main potential sources of concern were side effects and cost. As illustrated by the "Don't know" item, it might have been hard for participants to give their opinion on a subject they didn't know much about, in particular for outdoor FSWs.**

**TABLE 11** Weighted HIV and other STI prevalence, as well as bacterial vaginosis prevalence (N=385)

| | | Weighted prevalence [95% CI][a] | | | |
|---|---|---|---|---|---|
| | Total number of cases | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
| **HIV**[b] | 15 | 3.1 [1.5-7.0] | 2.8 [0.8-9.0] | 3.8 [1.7-8.0] | 0.66 |
| **Syphilis (lifetime contact)** | 54 | 13.9 [9.9-19.0] | 11.6 [7.0-19.0] | 18.0 [11.6-27.0] | 0.18 |
| **Neisseria gonorrhoeae** | | | | | |
| Positive carriage | 13 | 4.1 [2.2-8.0] | 3.4 [1.2-9.0] | 5.6 [2.7-11.0] | 0.42 |
| Anal carriage | 7 | 2.4 [0.9-6.0] | 1.8 [0.3-9.0] | 3.5 [1.4-9.0] | 0.50 |
| Throat carriage | 2 | 0.4 [0.1-2.0] | 0.4 [0.0-3.0] | 0.5 [0.1-3.0] | 0.88 |
| Vaginal carriage | 6 | 1.8 [0.7-4.0] | 1.1 [0.3-5.0] | 2.9 [1.0-8.0] | 0.28 |
| **Chlamydia trachomatis** | | | | | |
| Positive carriage | 37 | 8.8 [5.9-13.0] | 4.0 [2.0-8.0] | 17.8 [11.1-27.0] | <0.001[d] |
| Anal carriage | 28 | 7.1 [4.5-11.0] | 2.5 [1.1-6.0] | 15.7 [9.3-25.0] | <0.001[d] |
| Throat carriage | 6 | 1.1 [0.4-3.0] | 0.7 [0.1-3.0] | 1.8 [0.5-6.0] | 0.32 |
| Vaginal carriage | 26 | 6.4 [3.9-10.0] | 2.7 [1.1-6.0] | 13.2 [7.4-22.0] | <0.001[d] |
| **Trichomonas vaginalis** | | | | | |
| Positive carriage | 46 | 12.7 [8.6-18.0] | 4.3 [1.6-11.0] | 28.0 [19.2-39.0] | <0.001[d] |
| Anal carriage | 25 | 5.7 [3.4-9.0] | 1.3 [0.5-3.0] | 13.8 [7.8-23.0] | <0.001[d] |
| Throat carriage | 4 | 1.6 [0.4-6.0] | NA[c] | 4.4 [1.2-15.0] | 0.04[d] |
| Vaginal carriage | 44 | 11.8 [7.8-17.0] | 4.3 [1.6-11.0] | 25.7 [17.1-37.0] | <0.001[d] |
| **Mycoplasma genitalium** | | | | | |
| Positive carriage | 54 | 14.9 [10.5-21.0] | 7.2 [3.4-15.0] | 28.9 [20.5-39.0] | <0.001[d] |
| Anal carriage | 18 | 7.4 [4.1-13.0] | 5.1 [1.8-13.0] | 11.6 [6.0-21.0] | 0.15 |
| Throat carriage | 0 | NA | NA | NA | NA |
| Vaginal carriage | 48 | 13.0 [9.0-18.0] | 7.2 [3.4-15.0] | 23.6 [16.1-33.0] | 0.002[d] |
| **Bacterial vaginosis** | 173 | 41.8 [35.5-48.0] | 37.4 [29.2-46.0] | 50.0 [40.4-60.0] | 0.06 |

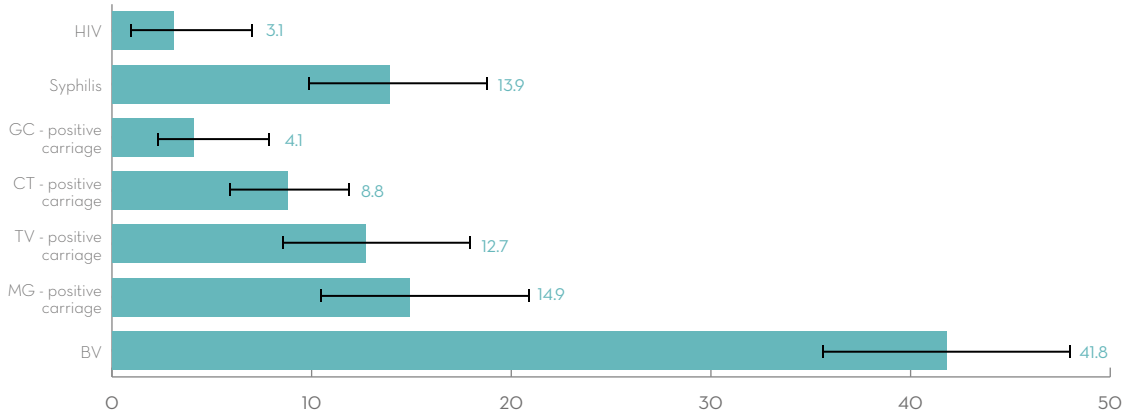
a. CI: Confidence Interval.

b. Only type 1 was diagnosed in the sample.

c. NA: Not available, because the number of cases was 0.

d. $p < 0.05$, meaning a significant difference.

**FIGURE 8** Weighted STI and BV prevalence among study participants (N=385)




GC=Neisseria gonorrhoeae; CT=Chlamydia trachomatis; TV=Trichomonas vaginalis; MG=Mycoplasma genitalium; BV=Bacterial vaginosis.

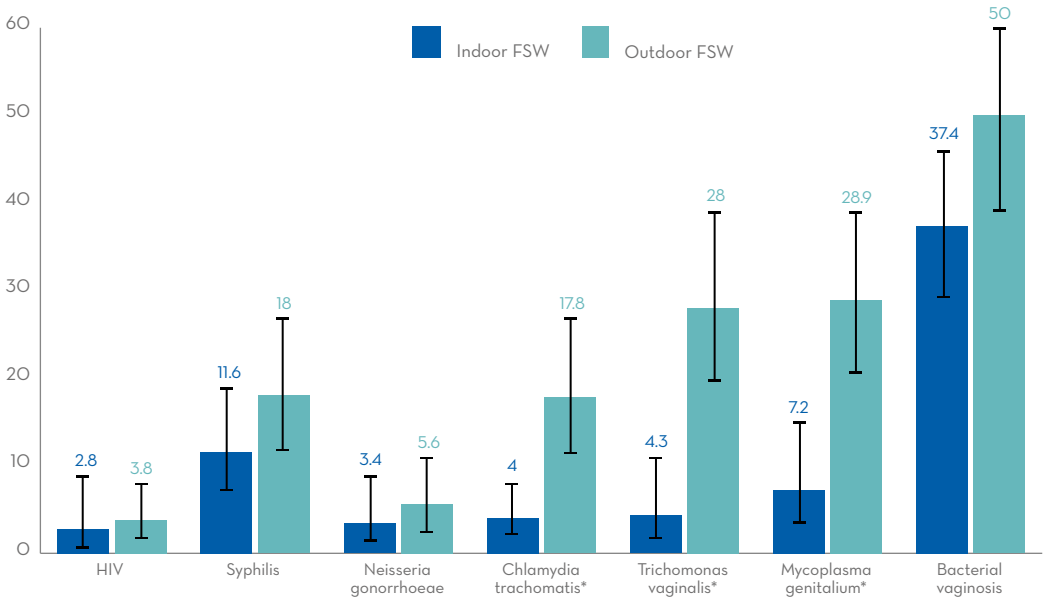
## WEIGHTED HIV AND OTHER STI PREVALENCE, AS WELL AS WEIGHTED BACTERIAL VAGINOSIS (BV) PREVALENCE

A weight was used to estimate prevalence, in order to take into account the study design. Here, a positive carriage is defined as a positive sample from anal and/or vaginal and/or throat swabs. The results are presented in **Table 11** and **Figure 8**. A table with unweighted HIV and other STI prevalence can be found in Annexe 4.

In total, 15 participants were infected with HIV, among whom 5 participants (33.3%) reported that they knew their HIV infection before the study (not shown in the table). Thus, two thirds of the HIV-infected participants said that they did not know they were infected with HIV. The weighted HIV prevalence was 3.1%. It was higher among outdoor FSWs (3.8%) than indoor FSWs (2.8%), even though the difference was not significant (p=0.66). Considering injection status, the weighted HIV prevalence was 7.2% [1.7-25.0] among participants who declared having injected drugs at least once in their lifetime and it was 2.9% [1.2-7.0] among non-injectors (p=0.23; not shown in the table). Other STI prevalence (positive carriage) were the following: 4.1% for *Neisseria gonorrhoeae*, 8.8% for *Chlamydia trachomatis*, 12.7% for *Trichomonas vaginalis*, 13.9% for syphilis (lifetime contact) and 14.9% for *Mycoplasma genitalium*. The prevalence of bacterial vaginosis was 41.8%.

The HIV and other STI prevalence (positive carriage), as well as BV prevalence, for indoor and outdoor FSWs are presented in **Figure 9**.

**Figure 9** Weighted HIV and other STI prevalence, as well as bacterial vaginosis prevalence, for indoor FSWs and outdoor FSWs (N=385)




*: p<0.05, meaning a significant difference between indoor and outdoor SWs.

**Table 12** Weighted STI index prevalence among study participants (N=385)

| | | Weighted prevalence [95% CI][a] | | | |
|---|---|---|---|---|---|
| | Total number of cases | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
| **At least one STI** | 157 | 43.2 [36.6-50.0] | 30.6 [22.7-40.0] | 66.3 [57.5-74.0] | <0.001[b] |
| **Total number of STIs** | | | | | <0.001[b] |
| 0 | 227 | 56.8 [50.0-63.0] | 69.4 [60.1-77.0] | 33.7 [25.8-43.0] | |
| 1 | 104 | 31.2 [25.1-38.0] | 27.9 [20.1-37.0] | 37.3 [28.2-47.0] | |
| 2 | 45 | 9.6 [6.7-14.0] | 2.7 [1.3-6.0] | 22.3 [15.1-32.0] | |
| -3 | 8 | 2.4 [0.9-6.0] | 0.0 | 6.7 [2.6-16.0] | |

a. CI: Confidence Interval

b. p<0.05, meaning a significant difference.

**Table 13** Factors associated with being an outdoor FSW – results of the multivariate analysis

| | OR[a] | 95% Confidence Interval | p-value |
|---|---|---|---|
| **Age** | | | |
| ≤ 25 | 4.46 | 1.64-12.13 | 0.004[b] |
| 26-30 | 1 (ref) | | |
| 31-35 | 0.70 | 0.29-1.69 | 0.43 |
| 36-40 | 0.71 | 0.24-2.12 | 0.54 |
| > 40 | 0.24 | 0.07-0.80 | 0.02[b] |
| **Education level** | | | |
| Primary school or less | 23.75 | 7.28-77.46 | <0.001[b] |
| Secondary school | 5.29 | 1.63-17.16 | 0.006[b] |
| Vocational or technical training | 3.05 | 1.11-8.36 | 0.03[b] |
| University | 1 (ref) | | |
| **Unwanted sexual relationship in the previous 12 months** | | | |
| No | 1 (ref) | | |
| Yes | 2.37 | 1.10-5.11 | 0.03[b] |
| **Alcohol while selling sex** | | | |
| Never | 1 (ref) | | |
| Rarely | 1.79 | 0.73-4.39 | 0.20 |
| A few times a week | 5.06 | 2.01-12.70 | <0.001[b] |
| Every day | 8.28 | 1.39-49.24 | 0.02[b] |
| **Diagnosis of at least one STI infection in the previous 12 months** | | | |
| No | 1 (ref) | | |
| Yes | 0.15 | 0.06-0.35 | <0.001[b] |
| **Having at least one STI infection at the time of the study** | | | |
| No | 1 (ref) | | |
| Yes | 3.54 | 1.73-7.22 | <0.001[b] |

a. OR: Odds Ratio

b. p<0.05, meaning a significant difference

For all the STIs sampled in this study, as well as for BV, positive carriage prevalence was higher for outdoor FSWs than indoor FSWs. Among indoor FSWs, prevalence ranged between 2.8% (HIV) and 11.6% (syphilis – lifetime contact). Among outdoor FSWs, the lowest prevalence was 3.8% (HIV) and the highest was 28.9% (*Mycoplasma genitalium*). Prevalence was significantly higher among outdoor FSWs for *Chlamydia trachomatis*, *Trichomonas vaginalis* and *Mycoplasma genitalium*.

The number of participants with at least one STI (including HIV — excluding BV) as well as the number of STIs per participant are presented in **Table 12**. The results were weighted to take into account the study design. Unweighted prevalence can be found in Annexe 4.

Weighted STI prevalence among study participants was 43.2%. It was significantly much higher among outdoor FSWs than indoor FSWs, with a prevalence twice as high among outdoor FSWs (66.3% vs 30.6%, p<0.001). When looking at the number of STIs, more than 1 participant in 10 (12.0%) had 2 STIs or more at the time of the study. The number of STIs was significantly higher among outdoor FSWs, of whom 29.0% had 2 or more STIs at the time of the study (vs 2.7% among indoor FSWs).

**➜ The level of HIV and other STIs was high, with a prevalence of HIV of 3.1%, and the prevalence of other STIs comprised between 4.1% and 14.9%. Only one third of HIV-infected participants reported knowing their HIV infection. Almost half of the participants (43.2%) had at least one STI at the time of the study. Outdoor FSWs were much more infected with STIs, with prevalence ranging up to 28.9% and 66.3% of them having at least one STI infection at the time of the study.**

## RESULTS OF THE MULTIVARIATE ANALYSIS

Four multivariate analyses were conducted to understand the factors associated with several variables of interest. Only significant variables of the final models are presented here. All models were weighted to take into account study design.

### FACTORS ASSOCIATED WITH BEING AN OUTDOOR FSW

As described above, outdoor FSWs have a different profile and work in a more hostile environment. Thus, a multivariate analysis was conducted to understand the factors independently and significantly associated with being an outdoor FSW. Results are presented in **Table 13**.

Thus, factors significantly associated with being an outdoor FSW were the following:

- age: being less than 25 years old was associated with a probability of being an outdoor FSW multiplied by more than 4 compared to participants between 26 and 30. Similarly, being aged over 40 was associated with a reduction in the probability of being an outdoor FSW of 76% (1-0,24);
- education level: having completed primary school, secondary school or vocational training was associated with a probability of being an outdoor FSW multiplied by more than 23, more than 5 and 3, respectively, compared to participants who went to university;
- sexual violence: having experienced an unwanted sexual relationship in the previous 12 months was associated with a probability of being an outdoor FSW of more than 2;
- alcohol consumption: consuming alcohol while selling sex either a few times a week or every day was associated with a probability of being an outdoor FSW multiplied by 5 and more than 8, respectively;

**Table 14** Factors associated with having at least one STI infection (including HIV – excluding BV) at the time of the study – results of the multivariate analysis

| | OR[a] | 95% Confidence Interval | p-value |
|---|---|---|---|
| **Type of FSW** | | | |
| Indoor | 1 (ref) | | |
| Outdoor | 3.29 | 1.72-6.27 | <0.001* |
| **Primary residence** | | | |
| Moscow | 1 (ref) | | |
| Moscow Region | 1.65 | 0.63-4.31 | 0.31 |
| Other part of Russian Federation | 2.61 | 1.05-6.48 | 0.04* |
| Other country | 2.14 | 0.69-6.64 | 0.19 |
| **Ever been tested for HIV** | | | |
| Yes | 1 (ref) | | |
| No | 2.51 | 0.98-6.41 | 0.05* |
| **Knowledge of HIV modes of transmission** | | | |
| Low (0-3) | 4.88 | 0.96-24.78 | 0.06 [b] |
| Medium (4-6) | 0.98 | 0.51-1.90 | 0.96 |
| High (7-9) | 1 (ref) | | |

a. OR: Odds Ratio. b. marginally significant. c. p<0.05, meaning a significant difference

**Table 15**: Factors associated with having experienced physical violence because of sex work in the previous 12 months – results of the multivariate analysis

| | OR[a] | 95% Confidence Interval | p-value |
|---|---|---|---|
| **Type of FSW** | | | |
| Indoor | 1 (ref) | | |
| Outdoor | 2.28 | 1.01-5.17 | 0.05[b] |
| **Consistent condom use with clients in the previous month** | | | |
| Yes | 1 (ref) | | |
| No | 3.71 | 1.65-8.38 | 0.002[b] |
| **Drug use in the previous 6 months** | | | |
| No | 1 (ref) | | |
| Yes | 3.34 | 1.14-9.79 | 0.03[b] |

a. OR: Odds Ratio b. p<0.05, meaning a significant difference

- STI diagnosis: having been diagnosed with an STI infection in the previous 12 months was associated with a reduction in the probability of being an outdoor FSW of 85% (1-0.15); thus, being an outdoor FSW was associated with a lower probability of having been diagnosed an STI infection in the previous 12 months;
- STI infection: having at least one STI infection at the time of the study was associated with a probability of being an outdoor FSW multiplied by more than 3.5.

**➜ Consequently, outdoor FSWs were younger than indoor FSWs, had a lower education level, had a higher risk of experiencing sexual violence and had a higher probability of regularly consuming alcohol while selling sex. Regarding STIs, outdoor FSWs had a lower probability of having been diagnosed with an STI infection in the previous 12 months but had a higher probability of being infected with at least one STI at the time of the study, highlighting the gap between the needs of outdoor FSWs regarding healthcare access and effective access to doctors.**

### FACTORS ASSOCIATED WITH HAVING AT LEAST ONE STI INFECTION

As the number of HIV cases was too small to conduct a multivariate analysis, we did a multivariate analysis to identify factors independently and significantly associated with having at least one STI infection (including HIV – excluding BV) at the time of the study. Results are presented in Table 14.

Factors significantly associated with having at least one STI infection were the following:

- type of FSW: outdoor FSWs had a risk of being infected with at least one STI infection multiplied by more than 3 compared to indoor FSWs;
- primary residence: internal migrants (participants from other Russian regions) had a risk of being infected with at least one STI infection multiplied by 2.6 compared to participants registered in Moscow; external migrants (participants from other countries) had a risk multiplied by 2.1 but it was not significant (probably due to a lack of power because of the low number of participants in this category);
- HIV test: participants who reported having never been tested for HIV had a risk of being infected with at least one STI infection multiplied by 2.5 compared to participants who had already done an HIV test;
- knowledge of HIV modes of transmission: compared to participants with a high level of knowledge, participants with a low level of knowledge of HIV modes of transmission had a risk of being infected with at least one STI infection multiplied by almost 5 (marginally significant).

**➜ Thus, factors associated with having at least one STI infection at the time of the study were being an outdoor FSW, being registered for healthcare access in another Russian region, having never been tested for HIV and having poor knowledge of HIV modes of transmission. This analysis highlights the vulnerability of outdoor FSWs to STIs, as well as the importance of the Russian registration system in healthcare access. It also suggests that access to HIV testing is an entry point into sexual health and STI diagnosis and treatment.**

### FACTORS ASSOCIATED WITH HAVING EXPERIENCED PHYSICAL VIOLENCE BECAUSE OF SEX WORK IN THE PREVIOUS 12 MONTHS

As the level of violence was rather high among participants of the study, we were first interested in identifying independent and significant factors associated with having experienced physical violence in the previous 12 months. The final model is presented in Table 15.

**Table 16** Factors associated with having experienced an unwanted sexual relationship in the previous 12 months – results of the multivariate analysis

| | OR[a] | 95% Confidence Interval | p-value |
|---|---|---|---|
| **Type of FSW** | | | |
| Indoor | 1 (ref) | | |
| Outdoor | 2.32 | 1.09-4.91 | 0.02[b] |
| **Consistent condom use with clients in the previous month** | | | |
| Yes | 1 (ref) | | |
| No | 2.71 | 1.27-5.76 | 0.01[b] |
| **Number of clients in a typical week** | | | |
| ≤ 5 | 1 (ref) | | |
| 6-10 | 1.66 | 0.59-4.68 | 0.33 |
| > 10 | 3.47 | 1.20-10.03 | 0.02[b] |
| **Having experienced physical violence in the last 12 months** | | | |
| No | 1 (ref) | | |
| Yes | 35.91 | 13.40-96.23 | <0.001[b] |
| **Age at first transactional sexual relationship** | | | |
| ≤ 25 | 2.37 | 1.06-5.33 | 0.04[b] |
| > 25 | 1 (ref) | | |

a. OR: Odds Ratio.

b. p<0.05, meaning a significant difference.

The following factors were significantly and independently associated with having experienced physical violence because of sex work in the previous 12 months:

- type of FSW: outdoor FSWs had a probability multiplied by 2.3 compared to indoor FSWs of having experienced physical violence;
- condom use: having used condoms inconsistently with clients in the previous month was associated with a risk of having experienced physical violence multiplied by almost 4;
- drug use: having taken drugs in the previous 6 months was associated with a risk of having experienced physical violence multiplied by more than 3.

**➜ Therefore, factors associated with physical violence were working outdoors, having used condoms with clients inconsistently in the previous month and having taken drugs in the previous 6 months. This analysis highlights the vulnerability of outdoor FSWs and of FSWs who use drugs, and the relationship with inconsistent condom use with clients.**

### FACTORS ASSOCIATED WITH HAVING EXPERIENCED AN UNWANTED SEXUAL RELATIONSHIP IN THE PREVIOUS 12 MONTHS

To complement the analysis on physical violence, we identified independent and significant factors associated with having experienced an unwanted sexual relationship in the previous 12 months. The results are presented in **Table 16**.

Factors independently and significantly associated with sexual violence were the following:

- type of FSW: compared to indoor FSWs, outdoor FSWs had a probability of having experienced sexual violence multiplied by 2.3;
- condom use: having used condoms inconsistently with clients in the previous month was associated with a probability of having experienced sexual violence in the previous 12 months multiplied by 2.7;
- weekly number of clients: having reported more than 10 clients in a typical week was associated with a probability of having experienced sexual violence multiplied by almost 3.5;
- physical violence: having experienced physical violence because of sex work in the previous 12 months was associated with a probability of having experienced sexual violence multiplied by almost 36;
- sex work debut: having started sex work before the age of 25 was associated with a probability of having experienced sexual violence multiplied by 2.4.

**➜ Having experienced sexual violence in the previous 12 months was thus associated with working outdoors, having used condoms with clients inconsistently in the previous month, having more than 10 clients in a typical week, having experienced physical violence in the previous 12 months and having started sex work before the age of 25. This analysis highlights once again the vulnerability of outdoor FSWs, the link between physical and sexual violence, the link with the workload of FSWs and the vulnerability of FSWs starting sex work when they are young, as well as the link with inconsistent condom use with clients.**

# DISCUSSION

In this survey among FSWs in Moscow city and Moscow region, using the methodology of respondent-driven sampling, we recruited 385 FSWs and identified two groups of participants (indoor FSWs and outdoor FSWs) with a different profile and working in different conditions. Overall weighted HIV prevalence was 3.1%. It was 2.8% among indoor FSWs and 3.8% among outdoor FSWs, suggesting that HIV prevalence may be higher among outdoor FSWs, although the difference was not significant. Other weighted STI positive carriage prevalence was high, ranging between 4.1% and 14.9%. Weighted BV prevalence was 41.8%. In total, 43.2% of the participants had at least one STI infection (including HIV – excluding BV). STI prevalence was significantly higher among outdoor FSWs than indoor FSWs for three STIs.

Multivariate analyses showed a higher vulnerability of outdoor FSWs to violence and at-risk behaviours (like alcohol use while selling sex or inconsistent condom use with clients) and lower access to healthcare, despite high needs. We also studied factors associated with physical and sexual violence and showed how violence may be linked with working conditions and may constitute a structural determinant associated with sexual risk-taking (i.e. inconsistent condom use).

Data on HIV and other STIs among FSWs in Russia is quite scarce and comes from studies using various methodologies and samples. We only found one other study estimating HIV/STI prevalence among FSWs in Russia with such a large sample and using a robust methodology such as RDS.[19] Amongst our 18 seeds, 15 (83.3%) recruited at least 1 participant and 4 recruited more than 50 participants. The maximum number of waves was 20, which suggests that the recruitment was rather successful in reaching deep into networks of FSWs. Consequently, despite all the constraints imposed by the RDS methodology, the recruitment was successful in reaching the target population.

However, as stated above, we had some difficulties in implementing the RDS methodology. Firstly, outdoor FSWs did not want to spend time coming to the DIC, as it was located a long way away for them and they did not consider it to be of sufficient interest to spend so much time travelling back and forth. Thus, we had to go to the places where they worked with a mobile site to be able to recruit them.

Secondly, there were constraints due to the nature of sex work. To work in tochkas, we needed an agreement with pimps, which limited the number of tochkas we could work with and which may have biased the recruitment towards tochkas with pimps who were more "health-friendly" or "research-friendly".

Thirdly, FSWs in Moscow are rather isolated and do not have a strong social network as other at-risk groups like men having sex with other men or people who inject drugs. Finally, police controls were frequent and impeded the recruitment of outdoor FSWs for many weeks during the study, because of the fear on the part of pimps that our presence may suggest the presence of FSWs and the fear from clients of being identified, as well as the mobility of tochkas because of police action.

These difficulties had already been identified in the literature, among studies aiming at recruiting FSWs using RDS methodology in Eastern Europe,[37,38] thus raising the numerous challenges faced when using such a methodology for this population in this context. However, despite all the difficulties, we managed to recruit almost 400 participants and to produce crucial data on HIV and other STIs among this under-studied population in Russia.

The profile of participants in our study was rather different from other studies among FSWs in Russia, in particular regarding the level of drug injection. In our sample, 6.8% reported having ever injected drugs. The level of drug injection was usually higher in other studies. For example, in one study, 99% of the 139 FSWs recruited in

St Petersburg reported current injection drug use.[39] In another study, among the 896 FSWs recruited in St Petersburg and Orenburg, 48% declared drug injection the day before the study.[12] According to local experts, drug injection may be lower in Moscow compared to the rest of the country. However, in a study in Moscow, 17.7% of the 147 FSWs reported having injected drugs.[23] Thus, the level of drug injection was particularly low in our sample. FSWs who inject drugs might be more isolated and be involved in other networks from FSWs who do not inject drugs and we might have had difficulties in reaching them. In any case, this is a major point to take into account and to put the results into perspective.

HIV prevalence was 3.1% overall in our sample. It is thus more than 3 times the prevalence among women in the general population (15-49 years) in Russia (0.9%).[2] In the literature, HIV prevalence among FSWs in Russia ranged between 1.6% in Tomsk and 65% in Kaliningrad,[18,19,23] with studies conducted at different times and using various methodologies. As discussed above, the percentage of participants who inject drugs must be considered to interpret HIV prevalence, as the epidemic in Russia used to be mostly driven by drug injection.[40] In most studies, this percentage was very high. In the study by Decker *et al.* in Tomsk, Krasnoyarsk and Kazan, Wirtz conducted a new analysis of data by injecting drug status and showed that HIV prevalence was 16.1% among active injectors, 8.5% among former injectors and 1.5% among non-injectors.[41] In the study by Decker *et al.* in Moscow, they estimated the HIV prevalence at 4.8% overall but it was 3.3% among non-injectors.[23] In our study, the overall HIV prevalence was 3.1%, but it was 7.2% among participants who had ever injected drugs in their lifetime and 2.9% among non-injectors. Our results are thus quite similar to those of Wirtz and Decker.

In a systematic review, it was estimated that HIV prevalence among FSWs who do not inject drugs in Europe (including Russia) was below 1%.[42] Thus, consistently with what is described in the literature, these elements suggest that sexually-driven infections are rising in Russia.[40,43] A prevalence of around 3% among non-injecting FSWs in Moscow suggests that the HIV epidemic has now moved from drug users to other non-drug-using at-risk groups, probably via sexual partners of drug users and male clients of FSWs.[44] Thus, with a prevalence of 3% among non-drug-using FSWs, if no action is undertaken in public policies, the HIV epidemic may reach the general population, via male clients of FSWs. This is all the more likely considering the high level of STI prevalence, indicating a high level of sexual risk-taking. In a study by Girchenko *et al.*, out of 3,565 Russian men, 23.9% had purchased sexual services,[45] showing the potential for bridging to the general population.

Regarding the prevalence of other STIs, data are even more scarce among FSWs in Russia, despite the importance in terms of public health and the increase in HIV transmission risk. A study among FSWs in Moscow estimated the prevalence of several STIs: 6.8% for vaginal gonorrhoea, 15.0% for vaginal chlamydia and 11.6% for active syphilis infection.[23] Compared to these results, the prevalence of STIs was lower in our sample. This may be due to differences in the profile of participants and sexual risk-taking. For example, more than 57% of their sample worked outdoors vs 46.5% in our sample. When considering STI prevalence among the general female population overall and in Russia, estimations were the following: between 0.2% and 1.1% for syphilis, between 0.5% and 2.2% for *Neisseria gonorrhoeae*, between 3% and 6.6% for *Chlamydia trachomatis*, between 0.8% and 1.7% for *Trichomonas vaginalis* and between 1% and 3.3% for *Mycoplasma genitalium*.[46–56] Prevalence of STIs among FSWs in our study is thus much higher than in the general population globally and in Russia.

Regarding the sites of infections, our results show that sampling at different locations other than the vagina (throat and anus) may be of significance, as the level of infections in these locations is not negligible. Indeed, prevalence was even

higher in anus than in vagina for *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. We could have estimated the prevalence of other STIs, like herpes simplex virus infections, which are particularly significant in terms of increased HIV risk and for which there is absolutely no data among Russian FSWs. Additional studies should be conducted to increase knowledge on this topic. In any case, these results show that the level of STIs among Russian FSWs is very high. Thus, many of the participants in our study should have had access to a doctor, an STI diagnosis and an STI treatment. Only 17.9% of the participants had had an STI diagnosis in the previous 12 months, whereas 43.2% had an STI infection at the time of the study. This illustrates the gap between healthcare access and needs for this population. It is thus crucial to better diagnose and treat STIs among FSWs in Russia.

Regarding levels of violence, we saw that both physical and sexual violence levels were high. Unfortunately, we did not have information about the perpetrators of the violence and the context in which it occurred. A systematic review estimated the prevalence of workplace violence for sex workers to be between 32% and 55% in the past year.[57] In our study, 30.4% of participants reported either physical or sexual violence in the past year, but our indicator was more specific than in the study previously cited, so the level of violence is probably rather similar to that estimated in this review. In the study by Decker *et al.* in Moscow, the level of violence was also very high and was perpetrated by clients, pimps or police forces.[23] As in our study, violence was described in the literature as being associated with inconsistent condom use with clients.[4] A modelling study estimated that eliminating sexual violence against female sex workers could avert 17% of HIV infections in Kenya and 20% in Canada through its immediate and sustained effect on non-condom use.[4] Globally, and Russia is no exception, in countries where selling sex is illegal, policing practices put sex workers at risk of HIV infection.[12,23,58] It is now well known that criminalisation of some or all aspects of sex work elevates HIV transmission risks and fuels violence against sex workers. [4,59,60]

In this study, we saw that indoor and outdoor FSWs were rather different, in terms of working conditions, vulnerability to at-risk behaviours and violence, as well as healthcare access and STI prevalence. Indeed, outdoor FSWs were more likely to engage in at-risk behaviours, like alcohol while selling sex and inconsistent condom use with clients. They also reported higher levels of violence, both physical and sexual. Finally, they had a much higher level of STI infection (which increases the risk of HIV infection), with more than 60% of them being infected with at least one STI at the time of the study. Thus, considering all these elements, it would seem logical that HIV prevalence is higher among outdoor FSWs. In our results, there was a tendency in this direction, with a prevalence of 2.8% among indoor FSWs vs 3.8% among outdoor FSWs, but the difference was not significant. Our hypothesis is that HIV prevalence is higher among outdoor FSWs, but we lacked the power to show it.

With regard to the categorisation of participants as indoor or outdoor, we used two pieces of information to categorise them, i.e. the location of the recruitment and the places where they meet their clients. It was the best combination of information we found. We are aware that there may have been a few misclassifications. There is some level of continuum between the categories and some FSWs may be both indoor and outdoor, as they may work sometimes in salons and sometimes in tochkas. However, the percentage of misclassifications is likely to be very low and the impact on the results is probably meaningless.

Regarding the findings about the greater vulnerability of outdoor FSWs, these results are consistent with what can be found in the literature. Indeed, several studies described greater vulnerability,[60] higher levels of violence[60,61] and higher levels of inconsistent condom use[62] among street-based FSWs compared to off-street FSWs. Moreover, consistent with our hypothesis of a

higher HIV prevalence among outdoor FSWs, several studies showed a higher HIV prevalence among street-based FSWs.[63–67]

With respect to pre-exposure prophylaxis, 22.9% of the participants had already heard about PrEP before the study. This result is quite similar to that obtained among female street-based sex workers in the USA, where PrEP was authorised in 2012.[68] Thus, even though PrEP is not available in Russia, the level of awareness is not so low. Regarding the level of interest of participants, more than half of the participants (54.8%) declared they would be interested in taking PrEP, but the explanation provided in the questionnaire was quite short and participants may not have had the time to understand the full implications of PrEP taking, so the results must be considered very cautiously. PrEP is an intervention recommended for anyone at substantial risk of HIV infection, including FSWs.[28] But it must be offered in a package with other prevention interventions, including condom access, HIV and other STI testing and treatment, and post-exposure prophylaxis. These interventions are not implemented on a global scale for FSWs in Russia, so it might be too early to consider PrEP roll-out for FSWs in Russia.

## LIMITATIONS

Several limitations may be identified for this study.

Firstly, as discussed beforehand, because of a number of constraints we faced in implementing the RDS (e.g. mobile site to access several tochkas, agreement with the pimps); the potential for generalising our findings to the FSW population of Moscow may be limited.

Secondly, as the study was cross-sectional, there were limitations in determining causal inference. Thus, we could only study factors associated with our variables of interest, but without being able to determine causal relationships between variables.

Thirdly, as the data were self-reported, there may have been inaccuracies due to a number of potential biases (e.g. desirability bias, recall bias, intentional distortions or non-candid responses). As the interviewers were implementing an HIV prevention project, answers related to condom use or drug taking for example might have been biased.

Fourthly, because of the low number of HIV cases, we had limited statistical power to study factors associated with HIV infection and to show differences between indoor and outdoor FSWs.

# CONCLUSION AND RECOMMENDATIONS

This survey produced crucial data on HIV and other STIs among FSWs in Moscow city and Moscow region. Using a robust methodology (i.e. RDS), we recruited 385 participants. Two groups of FSWs (indoor/outdoor) were identified, outdoor FSWs being more likely to engage in at-risk behaviours and being more vulnerable to violence. HIV and STI prevalence were high among the sample: HIV prevalence was 3.1% (that is to say more than three times that among women in the general population in Russia) and other STI prevalence was between 4.1% and 14.9%. STI prevalence was higher among outdoor FSWs, with more than 60% of the participants having at least one STI at the time of the study. Despite high needs, healthcare access was limited, in particular for outdoor FSWs. Finally, violence was frequent, both physical and sexual.

Consequently, based on these findings and in line with some recommendations issued by the Ministry of Health in Russia, the following recommendations are formulated for stakeholders.

### FOR ALL ACTORS INVOLVED

- Fight against any form of stigmatisation and discrimination practised against sex workers;
- Meaningfully involve sex workers and their organisations in the development, implementation and evaluation of programmes and policies affecting them.

### FOR NGOS

Promote and implement programmes for access to sexual healthcare and rights adapted to the needs of sex workers, including:

- provision of relevant information and empowerment activities on HIV diversified prevention package;
- distribution of means of protection against HIV and other STIs;

- provision of HIV and other STI testing;
- provision of relevant information on where to be tested for HIV and other STIs;
- provision of individualised support to get access to care and treatment in case of a positive test result for HIV or another STI;
- provision of relevant information on their rights and individualised support in case of violence.

A specific focus should be given to outdoor FSWs, with dedicated and adapted services, including outreach services involving FSWs or ex-FSWs.

A comprehensive approach including sexual and reproductive health services (e.g. family planning) would be of major interest to sex workers.

### FOR RESEARCHERS

Promote and implement research projects regarding sexual health and a diversified prevention package among sex workers in Russia, including:

- studies aimed at estimating HIV and other STI prevalence among sex workers;
- studies aimed at describing the use of various available means of protection against HIV and other STIs among sex workers in Russia;
- studies aimed at estimating sex workers' interest in taking PrEP and potential barriers;
- studies aimed at describing violence against sex workers and the consequences on physical and mental health;
- studies aimed at describing the application of sex workers' rights and their access to justice.

The particular vulnerability of outdoor sex workers should be taken into account when designing such studies.

### FOR HEALTHCARE PROVIDERS

Provide quality and inclusive sexual healthcare services to any sex worker, regardless of their activity and situation, including the provision of anal and throat testing for some STIs. Specific attention should be paid to outdoor sex workers, considering their higher healthcare needs.

### FOR POLICY MAKERS

- Fund programmes for access to sexual healthcare and rights adapted to the needs of sex workers recognized as a key-population by the Ministry of Health;
- Put in place public policies to increase the availability of affordable and inclusive sexual health services for sex workers within mainstream services, regardless of their activity and situation;
- Combat all forms of violence, regardless of who the perpetrators and the victims are;
- Guarantee the protection, rights and access to care for all sex workers, regardless of their activity and situation.

A specific focus should be given to outdoor sex workers, considering their higher needs in terms of healthcare access and their greater vulnerability to violence.

### FOR DONORS

- Fund comprehensive health programmes (not just limited to HIV) adapted to the needs of sex workers and focused on the needs identified by the sex workers themselves;
- Fund health programmes implemented with a community approach, recognising the operational skills and expertise developed by sex workers and their organisations.

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# APPENDICES

## ANNEXE 1

## QUESTIONNAIRE

| The SWHIP-M study - a questionnaire for female sex workers 10/24/2017 | | | |
|---|---|---|---|
| **#** | **Question /** Вопрос | **Response set /** Выбор ответов | **Instructions to interviewer /** Инструкции для интервьюера |
| | DATE & TIME / ДАТА & ВРЕМЯ | | |
| | INTERVIEWER NAME OR INITIALS /ИМЯ ИЛИ ИНИЦИАЛЫ ИНТЕРВЬЮЕРА | | |
| | STUDY CODE / КОД ИССЛЕДОВАНИЯ | | |
| INTERVIEWER SAY: Hello. My name is [___] and I work with Shagi. As you know, we are going to spend about 30 minutes together during which time I will ask you some questions about yourself. Some of the questions are personal and you can choose not to respond to any question that you do not want to. However, we appreciate your sincere responses as they will help us design prevention programs and improve existing HIV/AIDS services. Everything you answer today will be just between you and me and no one else will know that you have given these responses. When we have finished asking questions of everyone, all of the responses will be put together for a final report and no one will know how any specific person responded to any question. Do you have any questions you want to ask me now? We very much appreciate your participation in this survey. THANK YOU<br><br>Здравствуйте. Меня зовут [_____]. Я работаю в Фонде «Шаги». Мы проведем вместе около 30 минут, в течение которых я задам вам несколько вопросов. Некоторые из них являются личными, и вы можете решить не отвечать на любой из них. Однако мы надеемся на ваше открытость поскольку ваши ответы помогут нам разработать и улучшить профилактические программы по ВИЧ/СПИДу. Ваши ответы останутся только между вами и мной, и никто не узнает, как вы сегодня ответили. Когда мы заполним все анкеты с другими участниками, все ответы будут собраны вместе для окончательного отчета, и никто не сможет узнать как ответил каждый отдельный участник на той или иной вопрос. Есть ли у вас вопросы? Мы очень ценим ваше участие в этом исследованием. СПАСИБО | | |

| | Section 1: Background information<br>Раздел 1: Общая информация | | |
|---|---|---|---|
| 101 | What is your age ?<br>Сколько Вам лет? | [__|__] | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 102 | What is your citizenship?<br>Какое у Вас гражданство? | 1. Russian Federation / Российская Федерация | |
| | | 2. Former soviet union state (except Russia): list of former soviet union states / Бывший СССР (кроме РФ): список бывших республик СССР : | PRECISE COUNTRY / УТОЧНИТЬ ГОСУДАРСТВО |
| | | 3. Other citizenship : list of sovereign states / Другое гражданство: список государств | PRECISE COUNTRY / УТОЧНИТЬ ГОСУДАРСТВО |
| | | 4. Other (specify) / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 103 | What is your ethnic origin?<br>Reminder: "Everyone shall have the right to determine and state his national identity. No one can be forced to determine and state his national identity." (RF Constitution 1993, art. 26)<br>Какая у Вас национальность?<br>"Каждый вправе определять и указывать свою национальную принадлежность. Никто не может быть принужден к определению и указанию своей национальной принадлежности." (Конституция РФ 1993, ст. 26) | 1. Russian / Русская | |
| | | 2. Ukrainian / Украинка | |
| | | 3. Bielorussian / Белорусска | |
| | | 4. Moldavian / Молдаванка | |
| | | 5. From Caucasus (North and South) / Из Кавказа (северный и южный) | |
| | | 6. From Central Asia / Из Средней Азии | |
| | | 7. African / Африканка | |
| | | 8. Other country (specify) / Другая страна (уточнить): | PRECISE COUNTRY / УТОЧНИТЬ ГОСУДАРСТВО |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 104 | What is the region of your primary residence?<br>If she is not from Russia: What is the country of your primary residence?<br>В каком субъекте Федерации у Вас постоянная регистрация (прописка)?<br>Если не в России, где Ваше постоянное место жительства? | 1. Moscow / Москва | |
| | | 2. Moscow region / Московская область | |
| | | 3. Other subject of Russian Federation / Другой субъект РФ: | PRECISE REGION / УТОЧНИТЬ СУБЪЕКТ |
| | | 4. Other country (specify) / Другая страна (уточнить): | PRECISE COUNTRY / УТОЧНИТЬ ГОСУДАРСТВО |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 105 | What is the highest level of education you completed?<br>Какое у Вас образование? | 1. Attended school, but not completed / Неоконченное школьное | |
| | | 2. Primary school / 9 классов | |
| | | 3. Secondary school / 11 классов | |
| | | 4. Vocational training or technician / Среднее техническое | |
| | | 5. University / Высшее, Университет | |
| | | 6. Other (specify) / Другое (уточнить): | |
| | | 99. Decline to answer / Без ответа | |

| | | | |
|---|---|---|---|
| Section 2: Marital status and family<br>Раздел 2: Брак и семья | | | |
| Section 3: Sexual history<br>INTERVIEWER SAY: These next questions are about sexual experiences you had and may ask for sensitive information<br>Раздел 3: История сексуальной жизни<br>ИНТЕРВЬЮЕР ГОВОРИТ: Далее будут следовать вопросы о Вашей сексуальной жизни. Некоторые из них носят чувствительный характер. | | | |
| 301 | At what age did you first have sexual intercourse?<br>В каком возрасте у Вас произошел первый половой контакт? | [__\|__] | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 302 | At what age did you first exchanged money or other goods for sex?<br>В каком возрасте Вы впервые получили деньги или материальную выгоду за сексуальный контакт? | [__\|__] | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| Section 4: Sex work and non sex work related sexual behaviors<br>INTERVIEWER SAY: First I am going to ask you general questions about your activity of selling sex for money or other goods in a recent past. Please answer these questions as accurately as possible and remember that your responses will be not be reported to anyone or traced back to you.<br>Раздел 4: Половое/Сексуальное поведение В и ВНЕ рамках секс-работы<br>ИНТЕРВЬЮЕР ГОВОРИТ: Я сейчас задам общие вопросы о Вашей деятельности в предоставлении сексуальных услуг в обмен на деньги или материальную выгоду за последнее время. Пожалуйста ответьте как можно точнее и не забывайте, что Ваши ответы останутся конфиденциальными. | | | |
| 401 | Where / how do you mainly go find clients or clients find you?<br>DO NOT READ ANSWERS, RECORD ALL MENTIONED<br>Где Вы чаще всего находите клиентов или где они находят Вас?<br>НЕ ЧИТАТЬ ОТВЕТЫ, ЗАПИСАТЬ ВСЕ | 1. Brothel / salon / Салон | |
| | | 2. Bar / café / disco / restaurant / бар, кафе, клуб, ресторан | |
| | | 3. Hotel / гостиница | |
| | | 4. Street / park / улица, парк | |
| | | 5. Through friends / через друзей | |
| | | 6. Internet (e.g. Facebook), chat, or SMS / интернет, соцсеть, смс | |
| | | 7. High road / Service station / МКАД, автодорога, автозаправка | |
| | | 8. Through an intermediary (pimp, bartender, taxi driver) / через посредника (сутенер, владелец бара, таксист) | |
| | | 9. Through adds (flyers, classified...) / Реклама (журналы, визитки, флайеры) | |
| | | 10. Other (specify) / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 402 | Can you give me an estimate of the number of clients you will have vaginal, oral of anal sex with during a typical week?<br>Можете ли Вы сказать сколько у Вас обычно клиентов в неделе (вагинальный, анальный, или оральный контакт)? | [__\|__\|__] | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |

| | | | |
|---|---|---|---|
| INTERVIEWER SAY: For the next questions I will ask general information about non paying sexual partners you may have had in the past month.<br>People from whom you did not receive money in exchange for sex and with whom you had or have a granted relationship.<br>ИНТЕРВЬЮЕР ГОВОРИТ: Сейчас я задам несколько общих вопросов о Ваших партнерах которые НЕ клиенты (не платные) за последний месяц. Люди с которыми у Вас был половой контакт НЕ за деньги или материальную выгоду, и с которыми контакт был по согласию. | | | |
| 406 | In the past month, how many non-paying partners have you had vaginal or anal sex with? If you cannot remember the exact number, please give me an estimate.<br>За последний месяц, сколько у Вас было сексуальных партнеров НЕ КЛИЕНТОВ (вагинальный или анальный контакт) ? Если Вы не можете сказать точно, то приблизительно. | [__\|__] | IF 0 SKIP TO SECTION 5<br>Если 0, перейти к рзд.5 |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 5<br>Перейти к рзд.5 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 5<br>Перейти к рзд.5 |
| 407 | Of these [RESPONSE TO 406] partners in the past month, how many did you NOT use a condom with?<br>Из этих [ОТВЕТ НА 406], за последний месяц, со сколькими Вы НЕ использовали презервативы? | [__\|__] | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 408 | Of these [RESPONSE TO 406] partners, with how many have you only had sex with one time?<br>Из этих [ОТВЕТ НА 406], со сколькими Вы имели половой контакт только один раз? | [__\|__] | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| Section 5: Condom access and use<br>INTERVIEWER SAY: Now, I am going to ask you some questions about condom access and your usage of condoms.<br>РАЗДЕЛ 5: Доступность и использование презервативов<br>ИНТЕРВЬЮЕР ГОВОРИТ: Я сейчас задам вопросы о доступности и использования презервативов | | | |
| 501 | How easy is it to obtain male condoms?<br>Насколько для Вас легко приобрести презервативы? | 1. Very easy / Очень легко | |
| | | 2. Somewhat easy / Достаточно легко | |
| | | 3. Not easy / Не легко | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 506 | In the past 30 days, how many times did you have vaginal or anal sex without condom with a client?<br>За последние 30 дней сколько раз Вы не использовали презервативы с клиентом во время вагинального или анального контакта? | [__\|__\|__] | If 0 SKIP TO SECTION 6<br>Если 0, перейти к рзд.6 |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 6<br>перейти к рзд.6 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 6<br>перейти к рзд.6 |

| | | | |
|---|---|---|---|
| 507 | Can you tell me the reasons why you didn't use condoms?<br>DO NOT READ ANSWERS, RECORD ALL MENTIONED<br>По каким причинам Вы НЕ пользовались презервативами?<br>НЕ ЧИТАТЬ ОТВЕТЫ, ЗАПИСАТЬ ВСЕ | 1. No condom available / Не было | |
| | | 2. Client refused / Партнер отказался | |
| | | 3. Condom reduces sexual pleasure / Презерватив уменьшает удовольствие | |
| | | 4. Used other contraceptives / Пользовалась другими контрацептивами | |
| | | 6. I am not worried about getting HIV / STIs / Я не боялась заразиться ВИЧ / ИППП | |
| | | 7. Condoms break / don't work / Презервативы разрываются, неэффективны | |
| | | 8. Under the influence of alcohol and/ or drugs / измененное сознание из-за алкоголя или наркотиков | |
| | | 9. I don't like it / Мне не нравится | |
| | | 10. Allergy / аллергия | |
| | | 11. It broke during contact / разорвался во время контакта | |
| | | 12. I get more paid / Дополнительная оплата | |
| | | 13. Because I trusted this client / Я доверяла партнеру | |
| | | 14. Other (specify) / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| Section 6: Sexually transmitted infections (STIs)<br>INTERVIEWER SAY: Now I am going to ask you some questions about sexually transmitted infections, also known as STIs or STDs. Please answer to the best of your ability.<br>РАЗДЕЛ 6: Вопросы о ИППП<br>ИНТЕРВЬЮЕР ГОВОРИТ: Я сейчас задам вопросы об инфекциях, передаваемых половым путем (ИППП, ЗППП). Пожалуйста, постараетесь ответить как можно точнее. | | | |
| 603 | Sometimes women experience an abnormal discharge from their vagina. In the last 12 months, have you had an abnormal discharge / itching / swelling / sore / ulcer from your vagina?<br>Периодически некоторые женщины страдают от необычных вагинальных выделений, зуда, отека, трещин, язв. Случалось ли это с Вами за последние 12 месяцев? | 1. Yes / Да | |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| For these next questions, we are asking about STIs other than HIV<br>Следующии вопросы касаются ИППП, кроме ВИЧ | | | ATTENTION!<br>ВНИМАНИЕ! |

| | | | |
|---|---|---|---|
| 606 | Were you diagnosed by a doctor of any STI during the past 12 months ?<br>Обнаружил ли у Вас врач ИППП за последние 12 месяцев? | 1. Yes / Да | |
| | | 2. No / Нет | SKIP TO 609<br>Перейти к 609 |
| | | 88. Don't know / Не знаю | SKIP TO 609<br>Перейти к 609 |
| | | 99. Decline to answer / Без ответа | SKIP TO 609<br>Перейти к 609 |
| 607 | Do you remember which STI(s)?<br>Если да, то помните ли Вы какую/какие? | 1. [_____] | |
| | | 2. [_____] | |
| | | 3. [_____] | |
| | | 4. [_____] | |
| | | 5. [_____] | |
| | | 6. Other (specify) / Другое (уточнить): | |
| | | 7. Other (specify) / Другое (уточнить): | |
| | | 8. Other (specify) / Другое (уточнить): | |
| | | 9. Other (specify) / Другое (уточнить): | |
| | | 10. Other (specify) / Другое (уточнить): | |
| | | 88. Don't remember / Не помню | |
| | | 99. Decline to answer / Без ответа | |
| 609 | Did you take antibiotics in the past 3 months ?<br>Принимали ли Вы антибиотики за последние 3 месяца? | 1. Yes / Да | |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 615 | What was the last time you consulted a gynecologist or a dermato-venerologist?<br>Когда Вы в последний раз обратились к гинекологу или дермато-венерологу? | [_][_] / [_][_][_][_] (month /year) / (месяц / год) | |
| | | 77. Never went too / Никогда не обращалась | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| Section 7: HIV testing history<br>INTERVIEWER SAY: Now, I am going to ask you questions about HIV testing and your experience. We ask you to make your best to answer to them, however remember that you do not have to answer any questions you do not feel comfortable answering.<br>РАЗДЕЛ 7: Тестирование на ВИЧ<br>ИНТЕРВЬЮЕР ГОВОРИТ: Я сейчас задам вопросы о Вашем опыте с тестированием на ВИЧ. Мы Вас просим постараться ответить на них но не забывайте, что Вы не обязаны на них отвечать если Вам не комфортно. | | | |
| 702 | Have you ever been tested for HIV?<br>Проходили ли Вы когда-либо тест на ВИЧ? | 1. Yes / Да | SKIP TO 704<br>Перейти к 704 |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 8<br>перейти к рзд.8 |

| | | | |
|---|---|---|---|
| 703 | Why have you not had an HIV test?<br>DO NOT READ ANSWERS, RECORD ALL MENTIONED<br>Если нет, то почему?<br>НЕ ЧИТАТЬ ОТВЕТЫ, ЗАПИСАТЬ ВСЕ | 1. Don't know where to go / Не знала куда обращаться | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 2. I always use condoms / Я всегда пользуюсь презервативами | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 3. Not at risk of getting HIV / У меня нет риска заразиться ВИЧ | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 4. Didn't have time/too busy / Нет времени, слишком занята | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 5. I trust my regular partner / Я доверяю постоянному партнеру | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 6. Afraid of knowing I may be HIV-positive / Боюсь узнать что у меня ВИЧ положительный статус | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 7. Lack of confidentiality / Нет достаточно конфиденциальности | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 8. Inconvenient testing location or hours / Неудобное место или время работы | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 9. I don't believe in the existence of HIV / Не верю в существование ВИЧ | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 10. Other (specify) / Другое (уточнить): | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 88 Don't know / Не знаю | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 8<br>перейти к рзд.8 |
| 704 | What was the date of your last HIV test?<br>Когда Вы тестировались на ВИЧ в последний раз? | [_][_] / [_][_][_][_] (month /year) / (месяц / год) | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| For this next question [707], remind participant that he can decline to answer.<br>Для следующего вопроса [707] напомнить участнику, что он имеет право не отвечать | | | |
| 707 | What was the result of your last HIV test?<br>Какой у Вас был результат на ВИЧ в последний раз? | 1. HIV-negative / ВИЧ отрицательный | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 2. HIV-positive / ВИЧ положительный | SKIP TO 709<br>Перейту к 709 |
| | | 3. I didn't get the result / Не получила результата | SKIP TO 710<br>Перейти к 710 |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 8<br>перейти к рзд.8 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 8<br>перейти к рзд.8 |

| | | | |
|---|---|---|---|
| 709 | When was your first HIV-positive test?<br>Когда Вы получили положительный результат на ВИЧ в ПЕРВЫЙ раз? | [__][__] / [__][__][__][__] (month /year) / (месяц / год) | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| SKIP CHECK: IF [707]=2 (HIV+) SKIP TO SECTION 8.<br>Если 707 = 2 (ВИЧ+), перейти к Разделу 8. | | | WARNING!<br>ВНИМАНИЕ! |
| 710 | When was your last HIV-negative test?<br>Когда Вы получили отрицательный результат на ВИЧ в ПОСЛЕДНИЙ раз? | [__][__] / [__][__][__][__] (month /year) / (месяц / год) | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| SKIP CHECK: IF SELF-REPORTED HIV-POSITIVE [Response to 707 = 2] CONTINUE.<br>ALL OTHERS SKIP TO SECTION 9.<br>ЕСЛИ СКАЗАЛА ЧТО ВИЧ+ (ответ на 707=2), продолжать. Для других случаев, перейти к Разделу 9 | | | WARNING!<br>ВНИМАНИЕ! |
| Section 8: HIV care and treatment section<br>INTERVIEWER SAY: Because you have said you know your HIV status to be positive, I am now going to ask you some questions about HIV treatment.<br>РАЗДЕЛ 8: Уход и лечение ВИЧ<br>ИНТЕРВЬЮЕР ГОВОРИТ: Так как Вы сказали, что Вы ВИЧ+, я сейчас Вам задам вопросы о лечение ВИЧ. | | | |
| 801 | Have you ever seen an infectionist for a medical evaluation or care related to your HIV infection?<br>Обращались ли Вы когда либо к инфекционисту для медицинского обследования или лечения от ВИЧ? | 1. Yes / Да | |
| | | 2. No / Нет | SKIP TO 811<br>Перейти к 811 |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| 802 | After you were diagnosed for HIV, when did you first see a health care provider relating to your HIV infection?<br>После того, как у Вас обнаружили ВИЧ, как скоро Вы посетили врача? | 1. On the same day / В тот же день | |
| | | 2. After a week / Через неделю | |
| | | 3. Up to 3 months / В течение 3 месяцев | |
| | | 4. After 3 months / После 3 месяцев | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 803 | Have you had a CD4 count?<br>Проходили ли Вы анализ клеток CD4? | 1. Yes, less than 6 months ago / Да, меньше чем 6 месяцев тому назад | |
| | | 2. Yes, more than 6 months ago / Да, больше чем 6 месяцев тому назад | |
| | | 3. No, never / Нет, Никогда | SKIP TO 805<br>Перейти к 805 |
| | | 88. Don't know / Не знаю | SKIP TO 805<br>Перейти к 805 |
| | | 99. Decline to answer / Без ответа | SKIP TO 805<br>Перейти к 805 |
| 804 | What was your last CD4 count?<br>Какой был результат последнего анализа клеток CD4? | 1. Less than 200 cells/ml / меньше 200 | |
| | | 2. 200-350 cells/ml / 200-350 | |
| | | 3. 351-500 cells/ml / 351-500 | |
| | | 4. More than 500 cells/ml / Больше 500 | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |

| | | | |
|---|---|---|---|
| 805 | Have you had a viral load test?<br>Проходили ли Вы анализ вирусной нагрузки? | 1. Yes, less than 6 months ago / Да, меньше чем 6 месяцев тому назад | |
| | | 2. Yes, more than 6 months ago / Да, больше чем 6 месяцев тому назад | |
| | | 3. No, never / Нет, Никогда | SKIP TO 807<br>Перейти к 807 |
| | | 88. Don't know / Не знаю | SKIP TO 807<br>Перейти к 807 |
| | | 99. Decline to answer / Без ответа | SKIP TO 807<br>Перейти к 807 |
| 806 | What was your last viral load?<br>Какой был результат последнего анализа вирусной нагрузки? | 1. Less than 20 copies/undetectable / Меньше 20 / неопределяемая, нулевая | |
| | | 2. 21-500 copies / 21-500 | |
| | | 3. 501-1000 copies / 501-1000 | |
| | | 4. 1001-50 000 copies / 1001-50 000 | |
| | | 5. More than 50 000 copies / Больше 50 000 | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 807 | Are you currently on ART?<br>Принимаете ли Вы сейчас АРТ? | 1. Yes / Да | SKIP TO 810<br>Перейти к 810 |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 9<br>Перейти к P. 9 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 9<br>Перейти к P. 9 |
| 808 | Why are you not on ART?<br>RECORD ALL MENTIONED<br>Почему Вы НЕ принимаете АРТ?<br>ЗАПИСАТЬ ВСЕ | 1. I was never proposed to be on ART / Мне никогда не предлогали АРТ | SKIP TO SECTION 9<br>Перейти к P. 9 |
| | | 2. Doctor says it is too early / Врач говорит, что мне еще рано | SKIP TO SECTION 9<br>Перейти к P. 9 |
| | | 3. I stopped taking ART / Я прекратил принимать АРТ | |
| | | 4. Other (specify) / Другое (уточнить): | SKIP TO SECTION 9<br>Перейти к P. 9 |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 9<br>Перейти к P. 9 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 9<br>Перейти к P. 9 |

| | | | |
|---|---|---|---|
| 809 | Why did you stop taking ART?<br>RECORD ALL MENTIONED<br>Почему Вы прекратили принимать АРТ?<br>ЗАПИСАТЬ ВСЕ | 1. They made me sick / Я от нее плохо себя чувствовала | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 2. They did not work / Она не подействовала | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 3. I could not afford them / Я не могу себе позволить | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 4. Distance to get them is far / Слишком далекий пункт получения | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 5. I was feeling better and did not need them / Я лучше себя почувствовала и больше не нуждалась | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 6. A doctor / nurse told me to stop taking them / Врач или медсестра мне сказали прекратить принимать | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 7. The pharmacy ran out of the medicine / Перебои в аптеке | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 8. I missed my last appointment / ran out of medication / Я пропустила последний визит к врачу, осталась без лечения | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 9. Other (specify) / Другое (уточнить): | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 9<br>Перейти к Р. 9 |
| 810 | If on ART, where do you go for ART?<br>RECORD ALL MENTIONED<br>Если Вы принимаете АРТ, где вы ее получаете?<br>ЗАПИСАТЬ ВСЕ | 1. Government hospital / clinic / health center / Государственное медицинское учреждение | |
| | | 2. Pharmacy / Аптека | |
| | | 3. Buy it from abroad / Покупаю за рубежом | |
| | | 4. I buy it on internet / Покупаю на интернете | |
| | | 5. I receive from homeland for free / Присылают из дома безплатно | |
| | | 6. Other (specify) / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |

| | | | |
|---|---|---|---|
| 811 | If you haven't seen any infectionist, can you tell us why ?<br>DO NOT READ ANSWERS, RECORD ALL MENTIONED<br>Если Вы не обращались к инфекционисту, то почему?<br>НЕ ЧИТАТЬ ОТВЕТЫ, ЗАПИСАТЬ ВСЕ | 1. I don't know where to go / Не знаю куда обращатся | |
| | | 2. I don't need any follow-up / Мне не нужно обследование | |
| | | 3. I don't believe in the existence of HIV / Я не верю в существование ВИЧ | |
| | | 4. I'm not registered in Moscow or Moscow region / Я не регистрирована в Москве или в Московской области | |
| | | 5. As a migrant, I am afraid of deportation / Я мигрант и боюсь депортации | |
| | | 6. I'm buying my ARV through internet / Я покупаю АРТ на интернете | |
| | | 7. I'm scared of blood sampling and/or doctors / Я боюсь забора крови и или врачей | |
| | | 8. I don't have time / It's not my priority / У меня нет времени, это не приоритетно | |
| | | 9. Other (specify) / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| Section 9: HIV/AIDS knowledge, HIV prevention and testing and counseling<br>INTERVIEWER SAY: Now, I am going to ask you some questions about HIV and AIDS.<br>РАЗДЕЛ 9: Вопросы о знании ВИЧ/СПИДа, профилактика, тестирование и консультирование<br>ИНТЕРВЬЮЕР ГОВОРИТ: Я сейчас задам несколько вопросов о ВИЧ и СПИД. | | | |
| 901 | Which modes of transmission of HIV do you know ?<br>READ ANSWERS, THE ANSWERS POSSIBLE ARE 1. YES 2. NO 3. DON'T KNOW<br>Какие способы передачи ВИЧ Вы знаете?<br>ЧИТАТЬ ОТВЕТЫ, ЗАПИСАТЬ:<br>"1" Да<br>"2" Нет<br>"3" Не знаю | 1. Vaginal sex / Вагинальный контакт | |
| | | 2. Anal sex / Анальный контакт | |
| | | 3. Oral sex / Оральный контакт | |
| | | 4. Mosquito bites / Укус комара | |
| | | 5. Blood transfusion / Переливание крови | |
| | | 6. Used needles / Использованные шприци | |
| | | 7. Sharing toothbrush / Пользование общей зубной щетке | |
| | | 8. Kiss / Поцелуй | |
| | | 9. Sharing same dishes, bed / Пользование одной посудой, постеле… | |
| | | 10. Mother to child during pregnancy / передача от матери к ребенку во время беременности | |
| | | 11 Mother to child during delivery / передача от матери к ребенку во время родов | |
| | | 12. Mother to child during breastfeeding / передача от матери к ребенку во время грудного кормления | |
| 902 | Have you ever heard of HIV-negative people taking HIV drugs before sex to reduce their chances of getting HIV, otherwise called Pre-exposure prophylaxis (PrEP)?<br>Вы когда нибудь слышали о том, что не ВИЧ инфецированны люди принимали терапию до полового контакта чтобы уменьшить риск быть инфецирован? | 1. Yes / Да | |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |

| | | | |
|---|---|---|---|
| SKIP CHECK: If [707]=2 (HIV+) SKIP TO SECTION 10.<br>Otherwise : Proceed to explain what PrEP is.<br>Если 707 = 2 (ВИЧ+), перейти к Разделу 10.<br>Остальным: обьяснить что такое ДКП. | | | WARNING!<br>ВНИМАНИЕ! |
| | INTERVIEWER SAY: PrEP (Pre-Exposure Prophylaxis) is when a healthy person take oral tablets of antiretroviral (ARV) drug every day to reduce risk of HIV infection when exposed. It prevents the reproduction of HIV virus, so if exposure occurs, virus cannot establish itself in a person's body. It is a new approach to reduce HIV transmission. When taken with good adherence it has a very high effectiveness. We are interested about your opinion on this, because there is only few data available on sex workers and PrEP at the moment. PrEP does not protect a person against STIs like chlamydia, syphilis, herpes, or gonorrhoea. PrEP does not prevent pregnancy. PrEP is not a cure for HIV and it doesn't work, on its own, as treatment for someone already living with HIV. Before we proceed on interview, do you have any questions?<br><br>ИНТЕРВЬЮЕР ГОВОРИТ:<br>ДкП (Доконтактная профилактика ВИЧ-инфекции) - это когда здоровый человек ежедневно принимает специальный препарат (таблетку), чтобы снизить риск заражения ВИЧ в случае, если он подвергается риску заражения. Эти препараты блокируют возможность вируса размножаться в нашем организме и вирус со временем погибает. Это современный подход в профилактике ВИЧ-инфекции. Если строго соблюдать его прием, такой метод показывает очень высокую эффективность. Нам важно знать ваше мнение по отношению к ДкП, так как на сегодняшний день нет достаточных данных о применении доконтактной профилактики у СР. ДкП не защищает от других инфекций, передаваемых половым путем, таких как хламидии, сифилис, герпес или гонорея. ДкП не предохраняет от беременности. ДкП не является лечением для ВИЧ инфекции и не заменяет лечение для человека, уже живущего с ВИЧ инфекцией. Перед тем как продолжить беседу, у вас есть вопросы? | | |
| 903 | What would worry you about getting PrEP?<br>DO NOT READ ANSWERS, RECORD ALL MENTIONED<br>Что Вас могло бы обеспокоить при приеме ДКП?<br>НЕ ЧИТАТЬ ОТВЕТЫ, ЗАПИСАТЬ ВСЕ | 1. Cost / Цена | |
| | | 2. Side-effects / Побочные эффекты | |
| | | 3. Non-Effectiveness / Неэффективность | |
| | | 4. Someone finding out I am taking it / Что кто-то узнает, что я это принимаю | |
| | | 5. Time spent for medical follow up / Время потраченное на мед обследование | |
| | | 6. Increased risk of getting other STIs / Больше рисков заразиться другими ИППП | |
| | | 7. Observance / Что надо соблюдать какие-то правила | |
| | | 8. Other / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 904 | If PrEP was effective, safe and provided for free, would you be willing to take it?<br>Если ДКП была бы эффективная, безопасная и безплатная, были бы Вы готовы ее принимать? | 1. Yes, definitely / Да, точно | |
| | | 2. Yes, probably / Да, наверное | |
| | | 3. Maybe / Может быть | |
| | | 4. No, probably / Нет, наверное | |
| | | 5. No, definitely / Точно нет | SKIP TO SECTION 10<br>Перейти к разделу 10 |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |

| | | | |
|---|---|---|---|
| 905 | Would you agree to have blood sample collected on a regular basis for HIV status and gener l check up in order to get PrEP ? Согласились ли Вы проходить тест на ВИЧ и мед обследование регулярно, чтобы получать ДКП? | 1. Yes, definitely / Да, точно | |
| | | 1. Yes, probably / Да, наверное | |
| | | 3. Maybe / Может быть | |
| | | 3. No, probably / Нет, наверное | |
| | | 4. No, definitely / Точно нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 906 | How much, if anything, would you be prepared to pay for PrEP per month? Сколько Вы были бы готовы платить в месяц чтобы получать ДКП? | [__\|__\|__\|__\|__\|__\|__] rubbles (O to + ∞) / рублей (от 0 до +∞) | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 907 | What is your anticipated condom use if using daily PrEP? Насколько Вы думаете пользоваться презервативами если будете принимать ДКП? | 1. Less frequently / Реже | |
| | | 2. More frequently / Чаще | |
| | | 3. About as frequently as before / Как и раньше | |
| | | 4. Stop using condoms / Больше не буду пользоваться презервативами | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| Section 10: Stigma, discrimination and violence<br>INTERVIEWER SAY: Now I will ask you some questions about discrimination and violence. While some people may have experienced these, others may not. Please remember your answers will be kept private.<br>РАЗДЕЛ 10: Вопросы о стигматизации, дискриминации и насилии<br>ИНТЕРВЬЮЕР ГОВОРИТ: Я задам Вам вопросы о дискриминации и насилие. Некоторые испытывали такие моменты, а некоторые нет. Не забывайте, что Ваши ответы останутся конфиденциальными. | | | |
| 1002 | In the past 12 months, have you undergone physical violence because someone believed or knew you are selling sex in exchange for money, drugs or other goods? За последний год, принимали ли к Вам физическое насилие потому что думали или знали, что Вы предоставляйте сексуальные услуги в обмен на деньги, наркотики или материальную выгоду? | 1. Yes / Да | |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 1004 | In the past 12 months, did anyone tried to force you into sex against your will by using physical violence? За последний год заставлял ли Вас кто-то иметь сексуальный контакт насильственно, против Вашей воли и согласия? | 1. Yes / Да | |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| Section 11: Program coverage<br>INTERVIEWER SAY: Now I am going to ask you some questions about your experience with social programs.<br>РАЗДЕЛ 11: Социальные проекты / Вопросы о социальных проектах<br>ИНТЕРВЬЮЕР ГОВОРИТ: Я задам Вам вопросы о Вашем опыте с социальными програмами. | | | |
| 1101 | Are you aware of any civil society or religious organization(s) that deliver non-medical assistance or advice to persons who sell sex in exchange for money, drugs or other goods? Знаете ли Вы общественные или религиозные организации, которые предоставляют немедицинскую помощь или услуги лицам, которые предоставляют сексуальные услуги в обмен на деньги, наркотики или материальную выгоду? | 1. Yes / Да | |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |

| | | | |
|---|---|---|---|
| 1102 | In the last 6 months, did you receive prevention material and which ones?<br>DO NOT READ ANSWERS, RECORD ALL MENTIONED<br>За последние 6 месяцев получали ли Вы профилактические материалы и какие?<br>НЕ ЧИТАТЬ ОТВЕТЫ, ЗАПИСАТЬ ВСЕ | 1. Condoms / Презервативы | |
| | | 2. Lubricants / Лубриканты | |
| | | 3. Pamphlets / Инфо-материалы | |
| | | 4. None / Нет | SKIP TO SECTION 12<br>Перейти к Р. 12 |
| | | 5. Other (specify) / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | SKIP TO SECTION 12<br>Перейти к Р. 12 |
| | | 99. Decline to answer / Без ответа | SKIP TO SECTION 12<br>Перейти к Р. 12 |
| 1103 | Which organization gave these items?<br>RECORD ALL MENTIONED<br>От какой организации Вы их получили?<br>ЗАПИСАТЬ ВС | 1. | |
| | | 2. | |
| | | 3. | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| Section 12: Alcohol and drug use<br>INTERVIEWER SAY: Now, I would like to ask some questions about your alcohol and drug use.<br>РАЗДЕЛ 12: Употребление алкоголя и наркотиков<br>ИНТЕРВЬЮЕР ГОВОРИТ: Я сейчас задам Вам вопросы об употреблении алкоголя и наркотиков. | | | |
| 1201 | Do you take alcohol while selling sex in exchange for money, drugs or other goods?<br>Принимаете ли Вы алкоголь во время предоставления сексуальных услуг в обмен на деньги, наркотики или материальную выгоду? | 1. Never / Никогда | SKIP TO 1204<br>Перейти к 1204 |
| | | 2. Rarely (less than a few times a week) / Редко (меньше чем несколько раз в неделю) | |
| | | 3. A few times a week / Несколько раз в неделю | |
| | | 4. Everyday / Каждый день | |
| | | 88. Don't know / Не знаю | SKIP TO 1204<br>Перейти к 1204 |
| | | 99. Decline to answer / Без ответа | SKIP TO 1204<br>Перейти к 1204 |
| 1202 | Typically, until what extent do you drink while selling sex in exchange for money, drugs or other goods?<br>До какого состояния Вы обычно употребляете алкоголь во время предоставления сексуальных услуг в обмен на деньги, наркотики или материальную выгоду? | 1. To give me courage to work / чтобы подбодрить себя до/во время работы | |
| | | 2. Until dizzy / до охмеления | |
| | | 3. Until drunk / до пьяного состояния | |
| | | 4. Other (specify) / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 1204 | Have you ever injected drugs?<br>Вы когда нибудь употребляли наркотики инъекционным путем? | 1. Yes / Да | |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| INTERVIEWER SAY: Some people have tried a range of different types of drugs other than alcohol and cigarettes. I am going to ask you about the drugs you might have taken in the past 6 months.<br>ИНТЕРВЬЮЕР ГОВОРИТ: Некоторые люди, помимо алкоголя и сигарет, употребляют и наркотики. Я Вам задам вопросы о том, употребляли ли Вы наркотики и какие за последние 6 месяцев. | | | |

| | | | |
|---|---|---|---|
| 1205 | In the past 6 months, have you taken drugs ?<br>За последние 6 месяцев, принимали ли Вы наркотики? | 1. Yes / Да | |
| | | 2. No / Нет | SKIP TO END |
| | | 88. Don't know / Не знаю | SKIP TO END |
| | | 99. Decline to answer / Без ответа | SKIP TO END |
| 1206 | In the past 6 months, which modality of consumption have you used?<br>RECORD ALL MENTIONED<br>За последние 6 месяцев, каким способом Вы употребляли наркотики?<br>ЗАПИСАТЬ ВСЕ | 1. Ingestion (tablets or else) / Глотаю (таблетки или другое) | |
| | | 2. Snorting / sniffing / Нюхаю (порошок) | |
| | | 3. Smoking / Курю | |
| | | 4. IV injection / Инъекции | |
| | | 5. Anal / Анальный | |
| | | 6. Other (specify) / Другое (уточнить): | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 1207 | In the past 6 months, which drug(s) have you taken?<br>RECORD ALL MENTIONED<br>За последние 6 месяцев, какой/какие наркотик(и) Вы принимали?<br>ЗАПИСАТЬ ВСЕ | Write all / Записать все ответы: | |
| | | 88. Don't know / Не знаю | SKIP TO 1209<br>Перейти к 1209 |
| | | 99. Decline to answer / Без ответа | SKIP TO 1209<br>Перейти к 1209 |
| 1208 | Among these drugs, what are in order and up to 3, the most frequent ones you might take while selling sex in exchange for money, drugs or other goods?<br>Какой/какие из этих наркотиков Вы чаще всего принимаете во время предоставления сексуальных услуг в обмен на деньги, наркотики или материальную выгоду (назовите 3 максимум от самого употребляемого)? | 1. | |
| | | 2. | |
| | | 3. | |
| | | 77. I don't take drugs while selling sex in exchange for money, drugs or other goods / Я не принимаю во время предоставления сексуальных услуг в обмен на деньги, наркотики или материальную выгоду | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| SKIP CHECK: IF [Response to 1206-4 = YES] CONTINUE.<br>ALL OTHERS SKIP TO END<br>Если ответ на 1206-4 = да, продолжить. Если другой ответ, SKIP TO END | | | WARNING!<br>ВНИМАНИЕ! |
| 1209 | In the last 6 months, how frequently did you inject drugs?<br>За последние 6 месяцев, как часто Вы употребляли инъекционные наркотики? | 1. Monthly or less / Раз в месяц или меньше | |
| | | 2. Two to four times a month / 2-4 раза в месяц | |
| | | 3. Two to three times a week / 2-3 раза в неделю | |
| | | 4. Four or more times a week / 4 или больше 4 раза в неделю | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| 1210 | In the last 6 months, have you shared a used syringe or needle with anyone else when injecting drugs?<br>В последние 6 месяцев, обменивались ли Вы с кем-то использованными шприцами когда употребляли инъекционные наркотики? | 1. Yes / Да | |
| | | 2. No / Нет | |
| | | 88. Don't know / Не знаю | |
| | | 99. Decline to answer / Без ответа | |
| | RE-ENTER THE PARTICIPANT'S STUDY CODE | [__\|__\|__\|__\|__\|__] | |

## ANNEXE 2

## INFORMATION NOTICE AND CONSENT FORM

### PARTICIPANT INFORMATION SHEET FOR VERBAL CONSENT

You are invited to participate to the **SWHIP-M STUDY**, conducted by Shagi, Médecins du Monde and the CRIE. This information notice details you the purpose and the different steps of this survey, and the risks and benefits you have if you agree to participate. Please read this notice carefully, a study staff will also review it with you. We want you to ask **ANY** question about **ANY** part of the survey that you do not understand. We will give you this paper to take home with you.

**What is the objective of this survey?**

Many adults have HIV (the virus that cause AIDS) and other diseases through sex. People who exchange sex for goods or money are particularly at risk to get such diseases.

The objective of this survey is to estimate the proportion of HIV, five other sexually transmitted infections (Syphilis, Chlamydia, Gonorrhea, Trichomonas, and Mycoplasma) and bacterial vaginosis. We want to understand which factors or practices increases risk to get these diseases. The survey also tries to assess the access to health services for this population.

The results will be used by Médecins du Monde and Shagi to adjust their program in Moscow. They will also be used to advocate for a better access to prevention and health care in Moscow.

**What will happen if I choose to do this survey?**

If you accept to participate, you will be asked to follow these steps today (it may take about 2 hours):

1. Get a study code. This way nobody can know who you are. We have this code because we do not want to know your name or any information that can make someone find out that you participated in this study
2. Answer a questionnaire asking information about sexual practices, habits in terms of drug consumption, experience of violence, and access to care
3. Get information about HIV and other sexually transmitted infections (prevention means, testing, and treatment)
4. Have a trained personnel take blood from a fingerprick. The blood will be used to do a rapid test for HIV test and syphilis.
5. A throat swab collected by a trained personnel, a vaginal (or urethral) and an anal swab that you will collect yourself. Collected material will be sent to the laboratory of the CRIE to be tested for the other sexually transmitted infections of interest of this study. The collected material will be kept anonymously in the biological database of the CRIE for further biological studies
6. Get an incentive for being in the survey today, and get coupons to invite acquaintance of your network to participate to the survey
7. Get, if you want to, the results of the rapid test for HIV and syphilis. If the rapid test is positive for HIV or syphilis, you will be proposed to go (and can be accompanied) to the CRIE laboratory to confirm the infection on a venous blood sample.

In a second step, you can come back to the center to retrieve the results of laboratory tests. At this moment, you can also receive an additional

incentive for each acquaintance of your network to whom you gave a coupon who was eligible for the study.

**Will my medical and other information be kept confidential?**

The survey is entirely anonymous. We take many steps to keep your information secret and ensure your privacy:

- We do not ask for your name or other personal information that might be used to trace back your identity
- The questionnaire and all the biological tests are anonymous, only labeled with a study code
- All the information collected on paper will be kept in a place inaccessible to third parties. The database used for statistical analyses is anonymous and participants are linked only by a study code
- Your rapid test result for HIV and syphilis will not be known to anyone except you and the person who will perform the test. In case of positivity, you'll be proposed to be accompanied for confirmation test to be taken from venous blood at the CRIE.
- The swab results will be given to you 2 weeks after uptake in a sealed envelope. You can also be notified by cell phone of this information.
- The office has private rooms. No signs will show the purpose of the site

**What risks can I expect from being in the survey?**

The risk associated with this study is limited:

- The survey includes personal questions about sexual activity and other private issues. This can make you feel embarrassed. If any question makes you feel uncomfortable, you can refuse to answer it. You can terminate the interview at any time. If you do this, you will not be asked to leave the study
- The fingerprick might slightly hurt. Only trained personnel will do the fingerprick
- You may find it difficult to collect the swabs. You'll be given a leaflet showing you how to perform the collection, but at any time you can ask for help or advice.

**Are there any benefits from taking part in this survey?**

If you choose to be in this survey, you will receive:

- Free on-site testing for HIV, syphilis, Chlamydia, Gonorrhea, Trichomonas, Mycoplasma, bacterial vaginosis and the opportunity to learn your test results
- In case of positive results
  - of HIV: assistance to enrollment in care and assistance in access to treatment if needed;
  - of syphilis: free management/treatment
  - of other sexually transmitted infections: free medical consultation
- Free condoms and educational information on HIV and sexually transmitted infections
- 300 Roubles transfered on your mobile phone for your participation, and 150 Roubles for each participant you manage to recruit
- Our gratitude for your participation that will enable us to plan and improve prevention activities that benefit to the community.

**What are the alternatives for being in the survey?**

You can choose not to participate in the survey. This will not impact your access to Shagi's services. The survey team can give you a list of health and social services and refer you to testing locations.

**What if I want to stop being in the survey?**

Your participation is entirely voluntary. You can quit the survey at any time. Your access to

health services will not be impacted if you do not complete the study. You can also withdraw your consent afterwards, in which case your data will not be used to produce the study results if the report has not already been released.

**Who can answer my questions about the survey?**

If you have any questions about your rights as a survey participant, about ethical matters, or any issue, the team is here to answer. Should you wish to complain about anything, you may address the general coordinator of Médecins du Monde in Russia : russia.swhipm@gmail.com or +7 910 463 96 61

## INFORMED CONSENT AUTHORIZATION (PARTICIPANT)

(This copy is to be given to the participant)

I have been invited to take part in the study being conducted by Médecins du Monde and Shagi. My participation is voluntary and I may end it at any time without suffering any disadvantages or being required to give reasons for my decision.

During my participation, I will accept and follow the instructions of the study staff. I have been informed by the person whose signature is given below of the nature of the **SWHIP-M STUDY** as well as the possible advantages and disadvantages that I should expect. I have received a copy of the written information for verbal consent and have had sufficient opportunity to ask questions. I do not have any further questions at the moment.

I have been informed and agree that I will have to:

Answer a questionnaire with questions about my sexual behaviors

Undergo a rapid test for HIV and Syphilis

Provide a vaginal (or urethral for men), anal and a throat swab for sexually transmitted infection testing.

☐ I give my consent

Signature and initials of interviewer

Date __/__/__

## INFORMED CONSENT AUTHORIZATION (INTERVIEWER)

*Study Code*

(This copy is to be kept by the interviewer)

I have been invited to take part in the study being conducted by Médecins du Monde and Shagi. My participation is voluntary and I may end it at any time without suffering any disadvantages or being required to give reasons for my decision.

During my participation, I will accept and follow the instructions of the study staff. I have been informed by the person whose signature is given below of the nature of the **SWHIP-M STUDY** as of the possible advantages and disadvantages that I should expect. I have received a copy of the written information for verbal consent and have had sufficient opportunity to ask questions. I do not have any further questions at the moment.

I have been informed and agree that I will have to:

Answer a questionnaire with questions about my sexual behaviors

Undergo a rapid test for HIV and Syphilis

Provide a vaginal (or urethral for men), anal and a throat swab for sexually transmitted infection testing.

☐ I give my consent

Signature and initials of interviewer

Date __/__/__

## ANNEXE 3

## ETHICAL AGREEMENT OF THE CRIE ETHICS COMMITTEE



**Federal Budget Institution of Science**

**"Central Research Institute of Epidemiology" of The Federal Service on Customers' Rights Protection and Human Well-being Surveillance**

**PROTOCOL No. 77**
**of the meeting of the Ethical Committee**
**September 21, 2017**

**Committee Members:** Shabalina S.V., Byshenko M.S., Gorelov A.V., Deulina M.O., Kuznetsova L.Ya., Makashova V.V., Manzenyuk I.N., Milyutina L.N., Ploskireva A.A., Ponezheva Zh.B., Selkova E.P., Usenko D.V.

**Request number 2**. Speaker - Rumyantseva T.A. We request to conduct an ethical expertise and approve a study protocol: " HIV and STI prevalence in female sex workers in Moscow."

**Aim**: to estimate the prevalence of HIV infection among female sex workers in Moscow.

Secondary objectives will assess the prevalence of 5 sexually transmitted infections (STI) (Chlamydia Trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis, Mycoplasma genitalium, and Syphilis) and Bacterial Vaginosis, the factors associated with HIV and STI, the access to prevention and care, and the relevance to use PrEP in this population.

A total of 510 participants will be included, the study dates: October 2017-December 2018.

**Investigators**: Médecins du Monde (MdM), France; «Steps» Fund, Russia, FBIS CRIE

**Principal investigator**: Dominique Pataut, Médecins du Monde, France

**Documents attached**: Study protocol, Consent form, Questionnaire.

**Shabalina S.V.:** I propose to approve the research.

**The Committee decided to approve the study on the protocol: "** HIV and STI prevalence in female sex workers in Moscow**."**

Chairman of the Local Ethical Committee,
doctor of medical sciences, professor — Shabalina S.V.

Secretary of the Local Ethical Committee — Byshenko M.S.

## ANNEXE 4

## UNWEIGHTED HIV AND OTHER STI PREVALENCE

**Table A1** Unweighted HIV and other STI prevalence among study participants (N=385), plus bacterial vaginosis prevalence

| | | Unweighted prevalence [95% CI][a] | | | |
|---|---|---|---|---|---|
| | Total number of cases | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
| **HIV**[b] | 15 | 3.9 [2.3-6.5] | 2.4 [0.9-5.9] | 5.6 [2.9-10.3] | 0.12 |
| **Syphilis (lifetime contact)** | 54 | 14.0 [10.8-18.0] | 10.2 [6.6-15.4] | 18.4 [13.2-25.1] | 0.03[d] |
| **Neisseria gonorrhoeae** | | | | | |
| Positive carriage | 13 | 3.4 [1.9-5.9] | 2.4 [0.9-5.9] | 4.5 [2.1-8.9] | 0.21 |
| Anal carriage | 7 | 1.8 [0.8-3.9] | 1.0 [0.2-3.8] | 2.8 [1.0-6.7] | 0.17 |
| Throat carriage | 2 | 0.5 [0.1-2.1] | 0.5 [0.0-3.1] | 0.6 [0.0-3.5] | 0.72 |
| Vaginal carriage | 6 | 1.6 [0.6-3.5] | 1.0 [0.2-3.8] | 2.2 [0.7-6.0] | 0.28 |
| **Chlamydia trachomatis** | | | | | |
| Positive carriage | 37 | 9.6 [7.0-13.1] | 4.9 [2.5-9.0] | 15.1 [10.3-21.4] | <0.001[d] |
| Anal carriage | 28 | 7.3 [5.0-10.5] | 2.9 [1.2-6.5] | 12.3 [8.0-18.2] | <0.001[d] |
| Throat carriage | 6 | 1.6 [0.6-3.5] | 1.0 [0.2-3.8] | 2.2 [0.7-6.0] | 0.28 |
| Vaginal carriage | 26 | 6.8 [4.5-9.9 ] | 2.9 [1.2-6.5] | 11.2 [7.1-16.9] | 0.001[d] |
| **Trichomonas vaginalis** | | | | | |
| Positive carriage | 46 | 11.9 [9.0-15.7] | 2.9 [1.2-6.6] | 22.3 [16.6-29.3 ] | <0.001[d] |
| Anal carriage | 25 | 6.5 [4.3-9.6] | 1.9 [0.6-5.2] | 11.7 [7.6-17.6] | <0.001[d] |
| Throat carriage | 4 | 1.0 [0.3-2.8] | 0.0 [0.0-2.3] | 2.2 [0.7-6.0] | 0.05[d] |
| Vaginal carriage | 44 | 11.4 [8.5-15.1] | 2.9 [1.2-6.5] | 21.2 [15.6-28.1] | <0.001[d] |
| **Mycoplasma genitalium** | | | | | |
| Positive carriage | 54 | 14.0 [10.8-18.0] | 5.3 [2.8-9.6] | 24.0 [18.1-31.1] | <0.001[d] |
| Anal carriage | 18 | 4.7 [2.9-7.4] | 1.9 [0.6-5.2] | 7.8 [4.5-13.0] | 0.006[d] |
| Throat carriage | 0 | 0.0 [0.0-1.2] | 0.0 [0.0-2.3] | 0.0 [0.0-2.6] | NA[c] |
| Vaginal carriage | 48 | 12.5 [9.4-16.3] | 5.3 [2.8-9.6] | 20.7 [15.1-27.5] | <0.001[d] |
| Bacterial vaginosis | 173 | 44.9 [39.9-50.1] | 36.4 [29.9-43.4] | 54.7 [47.2-62.1] | <0.001[d] |

a. CI: Confidence Interval.

b. Only type 1 was diagnosed in the sample.

c. NA: Not available, because the number of cases was 0.

d. $p<0.05$, meaning a significant difference.

**Table A2**: Unweighted prevalence for the number of STIs among study participants (N=385)

| | | Unweighted prevalence [95% CI][a] | | | |
|---|---|---|---|---|---|
| | Total number of cases | All participants N=385 | Indoor FSWs N=206 | Outdoor FSWs N=179 | p-value |
| **At least one STI** | 157 | 40.8 [36.0-46.0] | 24.3 [18.8-31.0] | 59.8 [52.2-66.9] | <0.001* |
| **Total number of STIs** | | | | | <0.001* |
| 0 | 227 | 59.1 [54.0-64.0] | 75.6 [69.0-81.2] | 40.2 [33.0-47.8] | |
| 1 | 104 | 27.1 [22.8-31.9] | 20.5 [15.3-26.8] | 34.6 [27.8-42.1] | |
| 2 | 45 | 11.7 [8.8-15.5] | 3.9 [1.8-7.8] | 20.7 [15.1-27.5] | |
| -3 | 8 | 2.1 [1.0-4.2] | 0.0 [0.0-2.3] | 4.5 [2.1-8.9] | |

a. CI: Confidence Interval