ANALYTICAL REPORT based on results of 2009 survey among FSW

«BEHAVIOURAL MONITORING AND HIV INFECTION PREVALENCE AMONG FEMALE SEX WORKERS AS A COMPONENT OF SECOND GENERATION SURVEILLANCE»

Kyiv 2010

CONTENT:

GLOSSARY 4
INTRODUCTION 5
SURVEY METHODOLOGY 7
1. Survey sampling formation 7
2. Specific features of field stage 9
3. Key survey hypotheses 10
4. Survey limitations and errors 11
5. Data analysis principles 11
SECTION I. SOCIAL AND DEMOGRAPHIC PROFILE OF FSW
1.1. Age, educational and family structure of FSW 12
Diagram 1.1.3. Family status of FSW, %..... 13
1.2. Social status of FSW 13
1.3. Key sources of income and financial status of FSW 15
Diagram 1.3.3. Places of residence of FSW, % 18
1.4. Migration profile of FSW 19
1.5. Client seeking methods 19
SECTION II. SPECIFIC FEATURES OF SEXUAL BEHAVIOUR OF FSW
2.1. Sexual debut and beginning to provide paid sex services 22
2.2. Work record and frequency of provision of paid sex services 23
2.3. Age and professional structure of the clients of FSW 25
2.4. The number of sexual partners during the last working week and in the last 24 hours 27
2.5. Condom Use Practices 29
SECTION III. DRUG USE PRACTICE
3.1. The use and prevalence of different types of drugs among FSWC 43
Diagram 3.1.2. Percentage of FSW, who injected drugs in the last 30 days..... 43
3.2. Substance use (alcohol, drugs, toxic substances) prior to sexual contact(s) with clients 47
SECTION IV. LEVEL OF KNOWLEDGE AND COVERAGE OF PREVENTION PROGRAMMES
4.1. The level of knowledge about HIV 46
4.2. The level of knowledge and practices regarding condom and drug use 49
4.3. Knowledge of STI symptoms 50
4.4. Obtaining condoms. Involvement in prevention programmes. Receiving services from NGOs 51
SECTION V. HIV/STI TESTING AND TREATMENT OF STI
5.1. The prevalence of HIV and syphilis among FSW at the national and regional levels 57
5.2. Treatment of infectious diseases 59
5.3. HIV testing 60
SECTION VI. RISK FACTORS OF HIV INFECTION AMONG FSW
6.1. Logical regression model..... 63
CONCLUSIONS AND RECOMMENDATIONS 67
Annex 1. National M&E Indicators on the effectiveness of response to HIV/AIDS epidemic among FSW at the site level 70
National M&E Indicators on the effectiveness of response to HIV/AIDS epidemic among FSW, by age subgroups 73

GLOSSARY

HIV – immune deficiency virus;

STD – sexually transmitted diseases;

FSW – (female sex workers) – women, who during 6 recent months had sexual partners from whom they received some payment. Survey inclusion criteria also included the following characteristics: age (participants should not have been younger than 14 years); residence or employment in the survey location; provision of an informed consent to participate in the survey;

NGO – non-governmental organizations;

STI – sexually transmitted infections;

IDU – injecting drug users;

AIDS – acquired immune deficiency syndrome;

MSM – men who have sex with men;

TLS (time-location sampling). It is used to study groups that are hard-to-reach for usual methods and that are geographically concentrated in certain locations. This method does now completely cover geographically dispersed groups. TLS is a sampling method under which the selection of study participants is performed at the special territories ('points' or places frequented by the target group) within the specific time intervals. TLS can become a random probability sample under the condition of an accurate formation of the sampling base, which should include all locations and sizes of the target group which visits them.

RDS (respondent-driven sampling). This method is a kind of snowball sampling method. Theoretically, RDS is based on Markov chain theory and theory of small networks. Such theoretical background helps to identify the probability for each respondent to get into the sampling, which makes this sampling probable. RDS is based on an assumption that members of the target group themselves are best positioned to identify and encourage (recruit) other group members to participate in a research. RDS allows reaching individuals, who are hard to reach in any places frequented by the target group (on the territories covered with the research with the use of TLS method). However, this method can be applied only in the case when members of the researched group have certain links, when members of the target group can be reached through another member of this group.

INTRODUCTION

HIV/AIDS epidemic in Ukraine is one of the most threatening factors that have a negative impact on the individual and social development.

The highest HIV prevalence levels have been observed in Odessa (414.2 cases per 100,000 population), Dnipropetrovsk (408.8), Donetsk (389.6) and Mykolayiv (374.4) oblasts, in Sevastopol city (311.3) and AR Crimea (238.7). The highest levels of HIV incidence have also been registered in these regions. By the end of 2007 the number of officially reported new HIV infections amounted to 14,221 cases and by the end of 2008 – to 15,342[1].

HIV/AIDS epidemic in Ukraine is concentrated in the most-at-risk groups: among FSW, injecting drug users (IDU) and men who have sex with men (MSM). At the same time the so-called bridge groups, in particular, clients of FSW, are becoming vulnerable to HIV/AIDS. According to the research to evaluate the size of populations vulnerable to HIV performed in 2008–2009, the estimated number of FSW in Ukraine was 65,000 to 93,000 people.

Second generation surveillance that is being implemented in Ukraine is a component of the National System for Monitoring and Evaluation of efficiency of activities that ensure control over HIV/AIDS epidemic.

In Ukraine, behavioural studies in the groups that are most-at-risk to HIV infection (injecting drug users, female sex workers, prisoners, men who have sex with men) have been implemented since 1996. In 2004 a group of experts in social research developed the Methodological Guidelines for Monitoring of FSW Behaviour and recommended the tool-kit for such studies. This tool-kit was first tried in 2004. In 2008 the FSW behavioural study was for the first time implemented in combination with blood testing for HIV and syphilis (a linked study). Blood testing among respondents was performed with the use of rapid tests and was based on the anonymity and confidentiality principles. In 2009 the study also included behavioural and epidemiological components.

The study performed in 2009 covered such cities as Vinnytsia, Donetsk, Zhytomyr, Zaporizhja, Ivano-Frankivsk, Kyiv, Poltava, Rivne, Simferopol, Terpnopil, Uzhgorod, Kharkiv, Cherkassy, Chernihiv and Chernivtsi. The study sampling was based on two methods of sampling formation to ensure the best possible representativeness – i.e., 'respondent driven sampling' (RDS) and 'time-location sampling' (TLS). Theoretical sampling size in each city was 150 female respondents. Total amount of the realized sampling was 2,278 FSW.

Survey Protocol was developed and aligned with the Working Group on Monitoring and Evaluation before the beginning of the study. The Protocol included identified goals and objectives of the study, organization conditions for its implementation and principles of anonymity and confidentiality of the personal data of participants. The study was performed among females aged 14 years and older, who by the moment of survey were working or residing in the locations covered by survey and who gave their informed consent to participate. The survey tool-kit was updated taking into account the current objectives of HIV/AIDS epidemic response programmes, recommendations on the collection of key indicators and recommendations of the Working Group on Monitoring and Evaluation. At the same time, the survey questionnaire preserved the correspondence to the tool-kits of the previous surveys among FSW by key questions in order to track changing trends. Behavioural component of the Survey Protocol and tool-kit was reviewed by the Commission on Professional Sociological Ethics of the Sociological Association of Ukraine. The epidemiological component was reviewed by the Committee on Medical Ethics at the Gromashevsky Institute of Epidemiology and Infectious Diseases at the AMS of Ukraine.

[1] International HIV/AIDS Alliance in Ukraine. Statistics (http://www.aidsalliance.kiev.ua/cgi-bin/index.cgi?url=/ua/library/statistics/index.htm)

The State Institute for the Family and Youth Development exercised an external control over the adherence to the survey methodology.

The key objectives of behavioural monitoring included collection of information about potential factors contributing to HIV spread in the society and the use of these data for information and educational activities, planning, monitoring and evaluation of the efficiency of prevention, treatment, care and support programmes among target groups. Thus, the key objectives of the study among FSW included:

- analysis of social and demographic characteristics of the target group;
- analysis of sexual behaviour and injecting drug use practices that can be related to the risk of HIV infection;
- analysis of coverage with prevention programmes and the level of knowledge;
- analysis of coverage with testing for HIV and STI and STI treatment;
- HIV and syphilis prevalence among FSW;
- analysis of FSW characteristics related to HIV status;
- performance of calculations by the National Indicators of Monitoring and Evaluation of efficiency of activities that ensure control over HIV/AIDS epidemic.

ICF International HIV/AIDS Alliance in Ukraine expresses its gratitude to the members of Intersectoral Working Group on Monitoring and Evaluation of efficiency of implementation of programmatic HIV/AIDS response activities for its support for the planning and preparation to this study, as well as for the comments to the data provided in the Report. Alliance is also thankful to I. Mishina, Executive Director of CO All-Ukrainian League “Legalife” for her assistance in the development of the survey tool-kit, T.I. Andreyeva, MD, associate professor of the School of Health Care of the National University ‘Kyiv-Mohyla Academy’ for the provision of expert comments related to the analysis of the study results. The contribution of an independent consultant on RDS methodology, M.A., M.D., PHD Lisa J. Johnson to the survey implementation and analysis of the obtained data was of a special importance and value. 1. Формування вибіркової сукупності дослідження

SURVEY METHODOLOGY

1. Survey sampling formation

2009 survey sampling included 15 cities that represented different regions of Ukraine: South (Zaporizhja and Simferopol), East (Donetsk and Kharkiv), Centre (Kyiv, Chernihiv, Cherkassy, Zhytomyr, Vinnytsia and Poltava), West (Rivne, Ternopil, Ivano-Frankivsk, Uzhgorod and Chernivtsi).

In order to study hard-to-reach groups for which there are no established lists of members, the researchers use different methods aimed at approximation of sampling characteristics to the representative characteristics of such groups. In survey performed in 2009 such methods as RDS and TLS were applied. RDS means 'respondent-driven sampling'. It is a kind of the snowball sampling method. Theoretically, RDS is based on Markov chain theory and theory of small networks. Such theoretical background helps to identify the probability for each respondent to get into the sampling, which makes this sampling probable. RDS is based on an assumption that members of the target group themselves are best positioned to identify and encourage (recruit) other group members to participate in a research. RDS potentially allows reaching individuals, who are hard to reach in any places frequented by the target group (on the territories covered with the research with the use of TLS method). However, this method can be applied only in the case when members of the researched group have certain links, when members of the target group can be reached through another member of this group. TLS means time-location sampling. It is used to study groups that are hard-to-reach for usual methods and that are geographically concentrated in certain locations. This method does now completely cover geographically dispersed groups. TLS is a sampling method under which the selection of study participants is performed at the special territories ('points' or places frequented by the target group) within the specific time intervals. TLS can become a random probability sample under the condition of an accurate formation of the sampling base, which should include all locations and sizes of the target group which visits them.

In 2008 TLS methodology was used in 10 cities within behavioural monitoring survey among FSW, and RDS methodology – in 6 cities. The study results demonstrated that TLS methodology was more appropriate for use in current conditions in Ukraine and it was chosen as the basic method for 2009 study. Still, to facilitate the possibility to compare the received data with the data for 2008, RDS methodology was also used in 2009 in the cities, where it was used in 2008 (Kyiv, Kharkiv and Donetsk). On the basis of results of point mapping[2], which is a necessary component of sampling formation in accordance with the TLS method, it was found out that many FSW stopped working in the 'open' for access points due to a range of police raids. This situation was threatening as it could make it impossible to implement the planned size of sampling and could imply significant violation of the methodological basis of the study, which could have compromised the obtained data and make them unreliable. So, a decision was made to apply the RDS methodology in these cities. Subsequently, TLS method was used in 9 of 15 cities and RDS method – in 6 cities.

[2] The procedure that is implemented before the field stage to make a list of geographical locations frequented by the target group representatives, on the basis of which samples that are individual for each city are formed.

Table 1.1

Characteristics of Sampling and Survey Methods

	Survey method	Planned sampling (including primary respondents)	Realized sampling (including primary respondents)
Rivne	TLS	150	152
Zhytomyr	TLS	150	150
Ivano-Frankivsk	TLS	150	150
Vinnytsia	TLS	150	150
Chernihiv	RDS	154	154
Zaporizhja	RDS	154	154
Ternopil	TLS	150	150
Chernivtsi	TLS	150	151
Uzhgorod	TLS	150	100
Cherkassy	RDS	154	99
Kharkiv	RDS	154	154
Donetsk	RDS	154	154
Poltava	TLS	150	150
Simferopol	TLS	150	150
Kyiv	RDS	154	260
TOTAL		2274	2278

Field stage of the survey in the cities where TSL method was applied had been preceded by mapping of sites (points) frequented by FSW. The mapping exercise covered all FSW groups by the method of client search, age, etc. At the initial stage of mapping an interview was performed with experts (taxi drivers, NGO employees, FSW and others) and their answers were used to develop the preliminary list of points. Then regional teams made field visits to all points specified in the expert list and described these points in accordance with a standardized form. Field visit results were used to finalize the list of points for each city. The final number of points for each of the cities, in which interviews were performed at the field stage of the survey, is provided in Table 1.2.

Table 1.2

Результати картування в містах, де використовувалася методика TLS

City	Number of points in the list
Ivano-Frankivsk	24
Uzhgorod	27
Ternopil	22
Vinnytsia	18
Poltava	25
Simferopol	34
Rivne	7
Zhytomyr	19
Chernivtsi	11

In order to form survey samples in the cities where RDS method was used, 4 primary respondents were initially selected. The primary respondents were participants recruited by the researchers, not by respondents, and the sampling development was started from these respondents. The initially set quota were used to recruit primary respondents (please, see general criteria below, as well as in Table 1.3). In all cities except Kharkiv the number of primary respondents was the same – 4 in each city. In Kharkiv, taking into account that they started forming the sample only with one of four primary respondents, it was decided to use one more primary respondent, so, the total number of primary respondents in Kharkiv was five people.

General criteria to be met by primary respondents included:

- a broad network of FSW acquaintances – 10 or more people;
- age – 14 years and more;
- primary respondents were supposed to live in different city districts;
- primary respondents should have provided services in different locations (i.e., represent different types of FSW – street, highway, hotel-based sex workers, etc.).

According to the Survey Protocol, primary respondents were supposed to meet the following characteristics[3]:

Table 1.3
Quota for Primary Respondents

Criteria	Number of FSW
FSW with the work record up to 2 years	at least 1
Highway FSW	at least 1
FSW aged 14 –18 years	at least 1
FSW, who have never been tested for HIV	at least 2
FSW, who do not inject drugs on a daily basis	at least 2

The planned sample size was 150 female respondents for each city, or 2,250 interviews as a whole. Total 2,278 interviews were conducted at the field stage. Due to the impossibility to form a complete sampling in Cherkassy and Uzhgorod (as it was not possible to further recruit the participants with the use of the methods applied in these cities), the sampling in Kyiv city was enlarged in order to compensate the insufficient number of respondents.

2. Specific features of field stage

As soon as non-standard methods (RDS and TLS) were used to form the sampling for the survey, their application implied some specific features at the field stage of the survey.

TLS method implies preparation stages that directly precede the field stage of the study. These preliminary stages included formative research[4], mapping of the points[5] frequented by the target group representatives, development of time-lines for work at the points included in the sampling. Participants were recruited directly at the places where target group representatives were gathering. In order to ease access to this group, employees of civil organizations that had the experience of work with the target group were also involved in the recruiting process. In addition to the recruiting the research team calculated all FSW, who visited the point during the established time period. After FSW had been recruited it was allowed to arrange an interview with them in another place and/or another time. An obstacle to a full interview was the fact that these interviews were conducted in the places where FSW were searching for their clients. Due to this situation the interviews were conducted as quickly as possible and in some cases FSW interrupted the interview when there appeared a client. So, the 'compressed' time of interview could result in some bias in the information provided by FSW. The final array included only fully completed interviews that contained answered to the whole questionnaire as well as HIV and syphilis test results with the use of rapid tests.

RDS method implies that respondents themselves recruit (encourage to participate) other representatives of their target group. Interviews based on this method were conducted in the determined place to which the interested target group representatives were coming. Initially researchers themselves selected four primary respondents (there were five in Kharkiv) with whom they conducted full interviews and whom they handed coupons to recruit other respondents. Each of them received the fixed number of coupons – three for each primary respondent. If a FSW pointed that she did not want to recruit anybody or did not have acquaintances, who would be willing to participate in the survey, she was not provided with coupons. If a FSW said that she could recruit other FSW but less than three persons (e.g., one or two), she was provided with a corresponding number of coupons. The general rule was not to

[3] One respondent could combine several characteristics.
[4] Collection of all available information about possible cooperation, the most convenient places for an interview, etc.
[5] It also includes two key stages – an expert questioning and direct visits to the points. A detailed description of the mapping procedures is presented in the Survey Protocol.

give out more than three coupons. There was only one exception with a primary respondent in Kyiv, whose recruits were characterised with a frequent drug use and high prevalence of HIV at the onset of the survey. Due to the fact that drug users are usually recruited more easily than, for example, FSW, all participants who belonged to the recruiting chain[6] of this primary respondent, were provided with no more than two coupons each.

The field stage was also characterised with a mandatory blood sampling for HIV and syphilis tests. The following general rule was applied: first, the respondent was interviewed and then she was counselled and tested for HIV. Post-interview testing for HIV was a compulsory condition, because testing before interview could have an impact on some answers to the questions contained in the questionnaire.

The field stage lasted from June 15 till September 14, 2009. Total 2,278 interviews were conducted, including 975 in the RDS cities, and 1,303 in the TLS cities.

3. Key survey hypotheses

Key hypotheses that were tested in the survey included the following ones:

- By social and demographic characteristics of FSW, they were mostly younger, unemployed women with low-income status;
- A significant number of FSW reside at the boarding schools, basements/attics of the buildings or in the street;
- FSW are characterised with early initiation of sexual activity;
- FSW are characterised with unsafe sexual practices: low level of condom use, sex with unsafe partners, problems with correct use of condoms;
- Drug use is wide spread among FSW;
- Most FSW are covered with prevention programmes;
- Most FSW had STI within recent 12 months;
- FSW have high level of awareness of HIV;
- Most FSW were tested for HIV within recent 12 months;
- Presence of HIV infection is related to the unsafe sexual behaviour practice: low level of condom use, cases of incorrect use of condoms, multiple sexual partners and sex with high risk sexual partners;
- Presence of HIV infection is related to the practice of injecting drug use;
- HIV prevalence is higher among older FSW;
- HIV prevalence is higher among FSW, who are seeking their clients in the street, at the highways or railway stations;
- Presence of HIV infection is related to the level of awareness of HIV;
- Presence of HIV infection is related to the coverage with prevention programmes;
- Presence of HIV infection is related to the record of work in sex business;
- HIV prevalence varies depending on the region.

[6] Recruiting chain includes all participants recruited by the primary respondents.

4. Survey limitations and errors

Key limitations of this survey were related to the limitations of the used methods and to the closed character and criminalization of the target group. When TLS method is used, it is suggested that all FSW at the researched site are visiting at least one of the points and that access to these points is free for the members of the research team. However, some FSW do not present themselves at certain points – e.g., FSW, who are seeking their clients exclusively via Internet or by phone. As these FSW are not covered with the usual geographic points, they do not have chances to be included in the sample and give an interview. Another limitation related to TLS method is the lack of access to all points where FSW can be found. It is especially true for the points frequented by the 'elite' FSW. Also, representatives of civil society organizations were involved in the process to ease recruiting; they helped to establish contacts with potential FSW at the points of interview. Assuming that mostly those FSW, who previously had some contacts with civil society organizations, were more likely to agree to participate in the survey, then the sample would be more representative of the FSW, who are somehow related to the activities of civil society organizations. Also, as a significant portion of interviews were conducted at the established points, we can presume that in order to 'accelerate' the process of questioning some FSW could give insincere answers, or answers that they did not particularly muse about. In some cases, in order to have time to ask FSW, the blood for testing was drawn before the interview.

In case with RDS method the key limitation was the difficulty to evaluate which share of FSW was covered with networks. As this method is based on the assumption that most FSW participate in the social networks, it is important to understand, which portion of FSW we can reach, and which we cannot reach due to the lack of networks. It can be presumed that the closest networks exist between FSW that are located at the lowest levels of the hierarchy and who are mostly seeking for their clients in the streets, highways, railway stations, etc. On the contrary, the weakest networks exist among the 'elite' FSW. This means that these 'elite' FSW can be underrepresented in the sampling formed with the use of RDS method. Also, RDS method implies that FSW themselves will recruit other participants for a certain remuneration. Thus, such remuneration could be one of key motivations to participate. If such was the case, then one can assume that our sample had more FSW, who were in need of such money, that is, FSW of the lower levels of their hierarchy. As soon as this money did not present a motivation to participate for FSW from the upper levels, they could be less likely to agree to participate in the survey.

It can be stated that with both methods used the FSW of the upper levels of their hierarchy would be theoretically less represented in the sample. However, it can be presumed that the share of 'elite' FSW is rather small in the structure of FSW, that is, their low representation in the sample does not significantly shift the general obtained results.

5. Data analysis principles

The collected data were analyzed with the use of SPSS statistical software. Before the analysis these data were weighted. For TLS cities the data were weighted by the representation of points in the sampling, i.e., the data were weighted so that each point in the sample was presented proportionally to the general number of FSW at this point. Data for RDS cities were weighted with the use of RDSAT software. The data weighting was made by the age of survey participants. However, to build the logistic regression model, the weighting was done not by the age, but by HIV status. Different methods were used for the analysis – both simple analysis of tables of one- and two-dimensional arrays, and such multidimensional methods as logistic regression.

SECTION I. SOCIAL AND DEMOGRAPHIC PROFILE OF FSW

1.1. Age, educational and family structure of FSW

Social and demographic profile of FSW will be analyzed in this section.

The survey results demonstrated that an average age of female sex workers, who live or work in the surveyed cities, is 27 years (standard bias – 7 years), while median age was 26 years. Minimal age (which was the lower limit for the inclusion of participants in the study was 14 years, and the maximum age – 55 years. Most female sex workers were in the age group 20-29 years – 48.5% (Fig. 1.1.1). There were 16% of FSW in the age group 14–19 years. The remaining 3% were underage (14-17 years)[7].

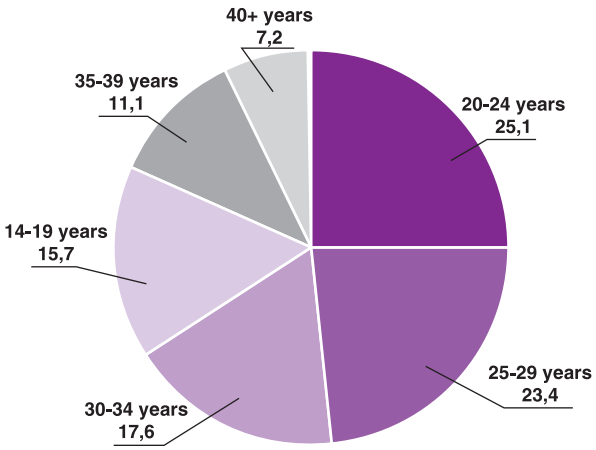

Diagram 1.1.1 Age structure of FSW, %

By the educational level, most of FSW had *a completed secondary (or vocational) education, or an incomplete higher education* – 48% (see Diagram 1.1.2). 21% of FSW had higher education (6% of them had a completed higher education). According to the Population Census of 2001, the share of urban women[8] aged 14-55 years with basic or completed higher education was 20%. So, the share of FSW with higher education almost coincides with the situation observed at the level of general population. However, there is a certain difference in the share of women with basic and completed higher education. So, if in the general population the ratio is 1% and 19%, then among FSW it is 15% and 6% in favour of the basic higher education. That is, there are fewer women among FSW with a completed higher education and more FSW with basic higher education. It should be also noted that every one in five FSW (22%) has only basic secondary education (9 classes) and every one in ten FSW (9%) – only primary education (less than 9 classes). Similar ratios in the general population are 10% and 3%. That is, there are much more individuals with a low level of education among FSW compared with the general population. As education is an important tool to find a good job, then, taking into account mostly low educational level among FSW compared to the rest of population it can be justly presumed that these women have fewer opportunities to successfully compete at the employment market.

[7] It should be noted that 3% of FSW questioned in in 2008 were also in the age under 18 years. It is an evidence of the fact that underage FSW are either not reached by the research, or the share of underage FSW is really small in the FSW structure.

[8] As this survey was conducted only in the cities and as the samle included FSW aged 14-55 years, then according to the data of the Census for 2001 it would more proper to make comparison with the educational distribution among urban women of the corresponding age group. Further in the same paragraph comparison with the 'general population' will be made not with the general population as it is, but with the women residing in the urban areas aged 14-55 years.

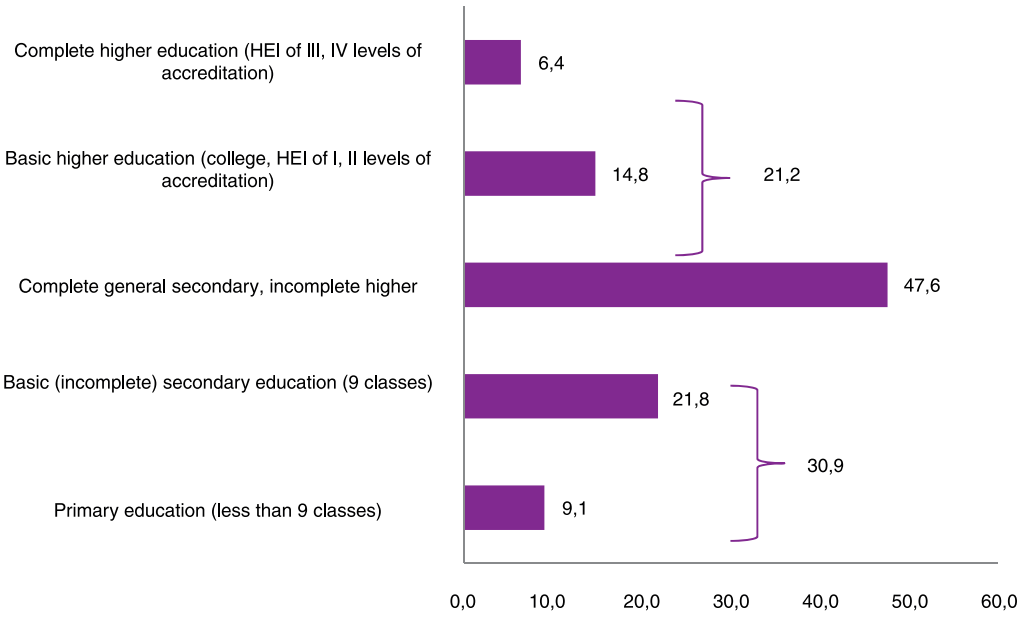

Diagram 1.1.2 Educational level of FSW, %

FSW are mostly *not married and not cohabiting with their sexual partners:* according to the survey, the share of such women was 55% (see Diagram 1.1.3). Every one in four (24%) FSW are officially married, but only 8% of these 24% are cohabiting with their husbands. Also, every fifth (21%) FSW was cohabiting with her sexual partner, even though they were not officially married.

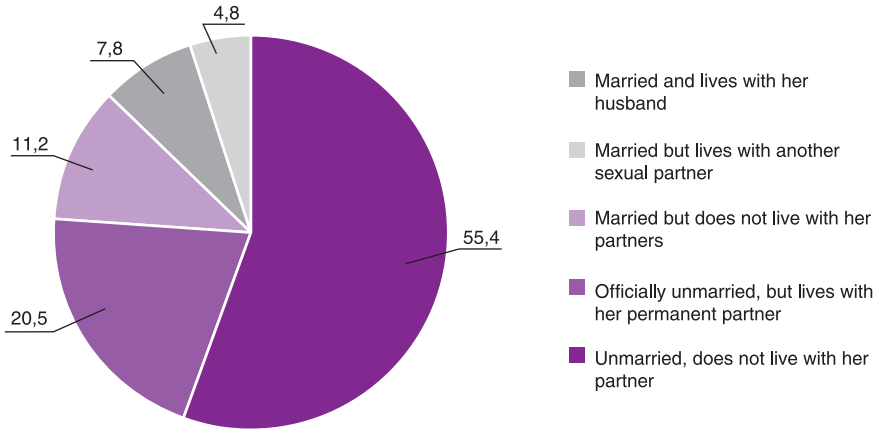

Diagram 1.1.3. Family status of FSW, %

1.2. Social status of FSW

By their social status (if their commercial sex work is not taken into account) most FSW *are employed* – 41% (see Diagram 1.2.1). However, *only* 10.4% of these 41% have permanent jobs and 30.2% have only occasional income. 13% FSW study. It should be noted that 35% of FSW are unemployed. So, it can be stated that FSW are mostly *either unemployed or have temporary income.*

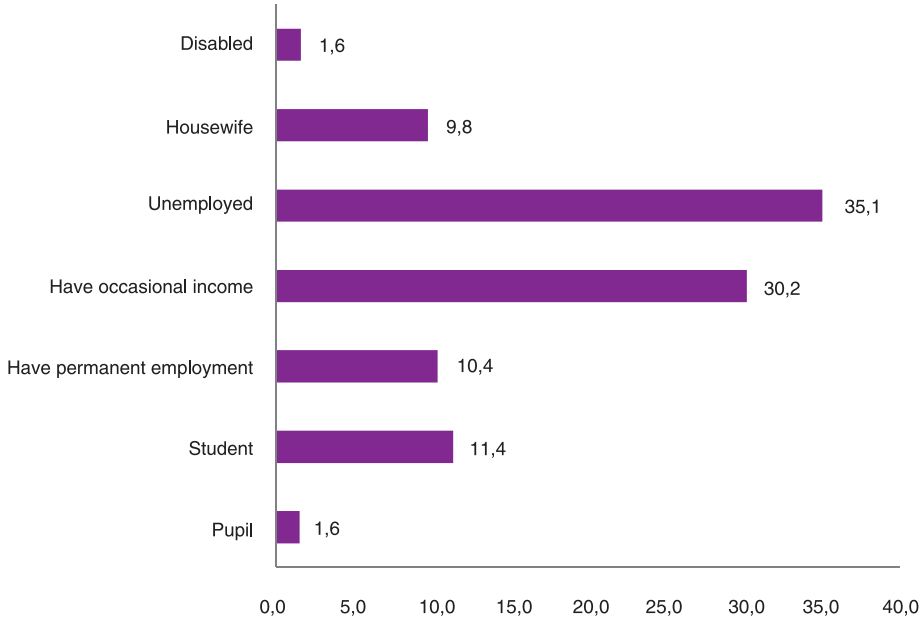

Diagram 1.2.1. Social status of FSW, %

Social status of FSW is related to age and educational structure of this social group. So, the number of students is reducing with age – from 43% of FSW age 14-19 years to 0-3% among FSW aged 25+ years. Also, the number of permanently employed FSW is growing with age (from 2.5% aged 14-19 years to 16% among FSW aged 30+ years), as well as of those who have occasional incomes (from 16% among FSW aged 14-19 years to 33% among the rest of FSW). It should be noted that the number of those involved in housekeeping is also growing with age – from 2% among FSW aged 14-19 years to 14% of FSW aged 30+ years.

It should be noted that with the higher level of education the number of unemployed respondents was reducing (from 48% of FSW with secondary or an incomplete secondary education to 24% of FSW with higher education), while the number of those who had permanent employment was growing (from 3% among FSW with secondary or an incomplete secondary education to 24% of FSW with higher education). At the same time, the share of FSW who have occasional income remained practically the same in all education groups (29–31%).

Table 1.2.1

Social status in different age and educational groups of FSW, %

		Pupil	Student	Permanent employ-ment	Occasional income	Unemployed	Housewife	Disabled
Age groups	14–19 years	9.0	34.1	2.5	15.9	36.0	2.2	0.3
	20–24 years	0.4	21.6	6.0	33.3	32.6	5.7	0.5
	25–29 years	0.2	2.4	12.7	32.4	38.5	12.9	0.9
	30+ years	0.0	0.2	15.5	32.9	34.1	13.9	3.4
Education groups	Primary or basic secondary education	3.9	5.9	3.3	29.3	48.3	8.2	1.0
	Complete secondary (or voca-tional and technical), incom-plete higher education	0.7	16.2	9.0	31.1	31.5	9.8	1.7
	Basic or complete higher education	0.0	8.7	23.9	29.1	23.8	12.1	2.4

Thus, by their social status FSW were either unemployed or had only occasional income. This means that for such individuals, who mostly do not have permanent employment that could have been a reliable source of stable income, provision of paid sex services is one of key sources to earn a living in current conditions. Though the fact that every one in ten FSW have permanent employment points that such "permanent" employment alone is not sufficient, it is also important that such employment could bring sufficient income and should not make people to be involved in such 'radical' part-time job as commercial sex services. It should be noted that better education contributes to the reduction of the share of unemployed FSW and to the growing number of FSW, who have permanent income. In general, better education provides opportunities to find a better paid job, but, as was already mentioned, even a higher education and permanent employment did not 'prevent' these women from the provision of paid sex services.

1.3. Key sources of income and financial status of FSW

In recent moth the key source of income for the overwhelming majority of FSW (69%) was paid sex (see Diagram 1.3.1). Other permanent employment was the key source of income only for 7% of FSW. 8% of FSW received their key income from the occasional jobs. 13% of FSW indicated support from their relatives or income of their husband/partner as their key income.

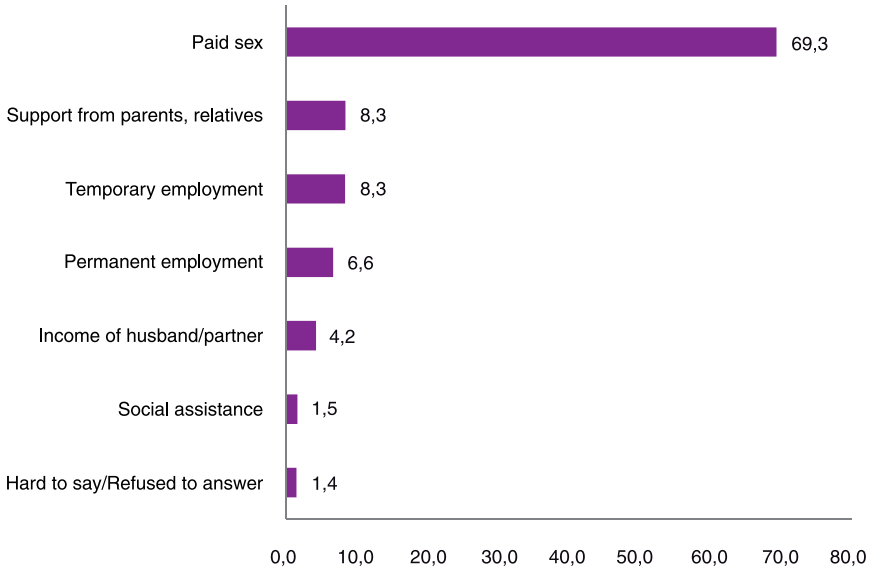

Diagram 1.3.1. Key source of FSW income in the recent month,%

It should be noted that the key source of income varies depending on the educational level of FSW. So, there were slightly less FSW with higher education, for whom paid sex was the key source of income (58% versus 70–76% among FSW with lower educational level) and slightly more those, for whom permanent employment was the key source of income (15% versus 2–5%). Also, FSW who were officially married and cohabited with their husband, there were the least of all women, who relied only on paid sex (41% versus 65–74% of FSW with other marital status).

It is important to mention another 'effect' of permanent or even temporary jobs. We can presume that the more often FSW provide paid sex services, the higher is the risk for them to be infected with HIV of STI and higher is the chance for this risk to come true. The study results demonstrated that among FSW, who have *permanent employment* as the key income source, **42%** provided sex services at least 2-3 times a week in the recent 6 months. A corresponding share of FSW, for whom *provision of paid sex services* was the key source of income, was **86%**. Among those, for whom *temporary income* was the key source of income, this figure was **57%**[9].

[9] Speaking about the situation among all FSW in general, their answers to the question "How often have you provided paid sex services in the recent 6 months?" distributed like this: 24.7% FSW said that they had provided sex services every day in the recent 6 months; 49.6% – 2-3 times a week, 13.5% – once a week 7.0% – 2-3 times a month, 2.5% – less than once a month and 2,7% could not answer this question.

Table 1.3.1

Key source of income among FSW different educational and marital status, %

		Permanent employment	Temporary employment	Paid sex	Support from parents, relatives	Income of husband, partner etc.	Social assistance	Bargaining	Other	HARD TO SAY
Marital status	Married and cohabiting with husband	17.8	10.8	41.2	5.0	22.5	1.1	0.6	0.0	1.1
	Married, but cohabiting with another sexual partner	7.0	12.6	65.2	7.4	5.9	0.9	0.0	0.0	0.9
	Married but do not cohabit with sexual partners	8.6	9.5	72.6	4.6	1.9	2.0	0.0	0.0	0.8
	Officially unmarried, but live with a permanent partner	5.8	11.4	68.0	3.1	8.1	1.1	0.4	0.0	2.0
	Unmarried and do not live with sexual partner	4.9	6.2	73.6	11.6	0.5	1.6	0.2	0.1	1.3
Education groups	Primary or basic secondary education	2.1	7.0	76.1	8.1	2.6	1.9	0.4	0.0	1.7
	Complete secondary (or vocational and technical), incomplete higher education	5.7	8.0	70.3	9.1	4.1	1.3	0.1	0.1	1.3
	Basic or complete higher education	15.2	10.3	58.1	7.1	6.7	1.4	0.0	0.0	1.2

During the survey the respondents were asked to evaluate the level of wellbeing of their households. Survey participants were offered to use the scale of 5 statements about their material status and they could choose the one that would better correspond to their real situation. This scale included the following statements:

- We do not have enough money even to buy food (this corresponds to the very poor households);
- We have enough money to buy food, but it is not enough to buy clothes (poor households);
- We have enough money to buy food and clothes and we can save some money, but it is not enough to buy expensive things (e.g., refrigerator or TV set) (middle income households);
- We can afford some expensive things (e.g., refrigerator or TV set) (well-to-do households);
- We can afford whatever we want (very rich households).

The survey results indicate that most FSW live in poor households. 13% of them live in households that do not have enough money even to buy food, that is, they live in the extreme poverty (see Diagram 1.3.2). 41% of FSW said that they had enough money to buy food, but it was not enough to buy clothes. Every third FSW (34%) were living in the middle income households that had enough money to buy food and clothes and could save some money. Households of only 9% of FSW can be classified as well-to-do ones, that is, they could afford expensive things and even buy whatever they wanted.

In general, such structure of FSW households by the level of financial well-being is not different from the similar structure for all adult population of Ukraine. So, 16% of general adult population (both men and women) in October 2009[10] lived in very poor households, which is statistically more significant compared to FSW. At the same time, there less FSW, who lived in poor households – 41% versus 46% in the general population. Also, the share of general population living in rich or very rich households is slightly less than that of FSW – 6.5% versus 9%. So, we can state that financial status of households where FSW are living is slightly *better* compared to the financial status of households of adult population in general.

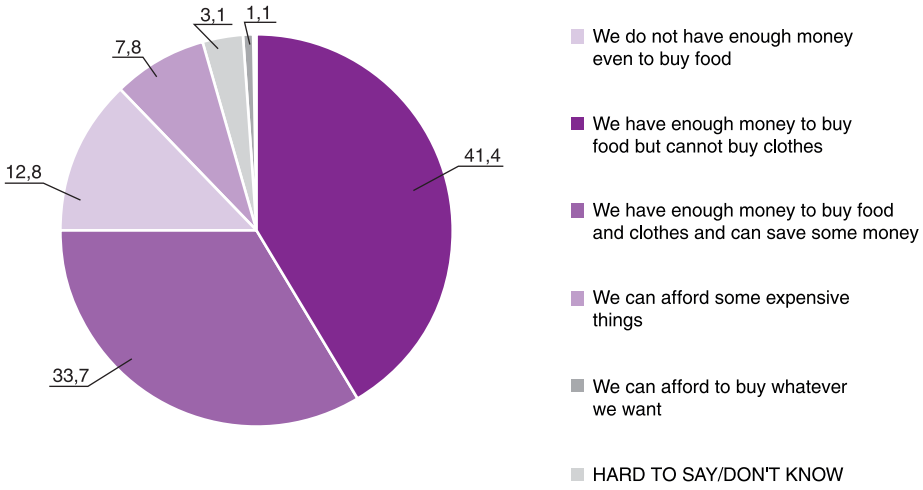

Diagram 1.3.2 Financial status of households in which FSW are living, %

FSW with better education live in somewhat better conditions. If 25% of FSW with secondary or incomplete secondary education live in an extreme poverty, there only 4% of such FSW with higher education. Also, there are more FSW with higher education who live in relatively well-to-do households (17% versus 7% for FSW with secondary or incomplete secondary education) and in middle income households (41% compared to 25% for FSW with secondary or incomplete secondary education).

Also, FSW who have permanent employment as the key source of income live in somewhat better conditions – for example, there was only 1% of very poor households among them, while among FSW who received their key income from the provision of paid sex services this indicator was 15%.

[10] The data are based on the result s of the national Ukrainian survey "Omnibust – October 2009" performed by KIIS in October 2009. The sampling is representative for the population aged 18 years and older. Total 1,997 questionnaires were collected at the field stage.

Table 1.3.2

Key income of FSW from different education and marital status groups

		We do not have enough money even to buy food	We have enough money to buy food, but it is not enough to buy clothes	We have enough money to buy food and clothes and we can save some money	We can afford some expensive things	We can afford to buy whatever we want	HARD TO SAY/DON'T KNOW
Key income source	Permanent employment	0.8	30.3	48.0	15.8	2.8	2.3
	Temporary employment	10.6	54.1	30.9	2.3	0.0	2.1
	Paid sex services	15.0	40.6	33.2	7.2	0.8	3.3
	Support from parents, relatives	7.0	41.4	37.7	10.4	1.3	2.3
	Income of husband, partner, etc.	3.9	48.9	29.5	11.7	3.7	2.2
Education groups	Primary or basic secondary education	25.1	40.7	26.0	5.3	1.4	1.4
	Complete secondary (or vocational and technical), incomplete higher education	8.6	45.6	35.4	6.6	0.4	3.4
	Basic or complete higher education	4.1	33.1	41.2	14.4	2.2	5.0

The survey results also show that FSW mostly live in individual flats/houses (such answer was given by 61% of respondents, see Diagram 1.3.3). A rather significant portion of FSW live in the hostels (16%) and shared flats (14%).

It should be noted that one third (31%) of FSW who live in the shelters, children's homes, boarding schools, in the streets, in the basements or attics are underage persons (15-17 years). 28% of such FSW were aged 18 to 24 years, and the rest of them (41%) – 25 years and older.

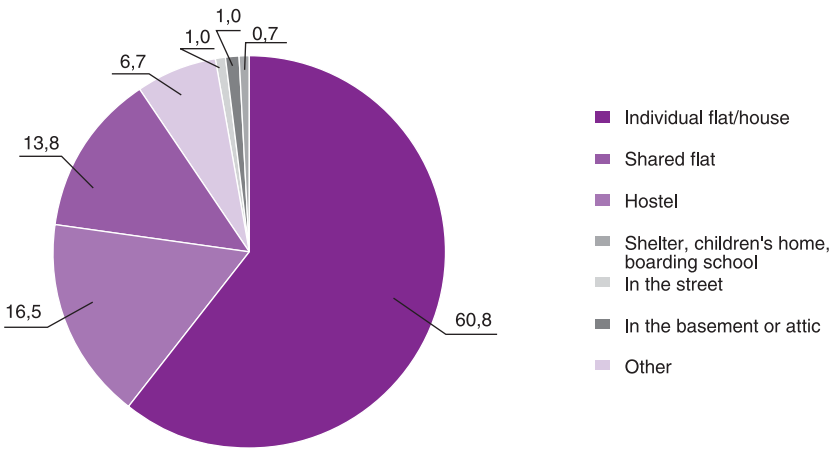

Diagram 1.3.3. Places of residence of FSW, %

1.4. Migration profile of FSW

FSW were mostly local residents – 61% of respondents indicated that they had been born in the surveyed city and resided in it (see Diagram 1.4.1). Among the rest of respondents – 6% were coming to the surveyed city from time to time and 30% had been living there for more than 1 year.

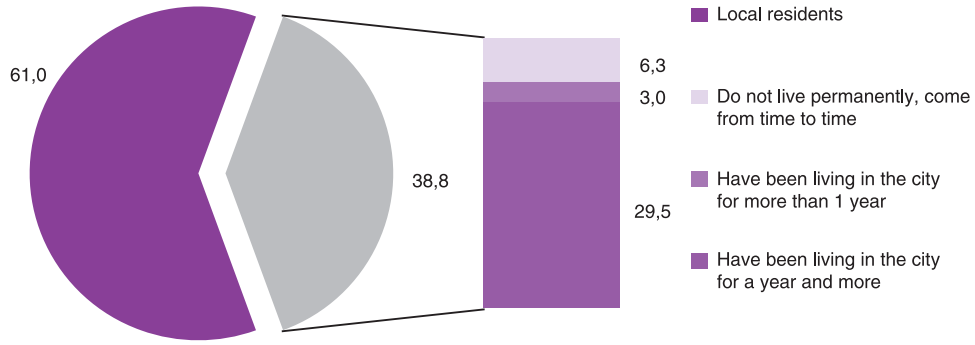

Diagram 1.4.1. Local and migrant FSW, %

Most *migrant* FSW came to the city from villages located in the same oblast where they were surveyed (37%). One fourth (26%) of the migrant FSW came to the oblast city where the survey was conducted from another city of the same oblast. Every one in ten migrant FSW came from other oblast cities of Ukraine. In general, there are more urban residents among the *migrant* FSW (52%), while 45% were rural residents (the remaining 3% could not answer this question).

Thus, 81% of *all surveyed FSW* originate from urban areas and less than 18% - from rural areas.

There are significant differences in the place of residence: if 74% of local FSW live in individual flats/ houses and only 7% - in the hostels, then for migrants these Diagram s were correspondingly 41% and 31%.

There exist certain differences in the *social status* of local and migrant FSW. So, there were more students among migrant FSW – 22% compared to 7% locals. Also, by social status, there were slightly more local FSW who had permanent employment (12% versus 7%) and who were housewives (11% versus 8%). It should be noted that migrant FSW do not differ from local FSW by educational status.

1.5. Client seeking methods

In the last 6 months half of the surveyed FSW (50%) were using phone calls and Internet to seek clients[11] (respondents could choose all variants that suited them, see table 1.5.1). 46% were looking for client at the casino, bars and disco. 40% of FSW were seeking for their clients in the streets and highways. Every one in four FSW (24%) were looking for clients at the hotels, every one in five (18%) – in the saunas. 15% of FSW reported that in the recent 6 months they were seeking clients at the railway stations. 6% of respondents indicated that they had provided escort services.

At an average, in the recent 6 months FSW were using 2.4 different client seeking methods (at least 1, if they used only one 'strategy', at the most – 8, if FSW reported that applied all strategies specified in the scale in the recent 6 months). Only 24% were applying only one strategy. 35% of FSW reported that they used two client seeking methods. Every one in four FSW (24%) applied three methods, and every one in 10 (11%) – 4 methods to seek clients. So, we see that female sex workers are using different client seeking methods.

[11] Respondents were asked how exactly they were seeking their clients. First they were asked: "How have you usually found your clients in the last 6 months?" and were offered to choose from several alternative answers.
Then they were asked "Tell us please, which of the client seeking methods chosen by you is the main one?", and respondents could give only one answer. Answers to the first question are discussed first, and to the second question will be discussed below.

Table 1.5.1

Client seeking in the last 6 months: which methods were used and which method was the main one

	% of FSW who used this method*	% of FSW who named this method the main one
In the street	38.9	14.9
In the highway	39.1	24.7
At a hotel	22.5	6.3
In the sauna	18.2	4.6
At the railway station	14.8	3.8
Telephone calls, Internet	50.5	22.1
At casino, club, bars, disco etc.	45.8	17.3
Escort services	5.7	1.5
Other	4.8	3.7

*The sum total is over 100%, because respondents could choose several variants.

It can be presumed that FSW 'group' themselves by the methods to seek the clients. That is, some FSW who are using one method (e.g., looking for clients in the street) are very likely to use a similar method (seeking for clients in the highway) and are unlikely to use different strategies (e.g., seeking for clients in the saunas). According to this survey, there really exists a certain trend to grouping by certain methods. Thus, in the last 6 months 48% of FSW who were looking for clients in the streets, were also looking for them in the highways, and 47% of FSW who were looking for clients in the highways were also looking for them in the streets (see table 1.5.2). But if we analyze this situation in general, it should be stated that there is no much differentiation between the groups by methods of client seeking: e.g., every one in ten (10%) FSW, who provided escort services in the last 6 months[12], was also looking for clients in the street, and every one in five (18%) – in the highways.

Table 1.5.2

Client seeking in the last 6 months: overlap between client seeking methods

		FSW who reported that in the recent 6 months they were seeking clients...								
		In the street	In the highway	At a hotel	In the sauna	At the railway stations	Via telephone, Internet	At casino, clubs, bars, disco, etc.	Escort service	Other
% FSW who also (in addition to the method specified in the column) were seeking	In the street		47.3	31.1	34.1	63.5	31.7	35.6	10.4	18.5
	In the highway	47.5		26.0	26.0	56.7	29.6	23.4	17.6	26.2
	At a hotel	18.0	14.9		48.7	19.5	24.5	30.7	37.9	13.4
	In the sauna	16.0	12.1	39.4		13.9	21.6	21.2	30.1	16.7
	At the railway station	24.3	21.5	12.9	11.3		8.4	13.5	5.6	7.5
	Telephone calls, Internet	41.1	38.2	55.0	60.0	28.5		59.2	75.7	37.9
	At casino, club, bars, disco etc.	42.0	27.4	62.5	53.3	41.7	53.7		63.5	42.6
	Escort services	1.5	2.6	9.6	9.5	2.2	8.6	7.9		9.4
	Other	2.3	3.2	2.9	4.4	2.4	3.6	4.5	8.0	

[12] Possibly, in this case we have the situation, when FSW had a different understanding of 'escort service'.

It should be also noted that if we speak about some main method (in this case FSW could select only one) in the last 6 months, then there was no such absolutely widespread method: looking for clients in the highway (25%) and via phone calls and Internet (22%) were equally used methods (see table 1.5.1). Slightly less (17%) FSW reported that they mostly looked for clients at casino, bars, disco, etc. 15% indicated that were mostly seeking clients in the street. The rest of methods are used by a smaller share of FSW.

So, we can state that though FSW are somewhat stratified by the client seeking method, in general, there is a significant overlapping between these methods.

SECTION II. SPECIFIC FEATURES OF SEXUAL BEHAVIOUR OF FSW

2.1. Sexual debut and beginning to provide paid sex services

The age of sexual debut and age of beginning of provision of paid sex services are important characteristics, because the early sexual debut and a longer work record in sex business can contribute to the increased vulnerability of FSW, in particular to HIV.

According to the results of the conducted survey, an average age of sexual debut is 16 years (standard bias – 1.7 years), and the median age – also 16 years[13]. It should be noted that 19% of FSW (that is, every one in five) became sexually active in the age under 14 years. Two thirds (65%) of FSW had their sexual debut in the age of 15-17 years.

For a comparison, we can indicate that by autumn 2009 the average age of sexual debut among all Ukrainian women aged 15-49 years who had sexual contacts in their lifetime was 18.5 years (standard bias – 2 years, median age – 18 years)[14]. Only 9.8% of the interviewed women had their sexual debut before reaching 14 years of age, and 29% - in the age of 15-17 years. So, we can state that FSW as a social group is characterized with *an earlier sexual debut.*

It should also be noted that among younger FSW (14-19 years) the share of those who had sexual contacts before reaching 14 years was significantly higher compared to respondents from other age groups (see Diagram 2.1.1). So, 37% of FSW aged 14-19 years had sexual debut in the age under 14 years. Among FSW aged 20-24 years there were 18% such cases and among FSW aged 25-29 and 30+ years there were even less such cases – 13% and 12% correspondingly. Among all women of Ukraine aged 15-49 years who have ever *had* sexual relations the share of those who had sex in the age under 14 years was similar in all age groups (and did not exceed 2%)[15].

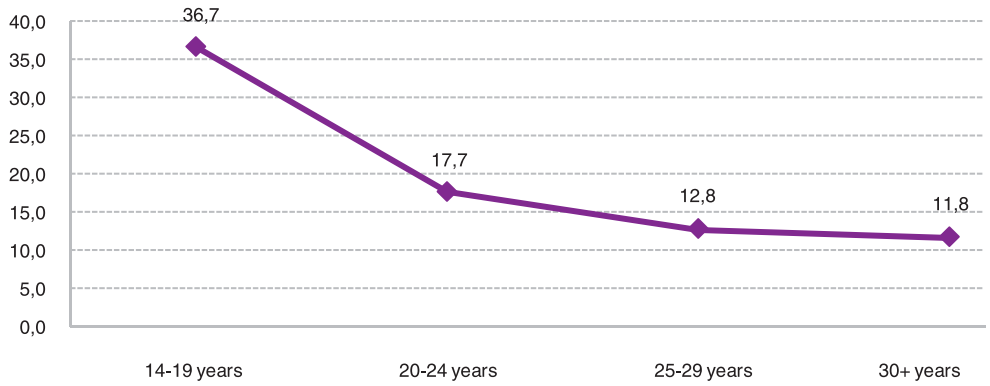

Diagram 2.1.1. The share of FSW who had their sexual debut in the age under 14 years (inclusive), %

An average age of beginning to provide *paid* sex services was 20.6 years (standard bias – 4.8 years), median age – 19 years[16]. At the same time almost 27% of respondents indicated that they had started providing paid sexual services in the age under 17 years inclusive (see Diagram 2.1.2). 1.6% of these 27% started providing paid sex services in the age under 14 years (inclusive). In general, the majority of FSW (54%) provided their first paid sex services in the age 18-24 years. Every one in five FSW (19%) began providing paid sex services in the age 25 years and older.

[13] N=2125 (73 FSW indicated that it was hard to say, another 78 said that did not remember the age of their sexual debut).
[14] According to the results of survey conducted by Kyiv International Institute of Sociology commissioned by the ICF International HIV/AIDS Alliance in Ukraine in October-November 2009. Total 2,602 respondents were interviewed in this survey in the sample representative for the Ukrainian population aged 15-49 years.
[15] According to the results of the same survey conducted in autumn 2009.
[16] N=2,076, as the number of respondents could not answer this question and remember the age when they begani providing paid sex services.

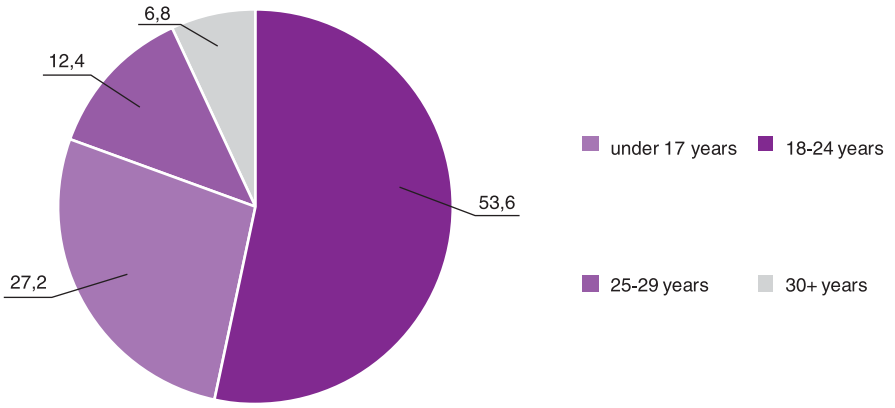

Diagram 2.1.2. Age in which FSW started to provide paid sex services, %

2.2. Work record and frequency of provision of paid sex services

Every one in four interviewed FSW (25%) had work record up to *two* years (inclusive) (see Diagram 2.2.1)[17]. Approximately the same number (27%) have been working from 3 to 5 years. The rest of interviewed FSW had longer work record.

In the first place, this situation corresponds to the aids structure of FSW and secondly to the higher 'demand' on younger girls (as younger girls are 'dominating', then older FSW have less chances to continue their occupation, so at a certain moment the 'growth' of work record stops and women discontinue this occupation). On the one hand, the lower work record reduces the risk of infection. So, the fact that a significant portion of FSW has the work record less than 2 years means, to a certain extent, that they have been facing less risks related to this work. On the other hand, this analysis should be complemented with the trend of the younger age of sexual debut, and correspondingly, the younger age of provision of paid sex services[18]. If the structure of 'demand' does not change (or almost does not change), and the trends of younger age of sexual debut and age of beginning to provide paid sex services preserve, then current young FSW, whose share is prevailing, will have a longer work record in sex business.

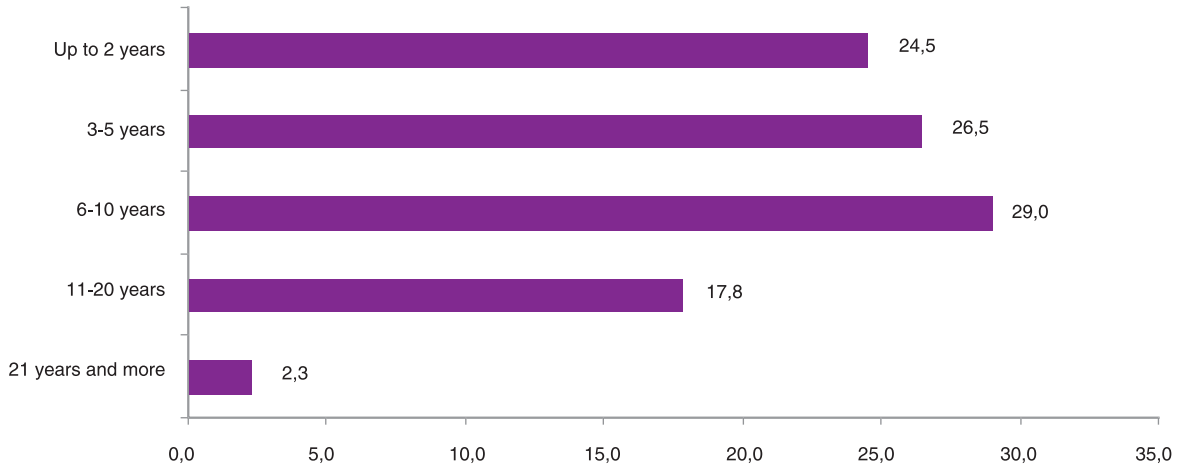

Diagram 2.2.1. Work record in sex business, %

Diagram 2.2.2 presents a cumulative share of FSW depending on their work record in sex business. That is, each value in the diagram shows how many FSW have this or that work record.

[17] The work record was calculated as the difference betweb the age of FSW and age of start to provide paid sex services. It should be noted that that such estimate of the work record of FSW is somewhat approximate, because it does not take into account the situation when FSW could have some 'breaks' in the provision of paid sex services (that is, in certain period FSW did not provide them and resume this occupation only some time later). However, taking into account the lack of data about the trajectory of work in sex business during life time, the suggested estimate of work record is as precise as possible.

[18] According to the study, the age of sexual debute and age of start of provision of paid sex services are closely interrelated – the Individual correlation ratio is +0,5 ($p<0,001$). That is, the younger was the age of sexual debut, the earlier was the age to start providing paid sex services.

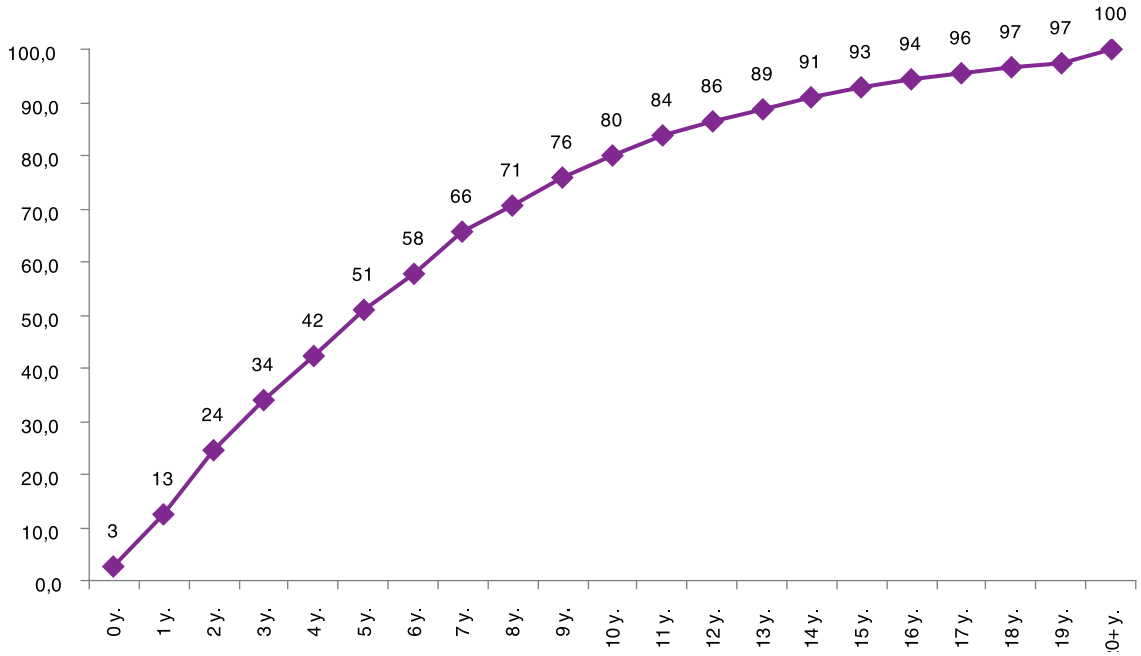

Diagram 2.2.2. Share of FSW who have corresponding or lesser work record (cumulative percentage), %

According to the survey results, 86–90% of FSW from different work record categories provided paid sex services in the recent 6 months *at least once a week* (see Diagram 2.2.3). At the same time, there were 50% of them who provided such services *2-3 times a week*. These data show that we cannot state that with the longer work record FSW provide paid sex services *more frequently*. On the other hand, it should be noted that even FSW who just begin working in this business, provide services with a rather high frequency.

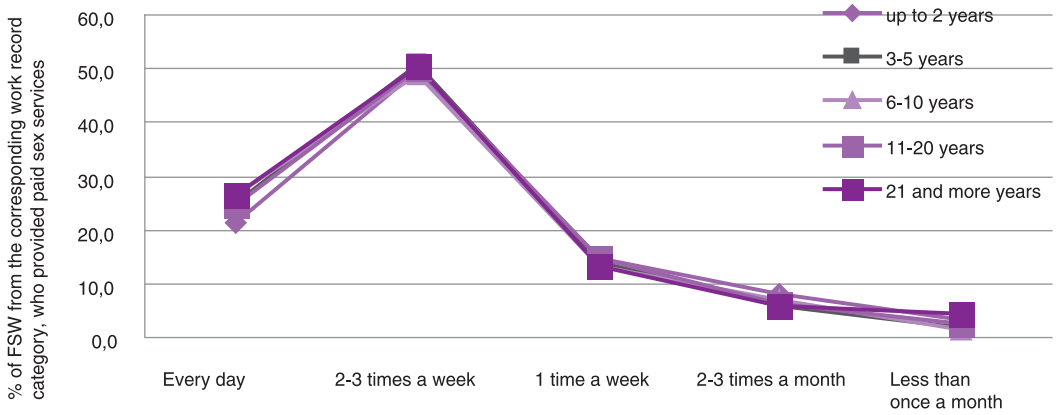

Diagram 2.2.3. Frequency of the provision of paid sex services by FSW with different work record

2.3. Age and professional structure of the clients of FSW

According to the surveyed FSW, the professional distribution of their clients was different. Two thirds (66%) of FSW indicated that in recent 6 months their clients included businessmen (see table 2.3.1)[19]. 46% of FSW had taxi drivers as their clients. 40% FSW said that their clients included truck drivers and law enforcement officers. One third of FSW had such clients as military servicemen, students and transport (other than taxi) workers in the recent 6 months.

It should be noted that FSW who differ by the *main* client seeking methods, had somewhat different clients by their profession. For example, 49% of FSW who were mostly seeking for their clients in the streets, highways and railway stations, stated that their clients included businessmen. At the same time, the number of corresponding clients among other FSW was significantly higher – 78–82%. On the other hand, much more FSW who were seeking for their clients mostly in the streets, highways and railway stations had such clients as truck drivers (70% versus 21–22%).

Table 2.3.1

Representatives of professional groups who were clients of FSW in the recent 6 months, %

	All FSW	Where have FSW been seeking their clients in the recent 6 months		
		In the street, highway, railway station	At the hotel, sauna, casino, bars, disco etc., provided escort service	Telephone, Internet
Military men	29.5	29.5	29.5	29.2
Students	31.1	23.9	38.3	37.0
Truck drivers	42.6	70.2	21.1	21.8
Sailors	4.5	5.2	3.8	4.3
Law enforcement officers (militia)	38.4	40.3	35.2	40.5
Taxi drivers	46.2	56.8	36.4	38.4
Other transport workers	33.9	49.7	20.8	22.0
Businessmen	65.6	49.4	82.0	77.6
Representatives of other professional groups	13.4	8.2	17.4	16.6
HARD TO SAY	9.0	11.6	5.7	7.2

In general, speaking about representatives of which professional groups were *most frequent* clients of FSW, we will see a similar picture to the one presented in the previous case (table 2.3.2).

[19] In order to study the professional and age (to be discussed later) structures of FSW clients, the respondents were first asked about professions and age of their clients they had in the recent 6 months. After this they were asked to clarify, representatives of which professions were their clients most frequently. In the first case FSW could select several professional and age categories, in the second case – only one.

Table 2.3.2

Representatives of professional groups who were most frequent clients of FSW in the recent 6 months, %

	All FSW	Where have FSW been seeking their clients in the recent 6 months		
		In the street, highway, railway station	At the hotel, sauna, casino, bars, disco etc., provided escort service	Telephone, Internet
Military men	1.9	1.8	2.3	1.8
Students	3.9	1.4	5.7	5.8
Truck drivers	15.0	29.8	2.4	4.4
Sailors	0.0	0.0	0.1	0.0
Law enforcement officers (militia)	2.2	2.0	1.9	2.7
Taxi drivers	7.6	9.7	5.6	5.7
Other transport workers	8.1	13.9	4.4	2.7
Businessmen	39.1	16.4	59.2	59.9
Representatives of other professional groups	3.6	2.1	4.8	4.7
HARD TO SAY	18.6	22.8	13.6	12.4

By the age, in recent 6 months, the clients of FSW were mostly young men (26-35 years) and middle age men (35-50 years) – 83% and 84% FSW correspondingly indicated that they provided services to such clients (see table 2.3.3). 50% of FSW said that they had young clients (18-25 years). 39% also indicated that they had older age clients (over 50 years). The least frequent clients were teenagers (under 18 years) – 8%. The age structure of clients is very similar among FSW who differ by the client seeking methods.

Table 2.3.3

Representatives of which age groups were FSW clients in the recent 6 months, %

	All FSFW	Where have FSW been seeking their clients in the recent 6 months		
		In the street, highway, railway station	In the street, highway, railway station	In the street, highway, railway station
Teenagers (under 18 years)	7.6	8.2	6.8	7.3
Youth (18–25 years)	50.2	48.5	52.7	50.4
Young men (26–35 years)	83.2	84.4	81.5	85.4
Middle age men (36–50 years)	84.5	87.7	80.8	84.6
Men older than 50 years	38.7	45.5	33.4	33.0
HARD TO SAY	1.9	3.1	1.2	0.7

48% of the surveyed FSW indicated that most frequently their clients were middle age men. 36% of FSW said that their clients were mostly young men (see table 2.3.4).

Table 2.3.4

Representatives of which age groups were most frequent FSW clients in the recent 6 months, %

	All FSW	Where have FSW been seeking their clients in the recent 6 months		
		In the street, highway, railway station	In the street, highway, railway station	In the street, highway, railway station
Teenagers (under 18 years)	0.1	0.1	0.0	0.0
Youth (18–25 years)	5.8	4.8	7.2	5.8
Young men (26–35 years)	35.5	30.2	40.1	41.7
Middle age men (36–50 years)	48.3	52.1	43.6	47.2
Men older than 50 years	2.7	2.2	4.1	2.2
HARD TO SAY	7.7	10.7	5.0	3.1

Speaking about FSW clients it is also important to pay attention to the groups, relation to which can be especially dangerous for FSW (see table 2.3.5). It should be noted that it is hard to identify representatives of these groups, *with the exclusion of foreigners*, so, the results obtained during the survey are rather tentative in terms of the prevalence of provision of services to these categories of people.

So, 44% FSW indicated that they provided sex services to foreigners in the recent 12 months, 22% - to injecting drug users, 14% - to bisexuals and/or homosexuals. An insignificant portion of FSW informed about provision of sex services to people, living with HIV or other sexually transmitted infections. However, most frequently FSW answered 'I don't know' when asked about these groups, which can be possibly explained by a difficulty to identify that the client belongs to two last groups.

Table 2.3.5

Distribution of answer to the question "Did you happen to provide sex services in the recent 12 months to ...", %

	Yes	No	Don't know	Hard to answer
Bisexuals and/or homosexuals	13.7	64.8	18.7	2.7
Injecting drug users	21.7	58.6	17.8	1.9
Foreigners	44.2	48.2	6.8	0.8
People living with HIV/AIDS	2.8	48.1	43.3	5.7
People living with STI	1.0	51.5	41.8	5.7

2.4. The number of sexual partners during the last working week and in the last 24 hours

The number of commercial sex partners during the last week

As demonstrated by the survey results, the average number of clients "during the last working week" was 7 (standard deviation equals to 7), and the median number was 4[20]. Among all surveyed FSW, 52% noted that during "the last working week" they had from one to 5 clients (see Diagram 2.4.1). Every fifth female sex worker (21%) had from 6 to 10 clients; and 18% of FSW reported having from 11 to 20 clients during "the last working week".

It is important to note that the number of clients varies depending on the sex work record of FSW. In particular, FSW with sex work record under 2 years have on average 6 clients during "the last working week" (standard deviation - 6, median value – 4[21]). FSW with work record exceeding 3 years have on average 7 clients (standard deviation - 7, median value - 5[22]). Significant correlation between the sex work record and the number of commercial sex partners is observed *only* in this group[23].

[20] N=2,142.
[21] N=486.
[22] N=1487.
[23] The Pearson's correlation makes up 0.11 ($p<0.01$, N=836).

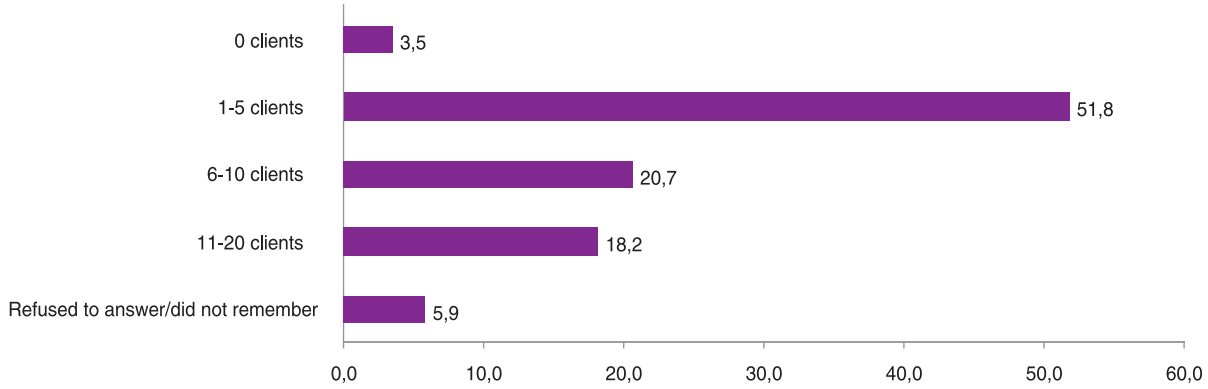

Diagram 2.4.1. The number of commercial sex partners during the last working week

FSW, who typically find their clients on streets/highways/railway stations, on average have more clients per week, as compared to FSW, who belong to other groups in terms of client seeking – 9 against 5. Among FSW representing the first group, there are fewer of those, who had from 1 to 5 clients during "the last working week" (41%, as compared to 60–62% of FSW from other groups), and more of those who had from 6 to 10 clients (25%, as compared to 14–19%), and from 11 to 20 clients (26%, as compared to 11–13%).

It should be noted that the average number of clients per week is also higher among FSW, for whom commercial sex is the main source of income. The average number of clients of these FSW is 8. As for those, who have casual earnings as their main source of income, the average number of clients was 5. Those, who have permanent job, had on average 4 clients.

The number of non-commercial sexual partners during the last week

According to survey results, the average number of various *permanent* partners during the last week, from whom FSW did not receive payment, was 1 (standard deviation - 1), median value is 0[24]. Among all surveyed FSW, 53% did *not have any* permanent sexual partners[25].

On average, FSW had a limited number of *casual* partners per week – only 1 (standard deviation - 1), median value – 0[26]. 73% of FSW did *not have any* casual sexual partners during "the last working week".

The number of commercial sexual partners during the last working day

The survey results have demonstrated that "in the last working day" FSW had on average 2 clients (standard deviation – 2), median value – 2[27]. 20% of FSW reported having no clients during the last working day (see Diagram 2.4.2). The majority of FSW (54%) reported having one or two clients. Each fifth FSW had 3-4 clients during the last working day. 5.5% of FSW provided services to 5 or more clients.

[24] N=2,212.
[25] "Permanency" of the partner is a subjective value, because people tend to identify permanent and casual partners in different ways. Taking this tendency into consideration, respondents were not offered any "objective" criteria during the survey.
[26] N=2,199
[27] N=2,208.

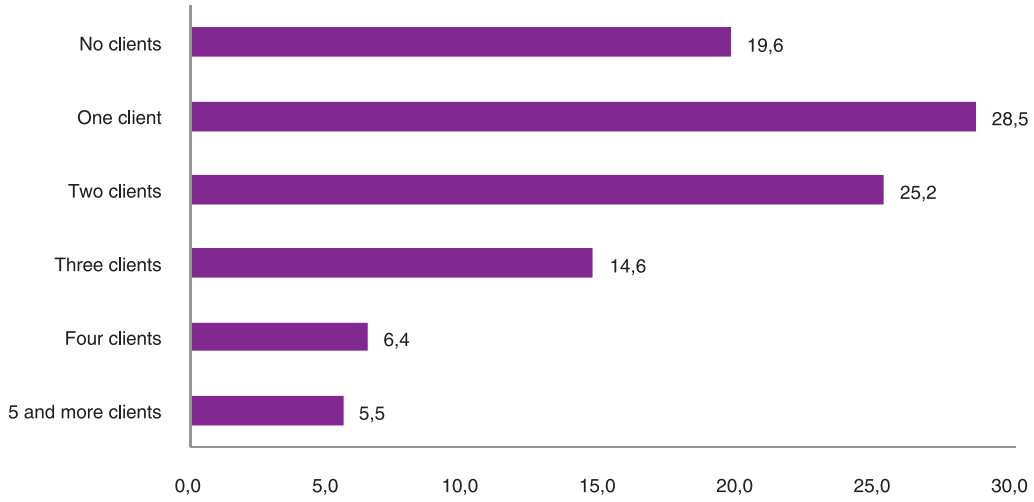

Diagram 2.4.2. The number of commercial sex partners during the last working day

Although we can observe certain differences between FSW in terms of the main method of seeking clients, they are insignificant. We should only note that FSW, who typically work on streets/highways/ railway stations, have somewhat more clients as compared to others.

2.5. Condom Use Practices

The use of condoms during sex with clients

Studying of condom use practices is extremely important, since condoms are one of the most reliable prevention measures for sexual transmission of HIV. In other words, knowledge of the real situation is the area of condom use makes it possible to evaluate the level of risk, faced by FSW.

Using the survey results, the researchers calculated the National indicator *"Percentage of FSW, who provided commercial sex services in the past 12 months, reporting the use of condom during sex with their most recent client"*. The numerator includes the number of respondents, reporting the use of condom during the most recent commercial sex contact. Denominator includes all FSW, surveyed within this study.

The value of this indicator is 89%: this means that nine out of ten surveyed FSW reported having used condom during their most recent sexual contact with a client (see Diagram 2.5.1). This indicator in 2004 was 80%; in 2006 – 85%; in 2007 – 86%; in 2008 – 88% among all FSW. Even though we can observe positive dynamics as compared to 2004, it is necessary to consider the following: first, surveys in each of these years were conducted in different regions; and second, in 2004–2007 the "snowball" methodology was used to select FSW, and in 2008–2009 the researchers applied RDS and TLS. This means that it is not feasible to compare these data sets.

Of 15 cities, where the survey was conducted in 2009, six cities (Kyiv, Donetsk, Kharkiv, Poltava, Simferopol, and Cherkassy) were also covered by the study in 2008. It will be more correct and expedient to analyze the dynamics of this indicator based on the data from these six cities only (instead of using the values for all cities, studied in 2008 and 2009). The value of the national indicator for these 6 cities in 2008 only does not have statistically significant differences from the indicator, calculated for these cities in 2009. In case of both studies, 90% of FSW, surveyed in these six cities, have reported the use of condoms during the last sexual contact with clients.

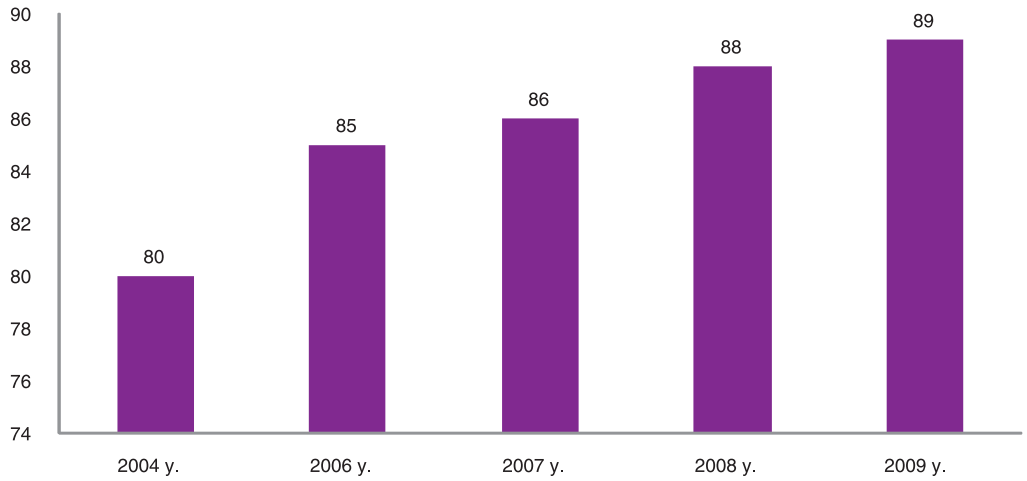

Diagram 2.5.1. National indicator "Percentage of FSW, who provided commercial sex services in the past 12 months, reporting the use of condom during sex with their most recent client"

The value of this indicator does not have statistically significant differences for FSW under 24 years of age (inclusive), and FSW of 25+ years of age, making up 90% and 89% correspondingly. At the same time the indicator value for female sex workers of 14-19 years of age, and for FSW of 30+ years of age is somewhat lower, as compared to FSW of 20-29 years of age: it reaches 86% and 87% correspondingly. As for FSW of 20–24 years, and 25–29 years, the indicator reaches 92% (the difference is significant at the level of $p<0.01$).

In addition, the survey results demonstrated that the indicator values among different groups of FSW, identified by the main method of client seeking are generally the same. It can be noted that the lowest value of the indicator is observed among FSW, who usually find their clients in railway stations – 76%. In other words, FSW, who work in railways stations, are most frequently exposed to the danger, according to the value of this indicator.

It is important to note that 60% of FSW, according to their answers, initiated the condom use during the most recent commercial sex. 30% of FSW noted that the decision was made together with a partner. Each tenth FSW informed that the condom use was initiated by the client.

However, it is equally important to know whether FSW are ready to have sex without condoms, and if yes – on what conditions. According to the survey, only 44% of FSW informed that they would never agree to provide commercial sex services without condom (see Diagram 2.5.2). Each fifth female sex worker (22%) is ready to have sex without condom for additional payment. 28% of FSW would have sex without condoms only with clients whom they know well. 17% of FSW noted that they would agree to have unprotected sex only with clients, whom they trust. So, *less than half of all FSW express confidence, that they would never – on no account - provide sex services without condoms*. This means, that the indicator "the condom use during the most recent sexual contact", which constitutes 89%, does not fully reflect the number of FSW, exposed to risk. In other words, the use of condom last time they had sex may "compensate" its non-use on other occasions. This is confirmed by the fact that only 43% of FSW reported, that they *have always* used condom during oral sex with clients in the last 30 days (the frequency of condom use is analyzed further in this section); only 66% of FSW always used condoms during vaginal sex, and only 55% - during anal sex.

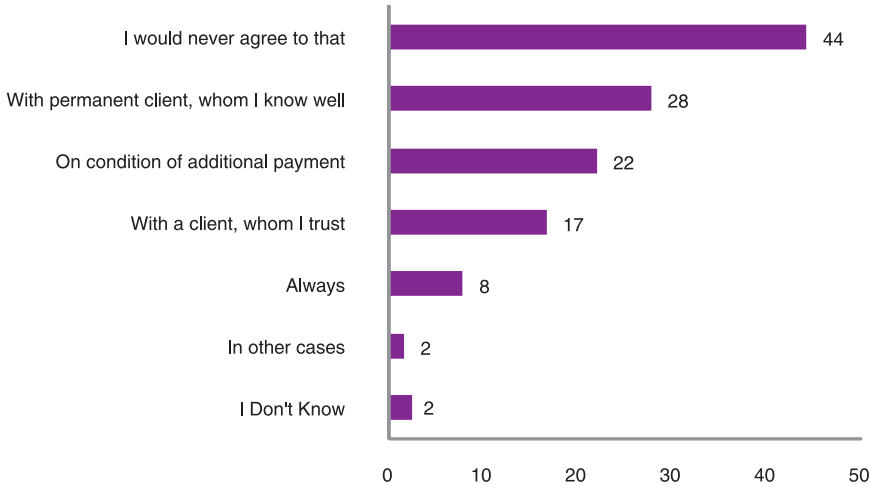

Diagram 2.5.2. Distribution of answers to the request "Please, indicate cases, when you believe it would be possible to provide sex services without condom", %

It is also important to understand the *motivation* for the non-use of condoms. In particular, 30% of FSW reported that non-use of condom with the most recent client was at the client's insistence (see Table 2.5.1). For 28% of FSW the reason was higher payment. Each fourth FSW (24%) noted that the condom was not used, because it was not within easy reach. 13% of FSW do not like to use condoms during sex. It is important to know, that each tenth FSW (12%) informed that the reason for non-use of condoms was alcohol or drug intoxication.

Table 2.5.1

Causes of non-use during sexual contact with the most recent client, %*

The client insisted about the non-use of condoms	29.7
Sex is more expensive without condom	27.5
Did not have a condom/no condom within easy reach	23.6
Does not like sex with condoms	13.4
Was drunk/under the influence of drugs	11.6
The use of condom reduces sensitivity	9.5
Did not think it was necessary	9.3
Did not think about that	7.1
Other	7.1
Condoms are too expensive	5.4
Used other means of contraception	4.5
Wanted to become pregnant	1.2
DIFFICULT TO SAY	0.4

* The sum exceeds 100%, since respondents could pick several options.

While analyzing "sexual contact with the most recent client", we face certain challenges, because the use of condom during the last contact does not explicitly imply some kind of *regularity* of the condom use *in general*. However, during the survey we asked FSW a question regarding the frequency of condom use during provision of sex services in the last 30 days[28]. In particular, 93% of FSW reported providing oral sex during the last 30 days. Only 43% of them confirmed that they have always used a condom during oral sex with a client in the last 30 days; answers to clarifying questions confirmed the condom use in all cases (see Table 2.5.2)[29].

[28] Speaking about each type of sex services (oral, vaginal, anal sex), two questions were asked: "How often did you use condoms during provision of such sex services as (oral, vaginal, anal) sex?" A respondent could select one option on the scale ranging from "always" to "never". If a respondent selected "always" option, the second, clarifying question was asked: "Please, recall events of the last 30 days. Were there cases, when you did not use condom with a client during provision of such sex services, as oral, vaginal, or anal sex?" In the Table 2.5.2 the answer "always" to the first question is divided into two options – one for cases, where the condom was always used (as confirmed by the second answer), and the other one – for cases, when condoms were always used, with some exceptions.

[29] A set of questions regarding the correctness of condom use with clients (B15.1-B15.3) were asked immediately before the condom use frequency questions. If a respondent picked "did not have clients" or "never used condoms" options, then questions regarding the frequency of condom use were not asked. In the first case (the absence of clients) FSW, according to inclusion rules, could not be included in the denominator of any indicator. In the second case the inclusion of FSW could be desirable, but, taking into account the absence of data on peculiar services they have provided (because the question regarding specific types of sex services was not asked), we did not include them in calculation of frequency indicators (there were only 28 FSW of this kind, or 1.2%, so they could not have significant impact on results). For 93% N=2,230; for 43% – N=2,066.

Among FSW, who find clients via the telephone or Internet, the group of those who always used condom during oral sex with clients is the largest – 53%. As for street-based FSW and those who work in hotels, saunas and bars, the indicator value is approximately the same, making up 40% and 39% correspondingly. It should be added that among FSW of 25+ years of age, the number of those who always used condom is somewhat higher (45%, as compared to 40% among FSW of 14-24 years of age). Low percentage of those who always use condoms during oral sex is a negative sign, which is probably related to opinions about the absence or insignificance of danger of unprotected *oral* sex.

Table 2.5.2

The frequency of use of condoms during provision of various sex services in the last 30 days (percentage of FSW, who had clients in the last 30 days, and who provided such services)

	Oral sex	Vaginal sex	Anal sex
Always (condom was used in all occasions	43.0	65.6	55.0
Always (but in some cases the condom was not used	3.8	5.5	3.8
Not always, but in more than half of all contacts (>50%)	13.1	13.7	10.2
In half of all cases (50%)	14.1	8.4	10.4
Less than in half of cases (<50%)	7.2	4.4	7.0
Never	15.2	0.4	7.3
I DON'T KNOW/I DON'T REMEMBER	3.7	1.8	6.2
The share of interviewed FSW, who provided such services in the last 30 days	92.6	99.4	51.7

According to the survey results, 66% of respondents[30], who provided[31] such sex services as *vaginal* sex, used condoms in the last 30 days and confirmed it by answering the clarifying question (see Table 2.5.2). At the same time, 85% of FSW have always or in more than half of cases used condoms. Thus, we can state that the absolute majority of FSW usually practices protected vaginal sex, with the exception of some cases, when a condom is not used. However, the indicator of permanent condom use (66%) is much lower than the national indicator, according to which 89% of FSW used condom during their most recent sexual contact with the client (see above, Diagram 2.5.1). We should also add that among FSW, who usually find clients via the telephone or Internet, is the highest share of those who had *always* used condom in the last 30 days – 77%. As for representatives of FSW using other two methods of client seeking, the percentage is 62–64%.

Since anal sex is the most dangerous type of sex, special attention should be given to both prevalence of this sex service, and the frequency of condom use. According to the survey, only half of FSW (48%) *did not provide* such sex services in the last 30 days[32]. The survey results also demonstrated that only 55% of FSW, who offered anal sex services, have *always* used a condom (and confirmed it by answering the clarifying question – see Table 2.5.2)[33]. This means that almost half of all FSW have reported about situations of non-use of condoms during anal sex[34]. This indicator (55%) is lower ($p<0.01$) than the similar value calculated for vaginal sex services. Probably, this situation results from poorer knowledge about dangers of anal sex. In other words, having lesser understanding of risks, FSW are less inclined to use condoms during anal sex. FSW, who find clients via the telephone or Internet, are characterized by the safest behaviour – 70% of them have always used condoms during anal sex. As for other two groups of FSW, the value of this indicator constitutes 48–54%.

So, this relatively optimistic national indicator of the condom use during sex with the most recent commercial client (89%) only *partially* reveals the spread of save sexual practices among FSW. This data is somewhat different from the estimated frequency of the condom use in the last 30 days. While relatively low indicator of permanent condom use for oral sex does not look too threatening (despite existing dangers), the fact that almost half of all FSW, who offer anal sex services, do not always use condoms, is much more hazardous. Quite disturbing is the fact that only two thirds of FSW permanently use condoms during vaginal sex. We should add that 15% of all surveyed FSW provide *all types* of sex

[30] N=2,217.
[31] According to the survey, only 0.6% of FSW did not provide services of this kind in the last 30 days.
[32] N=2,230.
[33] N=1,153.
[34] If we calculate the percentage of FSW, who did not always use condoms during provision of anal sex services, among the entire group of surveyed FSW, we will see that virtually every fourth FSW had anal sex with clients without condoms in the last 30 days.

services, described above; moreover, for each of this type there exist cases of non-use of condoms.

During the study the respondents were also asked to answer the following three questions on the *correctness* of condom use during sex with clients in the last 30 days:

- Did you have cases of condom tearing or slipping off?
- Did they always put a condom on prior to sexual intercourse?
- Did you have cases of continuing sex after the condom was taken off?

The survey results reveal that only a little more than 51% of FSW, who had clients in the last 30 days and did not deny condom use during this period[35], *did not* encounter any cases of condom misuse. The most widespread situation of condom misuse was a condom tearing or slipping off – such cases were mentioned by almost 31% of FSW (see Diagram 2.5.3). Experience of having condom put on after the start of sexual intercourse and cases of continued sex after the condom was removed, were mentioned by 14% and 15% of FSW correspondingly.

We should add that FSW, who typically find clients via the telephone or Internet, have somewhat fewer of these "problematic" situations. For example, when only 39% of them encounter at least one of such situations, 51% of FSW, who seek clients on streets/highways/railway stations, and 52% of those finding clients in hotels/saunas/bars have faces such problems.

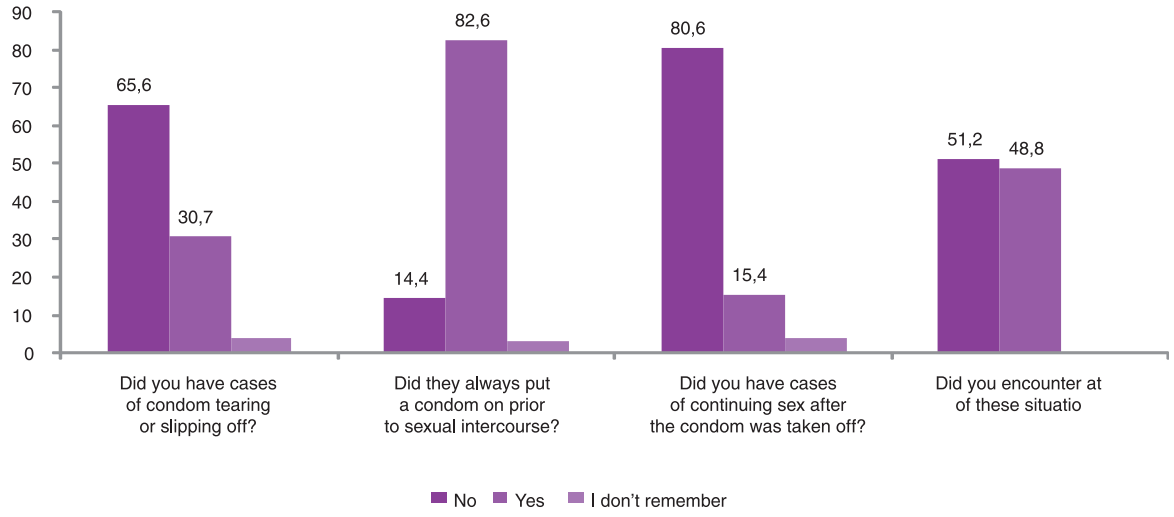

Diagram 2.5.3. Distribution of answers regarding "misuse" of condom during sex with commercial partners during the last 30 days

TSo, together with relatively low level of permanent condom use during provision of sex services, there exists a problem with the correct use of condoms. Among FSW, who have always used condoms during anal sex with clients (55%), 39% have reported having at least one of three "problematic" situations. Similar values for oral and vaginal sex constitute 32% and 36% correspondingly. So, correctness of the analysis of the *frequency* indicator is closely related to the *correctness* of condom use.

If we analyze the practice of condom use by FSW during sex with commercial clients *in general*, we face certain diverse data. While having rather high indicator of condom use during sex with the most recent client, much *fewer* FSW are characterized by the permanency of condom use. Here we should add readiness of significant numbers of FSW to have sex without condoms under different circumstances, and widespread problem of condom misuse. If we consider these conditions *as a whole*, they can significantly undermine the important role that condoms should play. At the same time different programmes, linked to the condom use practices (e.g., distribution of condoms through various public events) should focus both on "quantitative" dimension (the number of condoms distributed and the number of FSW, who received them), and on other aspects, related to frequency and correctness of their use.

The use of condoms during sex with permanent partners

Now let us consider the practices of condom use during sex with *permanent* partners, from whom

[35] N=2,230.

FSW do not receive payment/rewards. Every third FSW (35%) has reported having no permanent, non-commercial partners in the last 12 months. Of those, who had such permanent partners, 58% noted that they have used condoms during the most recent sexual contact with them. Obviously, the indicator is not very high – 42% of FSW did not use a condom during the last sexual contact with their permanent partners, and this could have negative consequences.

It should be noted that the number of FSW, who used a condom last time they had sex with permanent partners, is somewhat higher among younger FSW and FSW with sex work record under 2 years (inclusive). In particular, 68% of FSW under 24 years of age used condoms, as compared to 53% of FSW of 25+ years of age ($p<0.01$). Among FSW, involved in sex business for less than 2 years, the indicator value is 68%; the indicator is 57% ($p<0.01$) for those with sex work record exceeding 3 years.

As in case of commercial clients, we need to understand *motivation* of the non-use of condoms. The survey results demonstrate that the main cause for non-use was a dislike of sex with condoms – almost 35% of FSW have picked this variant of answer (see Table 2.5.3). 27% of FSW did not think that the use of condoms was necessary. 17% of FSW believe that a condom reduces sensitivity, while 13% of them did not think about that at all. Almost every tenth FSW (11%) explained non-use of condoms by the use of other means of contraception.

Table 2.5.3

Causes of non-use during the most recent sexual contact with a permanent partner, %**

Does not like sex with condoms	34.8
Did not think it was necessary	26.9
The use of condom reduces sensitivity	16.5
Did not think about that	13.4
Used other means of contraception	11.1
Did not have a condom/no condom within easy reach	8.8
Wanted to become pregnant	5.8
Was drunk/under the influence of drugs	4.0
Condoms are too expensive	1.8
Other	7.8
DIFFICULT TO SAY	2.9

* The sum exceeds 100%, since respondents could pick several options.

Now let us consider the frequency and correctness of condom use during sex with permanent partners in the last 30 days. In particular, 60% of FSW had permanent sexual partners in the last 30 days. Each fourth FSW (24%), who had permanent partners in the last 30 days, reported that she had *never* used condoms during sex with such partners[36]. Probably, such high percentage can be explained by the peculiar nature of relations with these partners: since he is permanent, there should be certain degree of trust towards him. This could stipulate less frequent use of condoms. In addition, less than 38% of FSW, who had permanent sexual partners, reported having *always* used condoms in the last 30 days during sex with these partners.

Table 2.5.4

The frequency of use of condoms during sex with permanent partners in the last 30 days (percentage of FSW, who had permanent partners in the last 30 days)

Always (condom was used in all occasions)	37.7
Always (but in some cases the condom was not used	3.7
Not always, but in more than half of all contacts (>50%)	16.0
In half of all cases (50%)	6.5
Less than in half of cases (<50%)	7.7
Never	24.0
I DON'T KNOW/I DON'T REMEMBER	4.3
The share of interviewed FSW, who had permanent sexual partners in the last 30 days	59.6

[36] This includes FSW, who, while answering the questions on the correctness of condom use (B17.1-B17.3), said that they have never used condoms, and those who answered "never" to the question about the frequency of condom use in the last 30 days (B18.1).

57% of FSW, who had sex with permanent partners in the last 30 days, have an experience of *incorrect* use of condoms. Even though for FSW, who always used condom in the last 30 days, the value of this indicator is somewhat lower, it is still comparatively high – 43%. The most widespread problem was related to condom tearing or slipping off – 28% of FSW, who had permanent sexual partners, reported such cases of misuse (see Diagram 2.5.4).

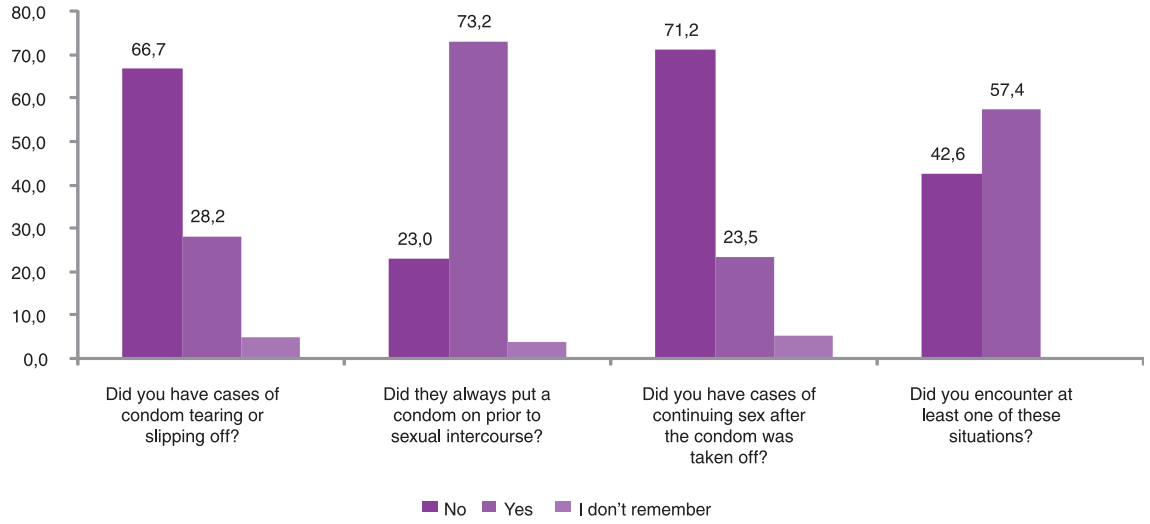

Diagram 2.5.4. Distribution of answers to the question regarding specific situations during sex with permanent partners in the last 30 days

Now let us consider contacts with *casual* partners, from whom FSW *did not* receive any payment/rewards. The importance of analysis of this group is based on the fact that casual contacts are mostly unfamiliar people. If casual partners are not well known to FSW, then sexual contacts with them may expose their health to danger (and vice versa, FSW themselves may be dangerous to them). The survey results show that in the last 12 months 53% of FSW had casual partners. Of FSW, who had casual partners, 79% have reported the use of condom during the last sexual contact with partners of this kind.

We should emphasize two of the most widespread causes for non-use of condoms during the most recent sexual contact: alcohol/drug intoxication and the absence of condom/no condom within easy reach (both causes were mentioned by 33% of FSW – see Table 2.5.5). The rest of causes were less widespread.

Table 2.5.5

Causes for non-use of condoms during the last sexual contact with casual partner, %*

Was drunk/under the influence of drugs	33.3
Did not have a condom /no condom within easy reach	32.6
Does not like sex with condoms	13.0
Did not think it was necessary	12.6
Did not think about that	8.4
The use of condom reduces sensitivity	3.6
Used other means of contraception	3.5
Condoms are too expensive	3.1
Wanted to become pregnant	0.0
Other	8.9
DIFFICULT TO SAY	2.0

* The sum exceeds 100%, since respondents could pick several options.

Now let us consider the frequency and correctness of the use of condoms with *casual* partners. So, 46% of FSW reported having casual sexual partners in the last 30 days. Only 56% of FSW who had casual partners in the last 30 days have reported using condoms *every time* during sex with these partners (see Table 2.5.6). However, only 4% of FSW noted that they have never used condoms. The rest of FSW are characterized by *irregular* use of condoms.

Table 2.5.6

The frequency of use of condoms during sex with casual partners in the last 30 days (the group of FSW who had casual partners in the last 30 days)

Always (condom was used in all occasions)	56.4
Always (but in some cases the condom was not used)	4.5
Not always but in more than half of all contacts (>50%)	15.7
In half of all cases (50%)	8.0
Less than in half of cases (<50%)	3.7
Never	3.5
I DON'T KNOW/I DON'T REMEMBER	8.2
The share of interviewed FSW, who had casual sexual partners in the last 30 days	46.4

More than half of all FSW (51%), who used condoms during sex with casual partners, have reported that in the last 30 days during such sexual contacts they experienced *incorrect* use of condoms. The most typical problem here was that the condom was either torn or slipped off – 27% of FSW reported having such cases of misuse (see Diagram 2.5.5).

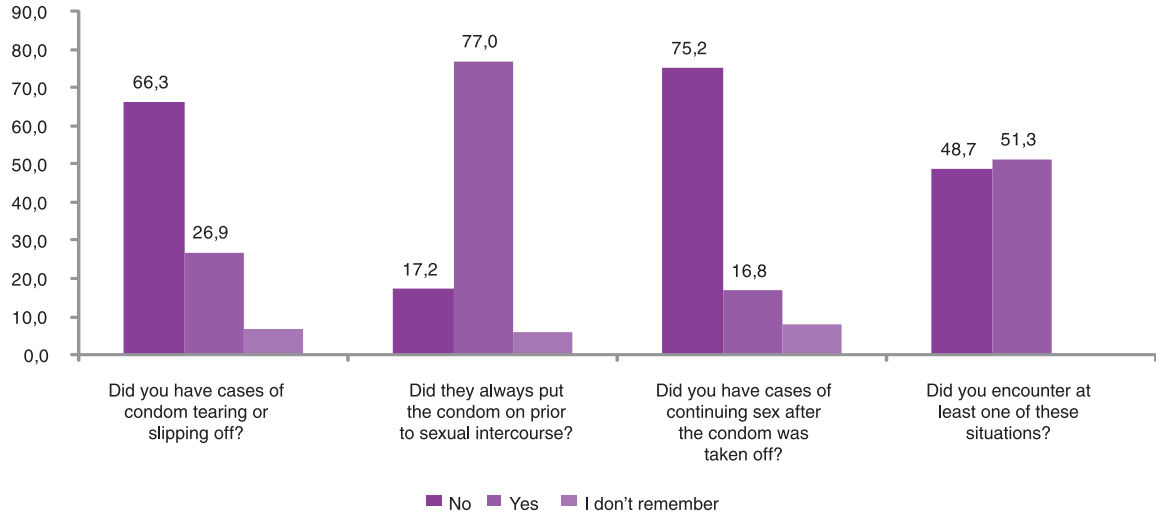

Diagram 2.5.5. Distribution of answers to the question regarding specific situations during sex with casual partners in the last 30 days, %

So, analysis of condom use practices during sexual contacts with *non-commercial* partners (both permanent and casual) reflects negative trends. Taking into account low levels of the *permanent* use of condoms, readiness to avoid condom use and frequent cases of condom misuse during sexual contacts with *clients*, it is important to develop more safe and reliable practices in relations with other, non-commercial partners. Such need is vital, since non-commercial partners (as well as clients) represent a "bridge" between FSW and the general population. According to the findings of the survey, only *limited* group of FSW may be characterized as individuals, who truly observe safe sexual practices in relations with both clients and permanent and casual partners. So, it is necessary to broaden the understanding of the need and appropriate use of more safe practices by FSW.

SECTION III. DRUG USE PRACTICE

3.1. The use and prevalence of different types of drugs among FSW

The use of drugs, especially injecting drugs, is one of the most dangerous factors for the health of female sex workers. In the course of the study 16% of respondents confirmed the drug use (see Diagram 3.1.1). Additionally, 9% of those surveyed reported having used drugs in the past. So, 24% of FSW have history of the drug use. The survey findings also show that the number of those who currently use drugs, is higher among FSW in the age of 25 years and older (20%, as compared to 11% among FSW younger than 24 years of age, $p<0.01$); it is also higher among FSW with commercial sex record exceeding two years (19%, as compared to 8% among FSW with "carrier record" below two years, $p<0.01$), as well as among those who typically find their clients on the streets/highways/railway stations (22%, as compared to 10–12% among FSW who work in hotels, saunas, via the telephone or Internet, $p<0.01$).

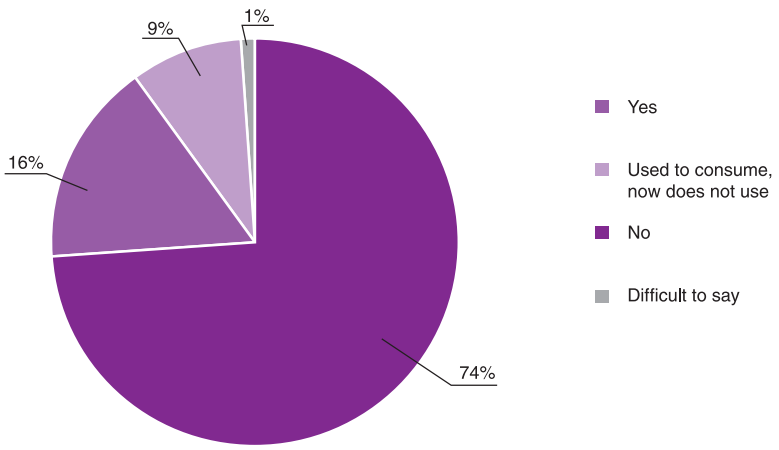

Diagram 3.1.1. Drug use among FSW

In addition, the researchers asked the respondents about the type of drugs that FSW used in the last 12 months and during the last 30 days. Below are the results of such polling. The prevalence of use of various types of drugs is calculated only for those FSW, who either currently use or used drugs in the past.

The *most widespread* drug among FSW is *liquid opium extract* – 54% of FSW, who either currently use or used drugs in the past, reported having consumed this type of drug during the last 12 months. As for the recent 30 days, this drug was used by 46% of FSW. Quite widespread is the use of metamphetamine solutions: the data for 12 months and 30 days make up 26% and 18% correspondingly. Tramadol/Tramal was consumed during the periods under study by 22% and 16% of FSW correspondingly. We should emphasize that every tenth female sex worker (12%) also consumed amphetamine in the form of powder in the last 12 months (corresponding rate for the 30-day period is 8%). As for the other types of drugs, their use may be considered as less prevalent.

Table 3.1.1

The prevalence of various types of drugs among FSW

	Percentage of FSW, who used the following types of drugs during the last …		Percentage of FSW, who injected this drug during the last 30 days **
	12 months*	30 days*	
Tramadol/Tramal	22.4	16.1	46.8
Heroin	6.1	4.2	63.2
Liquid opium extract (“shirka”, “chernyi”)	53.5	45.6	90.1
Other opioids	1.1	1.1	0.0
Cocaine	2.2	1.3	48.2
Powder amphetamine (“fen”)	11.7	8.4	35.2
Powder methamphetamine (crystal)	2.6	2.4	67.2
Methamphetamine solution (“vint”, “pervitine”)	26.3	18.4	88.6
Methcathinone (“jeff”)	5.3	3.6	99.3
Cathinone (“boltushka”, “mulka”)	4.8	3.8	97.3
Methylenedioxy-methamphetamine (“ecstasy”, MDMA)	6.8	4.0	51.1
Other stimulants	3.4	3.2	29.4
LSD, mushrooms	5.5	4.1	61.9
Other drugs	3.5	2.8	17.9

* Percentage of FSW, who confirmed drug use (currently or in the past)
** Percentage of FSW, who reported having used this type of drug in the last 30 days.

The survey results resfect certain variations in the prevalence of the use of dufferent types of drugs among FSW of different age (see Table 3.1.2). Specifically, the use of Tramadol/Tramal among FSW in the age under 24 years is generally more widespread - 31% FSW of this age group reported having used this drug in the last 12 months (as compared to 19% of FSW of 25 years of age and older, $p<0.01$), and 23% of them used this drug during the last 30 days (as compared to 13% among older FSW, $p<0.01$). Younger female sex workers also prefer more LSD and mushrooms – 15% of young FSW consumed such drugs in the last 12 months (as compared to just 2%, $p<0.01$), and 13% – during the last 30 days (only 1% of older FSW, $p<0.01$). In addition, the use of ecstasy and MDMA is more popular in the environment of younger FSW – 11% versus 5% during the last 12 months ($p<0.05$), and 8% versus 2% - in the last 30 days ($p<0.01$).

On the contrary, the use of liquid opium extract is much more prevalent among the representatives of older age group of FSW (25+ years). During the last 12 months more than 60% of FSW aged 15 years and older have used this drug (as compared to 37% among FSW of 14-24 years, $p<0.01$). In the last 30 days, about 51% of FSW consumed this type of drugs (as compared to 32% in the group of those aged 14-24 years, $p<0.01$). In three cases one can observe statistically significant predominance of the use of drugs during the last 12 months, which, however, is not seen in the 30-day period under study. It specifically concerns “vint” or “pervitine”, which was used by 29% of FSW of 25+ years of age (as compared to 19% of FSW aged 14-24 years, $p<0.05$); “jeff” – 7% versus 2% ($p<0.05$); and heroin - 7% versus 3% ($p<0.05$).

Table 3.1.2

*The prevalence of use of different drugs among FSW of different age groups, %**

	Drug use in the last 12 months		Drug use in the last 30 days	
	FSW under 24 years	FSW of 25+ years of age	FSW under 24 years	FSW of 25+ years of age
Tramadol/Tramal	31.3	18.9	22.8	13.4
Heroin	2.8	7.4	2.2	5.0
Liquid opium extract ("shirka", "chernyi")	36.6	60.2	32.4	50.9
Other opioids	0.0	1.6	0.0	1.6
Cocaine	2.1	2.2	2.1	1.0
Powder amphetamine ("fen")	10.6	12.1	9.1	8.2
Powder methamphetamine (crystal)	2.8	2.5	2.8	2.2
Methamphetamine solution ("vint", "pervitine")	18.9	29.2	14.3	20.0
Methcathinone ("jeff")	2.0	6.6	1.2	4.5
Cathinone ("boltushka", "mulka")	4.5	5.0	3.3	4.1
Methylenedioxy-methamphetamine ("ecstasy", MDMA)	10.8	5.1	8.1	2.3
Other stimulants	5.0	2.7	4.3	2.7
LSD, mushrooms	14.8	1.8	12.7	0.7
Other drugs	4.2	3.2	3.6	2.4

* Drugs with statistically significant differences for various age groups of FSW printed in bold.

So, the structure of the use of different types of drugs varies depending on the age of FSW. We should remind that there exists correlation between the age and the sex work record. Deviations between FSW with different sex work record, demonstrated below (see Table 3.1.3) *duplicate* age differences. In other words, it is possible to assume that either greater "involvement" in this activity influences the structure of the drug use, or FSW of different age belong to various age cohorts of drug users.

Table 3.1.3 provides comparative data on the use of different types of drugs by FSW with sex work record up to 2 years inclusive, and among those involved in commercial sex for 3 and more years. We should note that for both periods under study there are no statistically significant differences in the consumption of Tramadol/Tramal. Among women with shorter work record, the use of ecstasy and MDMA is predominant – 14% of these FSW used these drugs in the last 12 months (as compared to 6% of FSW with longer sex work record, $p<0.05$), and 13% – during the last 30 days (as compared to 3%, $p<0.01$). In addition, less "experienced" FSW give preference to LSD and mushrooms: the prevalence for both periods is 18% (as compared to 2–3%, $p<0.01$). On the other hand, more FSW with longer sex work record generally prefer liquid opium extract – 57% in the last 12 months (as compared to 28% among FSW with shorter work record, $p<0.01$), and 47% during the last 30 days (as compared to 24%, $p<0.01$). In addition it is worthy to note that not a single FSW with the work record below 2 years consumed heroin either in the last 12 months or in the last 30 days; at the same time some FSW with longer sex record do use heroin (8% and 6% correspondingly). Since such respondents in the first group of FSW are absent, it is impossible to perform reliable statistical comparison.

Table 3.1.3

*The prevalence of use of different drugs among FSW with different sex work record,%**

	Drug use in the last 12 months		Drug use in the last 30 days	
	FSW with work record under 2 years	FSW with work record over 3 years	FSW with work record under 2 years	FSW with work record over 3 years
Tramadol/Tramal	19.6	22.7	13.6	16.5
Heroin	0.0	7.9	0.0	5.5
Liquid opium extract ("shirka", "chernyi")	27.7	56.8	24.1	47.4
Other opioids	0.0	1.5	0.0	1.5
Cocaine	1.4	2.6	1.4	1.5
Powder amphetamine ("fen")	10.5	12.8	10.5	8.7
Powder methamphetamine (crystal)	6.0	2.2	6.0	2.2
Methamphetamine solution ("vint", "pervitine")	16.0	25.7	12.7	17.3
Methcathinone ("jeff")	1.5	6.0	1.5	4.0
Cathinone ("boltushka", "mulka")	3.0	4.3	0.0	3.5
Methylenedioxy-methamphetamine ("ecstasy", MDMA)	14.0	6.4	12.6	3.0
Other stimulants	7.6	3.0	6.8	2.9
LSD, mushrooms	18.4	3.2	18.4	1.6
Other drugs	2.0	3.6	2.0	2.9

* Drugs with statistically significant differences for groups of FSW with different sex work records printed in bold.

The survey findings also demonstrate that the structure of the drug use among FSW is also different in terms of their method of seeking clients (see Table 3.1.4). For example, among FSW, who typically find clients via the telephone or Internet, 14% used heroin in the last 12 months (as compared to 4-5% among those who use other methods of client seeking, $p<0.01$), and 11% - during the last 30 days (as compared to 2–3%, $p<0.01$).

In the last 12 months the liquid opium extract was the most popular drug among FSW, who typically find their clients on streets/highways/railway stations. The prevalence of opium use among these female sex workers reaches 62% (as compared to 39% among "hotel" and other FSW, $p<0.01$, and 50% among FSW, who work via the telephone or Internet, $p<0.01$. There are no significant differences between these two groups for the period of the last 12 months). Similar situation can be observed for the period of the last 30 days. The only significant difference is seen between FSW, who typically find clients in hotels/saunas/bars, and those who work via the telephone or Internet – the latter consume the opium extract more frequently ($p<0.05$).

Somewhat larger numbers of FSW, who seek clients via the telephone or Internet, as compared to those working on streets/highways/railway stations, use cocaine in the last 12 months ($p<0.01$). For these two groups of FSW the researches also find statistically significant differences regarding the use of amphetamine: in the last 12 months close to 20% of FSW working via the telephone or Internet, used amphetamine (as compared to 8% of street FSW, $p<0.01$), and in the last 30 days – 13% (as compared to 6%, $p<0.05$). At the same time, methamphetamine is more popular among FSW working on streets/highways/railway stations – almost 30% of them consumed this drug in the last 12 months (as compared to 17% of FSW, who find clients via the telephone or Internet), and over 22% – in the last 30 days (as compared to 7%, $p<0.01$). It should be noted that in the last 30 days street-based FSW consumed methamphetamine more frequently, as compared to FSW working in hotels/saunas/bars – the prevalence of methamphetamine use among the latter group is 13% ($p<0.05$).

Specific feature of the drug use by FSW, who generally find clients on streets/highways/railway stations is the fact that significantly lower percentage of them consume LSD and mushrooms, as compared to other FSW groups - 3% vs. 13% of FSW working in hotels/saunas/bars ($p<0.01$), and vs. 7% among FSW seeking clients via the telephone or Internet ($p<0.05$) (for the period of the last 12 months). As for the last 30 days, corresponding figures are 2% against 11% ($p<0.01$), and against 5% ($p<0.05$). Peculiarity of "hotel" and other FSW is that more representatives of this group used

ecstasy or MDMA in the last 30 days as compared to FSW from other groups - 9% as compared to 2–3% ($p<0.05$).

Table 3.1.4

The prevalence of use of different drugs among FSW, who use different methods of client seeking, %

	Drug use in the last 12 months			Drug use in the last 30 days		
	FSW, who find clients on streets, highways, railway stations	FSW, who find clients in hotels, saunas, bars, etc.	FSW, who find clients via the telephone or Internet	FSW, who find clients on streets, highways, railway stations	FSW, who find clients in hotels, saunas, bars, etc.	FSW, who find clients via the telephone or Internet
Tramadol/Tramal	24.9	16.9	20.0	18.6	11.0	12.4
Heroin	4.2	4.5	14.3	2.7	2.1	11.4
Liquid opium extract (“shirka”, “chernyi”)	62.3	38.6	49.9	55.9	27.8	40.4
Other opioids	1.7	0.8	0.3	1.7	0.8	0.3
Cocaine	0.7	2.8	6.2	0.0	2.8	3.9
Powder amphetamine (“fen”)	8.3	12.9	19.9	5.8	10.5	12.7
Powder methamphetamine (crystal)	2.2	3.9	1.2	1.8	3.9	1.2
Methamphetamine solution (“vint”, “pervitine”)	29.8	21.8	17.2	22.1	13.2	7.2
Methcathinone (“jeff”)	4.8	6.3	6.0	3.4	5.5	2.2
Cathinone (“boltushka”, “mulka”)	4.4	7.4	3.2	3.7	7.4	0.0
Methylenedioxy-methamphetamine (“ecstasy”, MDMA)	5.4	10.5	8.3	3.4	8.9	1.7
Other stimulants	3.1	3.1	5.5	2.8	3.1	5.1
LSD, mushrooms	2.7	13.2	6.9	1.6	11.0	5.1
Other drugs	32	2.8	2.3	2.6	2.4	2.3

Since the use of drugs affects the consciousness of an individual, this practice is very dangerous. Even more dangerous is the use of *injecting* drugs, including sharing of injecting equipment. The use of such equipment is related to high risk of HIV infection. The survey results demonstrate that among FSW, who used to or currently use drugs, 58% injected drugs in the last 30 days (see Diagram 3.1.2). This indicator is extremely high: it means that 3 out of 5 drug-using FSW are characterized by particularly dangerous practices. If we calculate this number against the entire group of surveyed FSW, we will see that 15% of *all* female sex workers have injected drugs in the last 30 days. Among FSW under 24 years of age, who either used to or currently consume drugs, the number of those, who inject drugs, is somewhat lower – 51%, as compared to 61% of FSW of 25 years and older ($p<0.05$). This figure is also lower for FSW with shorter sex work record: 47%, as compared to 61% of FSW with longer work record ($p<0.05$). More drug-injecting FSW can be seen in the group of those who typically find clients on streets, highways and railway stations – 63%, as compared to 51–52% among FSW who use other methods of client seeking ($p<0.05$).

A factor that increases the risk of injecting drug use is sharing of injecting equipment. For example, every fifth FSW (20%) who injected drugs in the last 30 days, has also reported sharing the injecting equipment with other users. However, the share of such FSW among *all* respondents is relatively small, reaching close to 3%. It is important to note that the number of those who shared injecting equipment among drug-injecting FSW of 14-24 years of age, is meaningfully *higher* as compared to FSW of 25+ years of age – 30% vs. 16% ($p<0.01$).

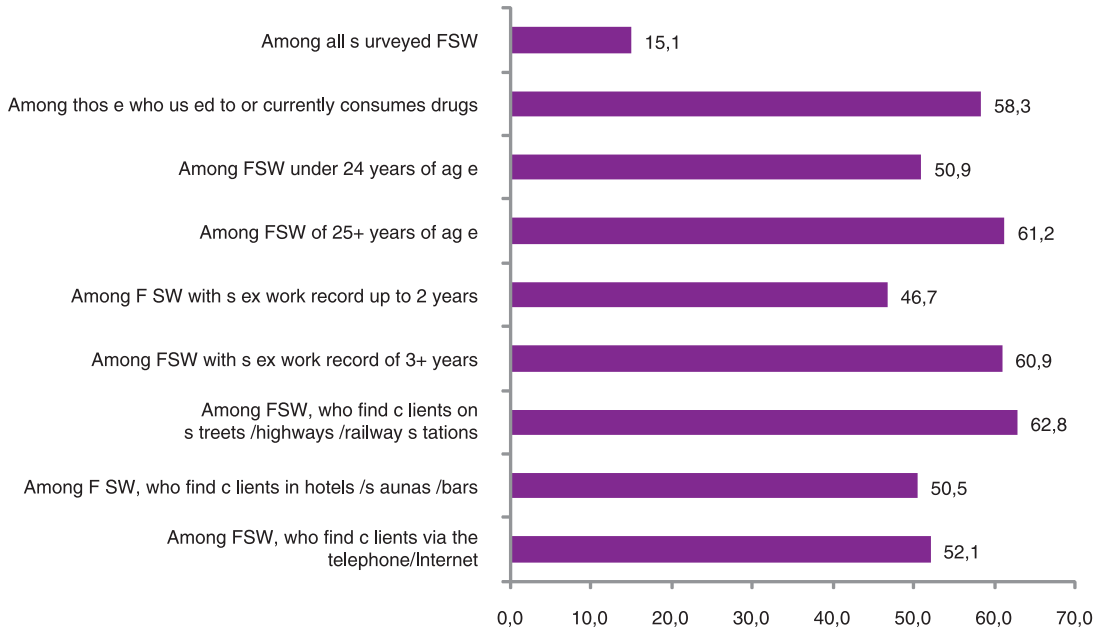

Diagram 3.1.2[37]. Percentage of FSW, who injected drugs in the last 30 days

3.2. Substance use (alcohol, drugs, toxic substances) prior to sexual contact(s) with clients

The use of abovementioned substances immediately before the sexual contacts with clients may have serious negative consequences, since these substances can affect consciousness. According to the survey results, only 14% of FSW told that they never consumed alcohol in the last 30 days (see Diagram 3.2.1). 16% of FSW drank alcohol *every day*, and 41% - at least once a week.

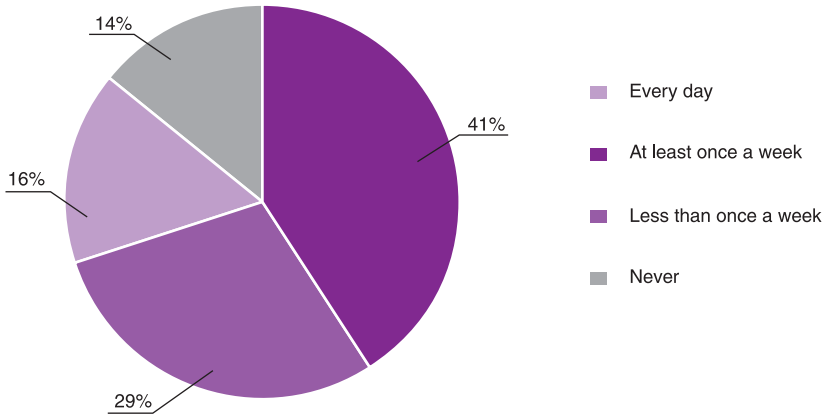

Diagram 3.2.1. The consumption of alcohol by FSW in the last 30 days

Among FSW, who had clients in the last 30 days, 89% reported having consumed alcohol before the contact(s) with clients. Moreover, 20% of these 89% of FSW are those who drank alcohol before *every* contact with the client. The frequency of alcohol consumption is more or less the same for different FSW in terms of age and sex work record. Among FSW, who usually find clients via the telephone or Internet, the number of those who consumed alcohol is somewhat lower as compared to other groups – 79% against 89–92% ($p<0.01$).

Quite revealing is interrelation between the frequency of alcohol consumption prior to sexual contacts with clients, and the frequency of condom use during sex with clients. For example, the percentage of FSW, who *always* use condoms during oral sex with clients in the last month, increases from 27% among those, who *always* consume alcohol before the contact with the client, to 57% among FSW, who *never* drink alcohol before sex with clients (see Diagram 3.2.3). There exists significant *negative*

[37] All percentage values, except for the first column, concern FSW, who continue or used to consume drugs.

correlation[38] between the frequency of alcohol consumption prior to sexual contacts and the frequency of condom use.

As for the vaginal sex, such difference ranges from 55% to 77%; and from 40% to 69% - for anal sex. *Negative* correlation[39] is also observed for these types of sexual contacts. Even though we cannot affirm that it is alcohol that "forces" FSW to less frequent use of condoms during sex with clients, it is quite safe to say that consumption of alcohol significantly contributes to less frequent use of condoms during contacts with non-commercial partners.

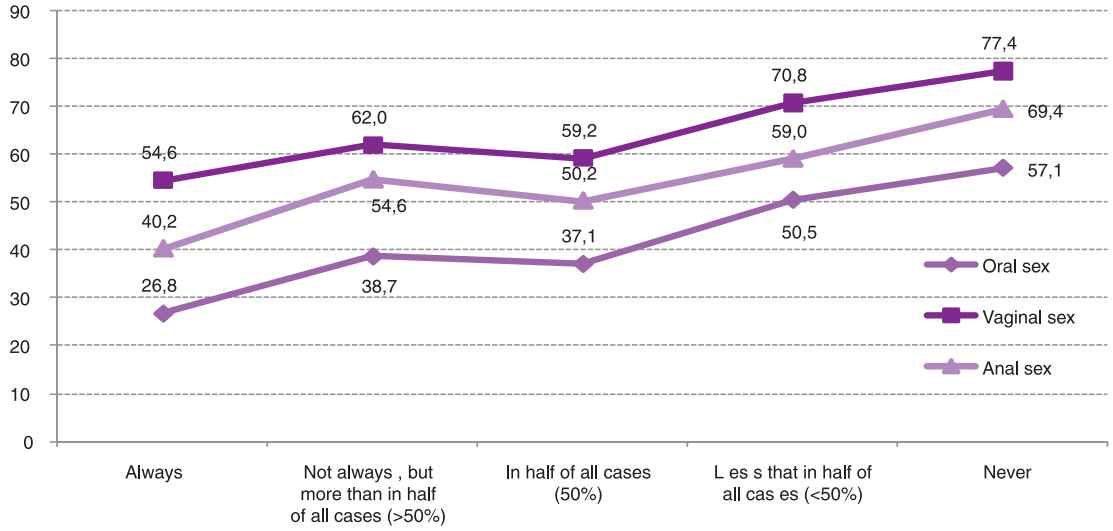

Diagram 3.2.2. Percentage of FSW, who used condoms during provision of different sex services in the last 30 days, depending on the frequency of alcohol consumption prior to contacts with clients

It is possible to assume that the frequency of substance use will demonstrate even closer correlation with the non-use of condoms. We should note that in contrast to alcohol consumption, the substance use practices are much less prevalent. For example, only 17% of surveyed FSW reported having used drugs before the sexual contacts with clients in the last 30 days. Even though this figure is much lower than that regarding the alcohol consumption, it still means that during the last month every fifth female sex worker had sexual contacts in condition of narcotic intoxication. Moreover, every 10th respondent (11%) had sexual contacts of this type in more than half of all cases.

In contrast to alcohol consumption, here we can trace interdependence between the frequency of drug use prior to sexual contacts and the age of FSW, her sex work record and the main method of client seeking. For example, FSW under 24 years of age tend to use drugs before the sexual contact less frequently, than FSW of 25+ years – 11% as compared to 20% ($p<0.01$). Similarly, FSW with shorter sex work record are characterized by generally lower prevalence of such practices – 8% as compared to 19% ($p<0.01$). Most frequently such practice was reported by FSW, who typically find clients on streets/highways/railway stations – 22% (moreover, every tenth FSW from this group (11%) used drugs before every sexual contact), as compared to 15% ($p<0.01$) of those who seek clients via the telephone or Internet. The least widespread practices of this kind (10%, at the level of $p<0.05$, lower than the previous group) can be observed among FSW, who work in hotels, saunas and bars.

Growth of the percentage of FSW, who always used condoms during sex with clients, with simultaneous reduction of the frequency of drug use immediately before sexual contacts is typical *only* for such services as anal sex – from 34% of FSW, who always used substances before the contact, to 58% among those, who never used drugs. As for vaginal sex, the picture is slightly different: among FSW, who have always used drugs before sex, 59% always used condoms. However, speaking about FSW, who did not always use drugs, the percentage drops to 46% ($p<0.05$). Nonetheless, the value is the highest for those who never use drugs – 69%. Speaking about oral sex, the number of FSW,

[38] The Kendall tau-b rank correlation coefficient for the frequency of alcohol consumption and the frequency of condom use is -0.192 (where $p<0.001$). N=1994. The coefficient was calculated for FSW, who reported having clients in the last 30 days and provided relevant services. Such answers as "I don't know" and "I don't remember" were excluded from the analysis and were considered as "missing". Negative correlation shows that the more often FSW consumed alcohol prior to the contacts with clients, the less frequently they have used condoms.

[39] Relevant correlation coefficients make up -0.133 ($p<0.001$) and -0.151 ($p<0.001$), with N=2132 and N=1053. Calculated correlation coefficients did not show any statistically significant differences; in other words, the "bonding force" between two variables for each type of sexual services is very similar.

who always used condoms, makes up 32% for those, who always used drugs prior to sexual contacts; 26% - for those who sometimes used drugs, and 46% - for those, who never used drugs before sexual contacts. At the same time, the number of those who always used condoms during oral sex is the highest among FSW, who have never used drugs.

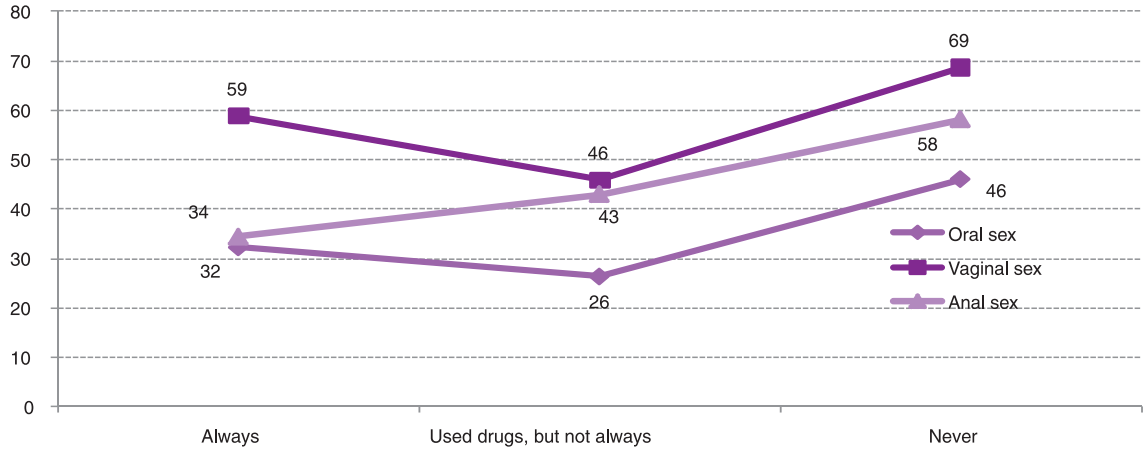

Diagram 3.2.3. Percentage of FSW, who always used condoms during provision of different sex services, depending on the frequency of drug use before the sexual contacts with clients

Person's consciousness may be heavily affected by such toxic substances as glue. The survey findings demonstrate that only 1% of FSW have an experience of consumption of toxic substances before sexual contacts with clients. This means that the use of such substances is the *least* spread practice, as compared to alcohol and narcotic drugs.

SECTION IV. LEVEL OF KNOWLEDGE AND COVERAGE OF PREVENTION PROGRAMMES

4.1. The level of knowledge about HIV

One of key indicators of the response to HIV epidemic among FSW is the level of knowledge. National indicator on the level of knowledge among FSW is based on answers to the following five questions:

1) Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?;
2) Can a person reduce the risk of getting HIV by using a condom every time they have sex?;
3) Can a healthy-looking person have HIV?;
4) Can a person get HIV by drinking in turns from one cup with someone who is infected?;
5) Can a person get HIV by sharing a bathroom, swimming pool, sauna with someone who is infected?

The survey results have shown that the value of indicator in 2009 was 52%[40] (see Diagram 4.1.1). We should also note that higher level of knowledge is generally demonstrated by FSW of 25+ years of age – the indicator value for this group exceeded 55% (as compared to 48% of FSW of 14-24 years of age, $p<0.01$); and by FSW, who typically find clients via the telephone or Internet – the indicator value for this group reached 61% (as compared to 47%-52% among groups of FSW using other methods of seeking clients, $p<0.01$). The value of this indicator in 2006–2008 was approximately the same, constituting 48%. In contrast to these years, in 2009 one can observe statistically meaningful growth of this indicator ($p<0.01$), but it is necessary to take into account the fact that the composition of cities under study during each survey has changed. Second, until 2008 the researchers applied the "snowball" methodology to select respondents, and after 2008 RDS and TLS methods were used. Third, the wording of questions also changed. So, we cannot fully and specifically analyze the dynamics, since its presence or absence may be caused by the abovementioned factors. In general it can be stated that the indicator value is relatively low, because almost half of all FSW gave incorrect answers to at least one of five suggested questions.

Analysis of answers to individual questions, included in this indicator, demonstrates that correct answer was given to each question by at least three fourths of surveyed FSW (see Diagram 4.2.1).

More specific comparison of the dynamics of the national knowledge indicator for FSW can only be performed, if we use the data, collected in 6 cities only, where survey was conducted in both 2008 and 2009. In 2008 the value of this indicator in six cities (Kyiv, Donetsk, Kharkiv, Poltava, Simferopol, Cherkassy) was 52%, and 55% - in 2009. However, this difference is not statistically significant: we do not observe meaningful dynamics for these cities.

[40] Numerator of the indicator includes all FSW, who gave correct answers to all questions; denominator includes all FSW, who answered the questions (including answers "I don't know", but excluding those who refused to answer at least one of five suggested questions).

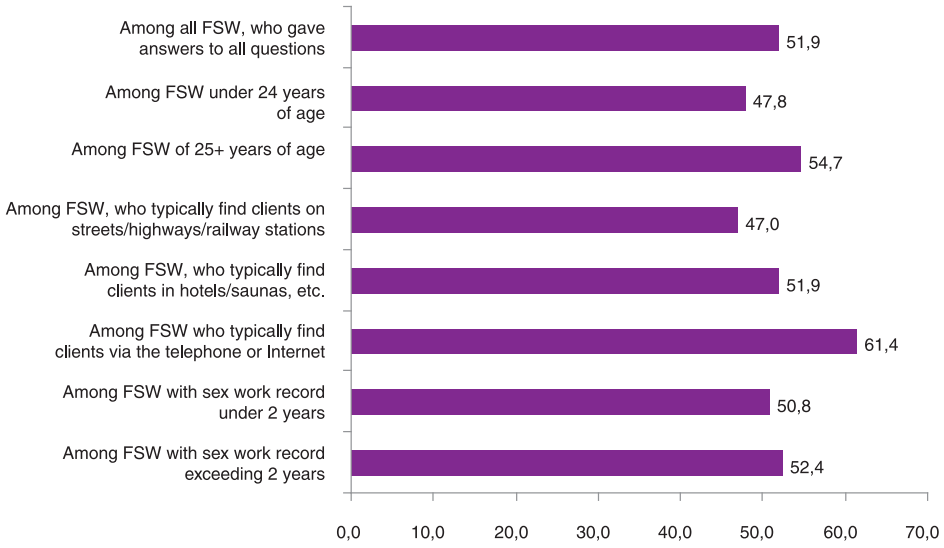

Diagram 4.1.1. Percentage of FSW, who gave correct answers to 5 questions regarding HIV knowledge

During the study respondents were offered eleven different questions concerning their knowledge about HIV. Diagram 4.1.2 demonstrates the share of FSW (of all those surveyed), who provided correct answers to this or that question. If we analyze each question individually, then the level of knowledge will be much higher, if compared to the analysis of overall number of *correct* answers.

For example, FSW have the lowers awareness about mother-to-child transmission of HIV during breastfeeding. Only about 69% of FSW answered correctly to this question. Specifically, the level of knowledge in this area among FSW of different age groups contrasts significantly: while 75% of FSW of 25+ years of age gave correct answers to this question, only 61% of female sex workers aged 14-24 years knew the correct answer ($p<0.01$). Generally speaking, if we exclude this “breastfeeding” question, three fourths of surveyed FSW answered correctly to the remainder of questions. The following questions collected the largest number of correct answers: sharing of injecting equipment may lead to HIV infection (95% of correct answers), and permanent and correct use of condoms may reduce the risk of HIV infection (91% of correct answers).

Analysis of answers to each question confirms that the level of knowledge is generally higher among older FSW – statistically significant differences are observed for 7 out of 11 questions. Speaking about all three questions, related to pregnancy and maternity, younger FSW demonstrate poorer knowledge: fewer FSW of 14-24 years of age are aware of the fact that HIV may be transmitted during delivery – correct answers were given by 71%, as compared to 81% of older FSW ($p<0.01$). Somewhat lower, yet significant difference is observed in answers to the question regarding HIV transmission during pregnancy – 73% against 78% ($p<0.01$). More older FSW (of 25+ years of age) know that HIV positive individual may look healthy (81%, as compared to 72%, $p<0.01$); that a person cannot contract HIV through sharing bathroom (swimming pool, sauna) with someone who is infected (80%, as compared to 74%, $p<0.01$); that a person cannot get HIV by eating from the same plate with someone infected (81%, as compared to 77%, $p<0.01$); that a person cannot person get HIV by drinking in turns from one cup with someone who is infected (84%, as against 80%, $p<0.01$).

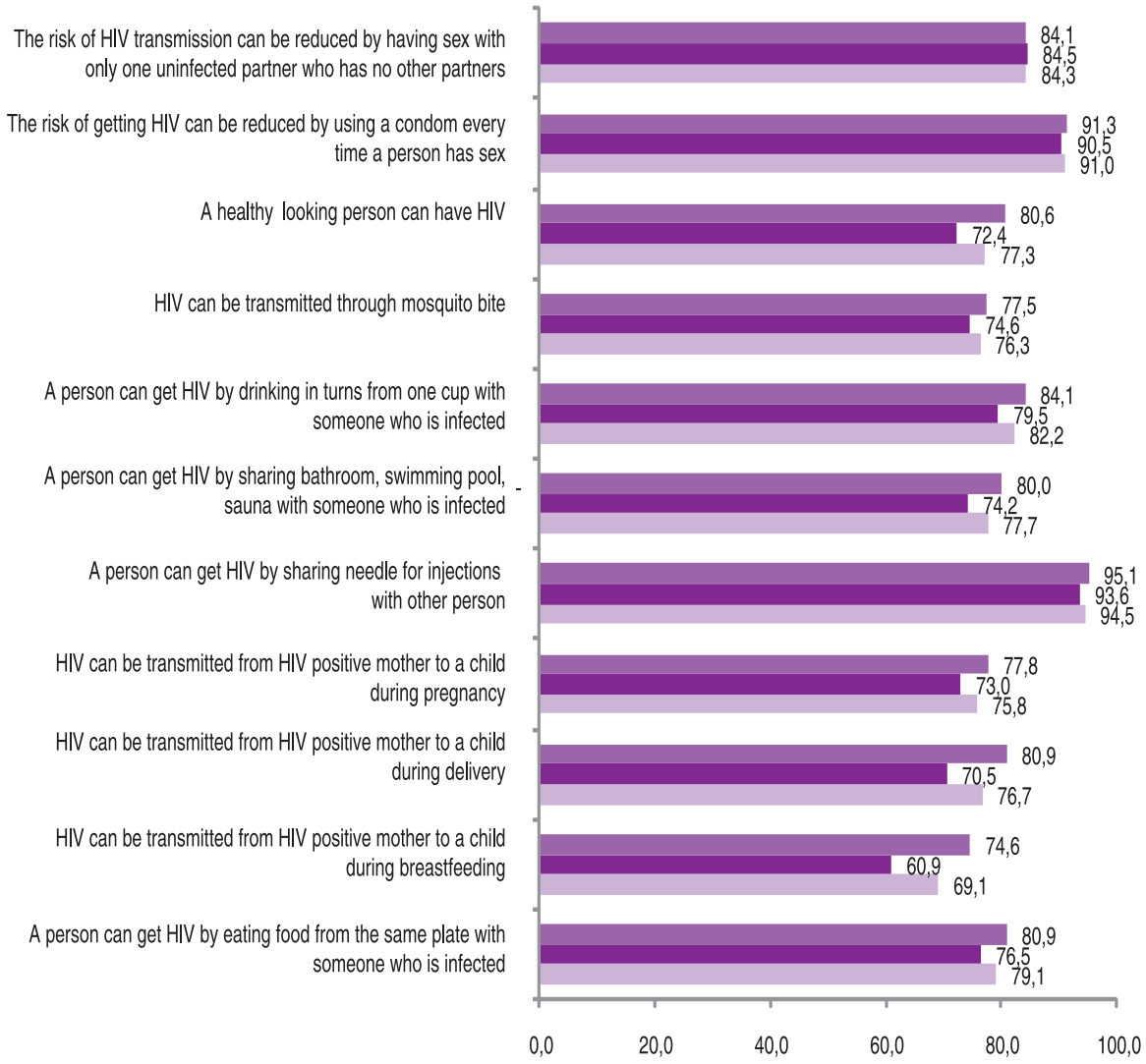

Diagram 4.1.2. Percentage of FSW, who correctly answered the questions

Since every question concerns a specific aspect of life activities, maximum "effectiveness" of having such knowledge (that is, when right knowledge can be realized in all behaviour situations) will be reached, when FSW possess correct knowledge regarding all issues. In other words, having fragmented knowledge is obviously better than the entire absence of information, but such limited knowledge is much less capable of serving as "safety device" for wrong actions. To a certain extent, the situation is reflected by the national indicator – the integrated indicator of correct knowledge regarding five of the most important aspects. Since this survey offered 11 questions, we can build a scale from 0 to 11, where "0" represents cases of FSW failing to answer correctly to all questions, and "11" stands for all correct answers[41]. Table 4.1.1 presents distribution of answers. As we see, only 29% of FSW gave correct answers to all questions[42]. 53% of surveyed FSW have answered correctly to 10 and more questions. It looks like the rest of respondents – almost half of them – gave 2 and more wrong answers. We should also note that among FSW, who typically find clients in hotels, saunas and bars, is the lowest number of those who gave correct answers to all 11 questions. However, there are no significant differences by the number of correctly answered questions between groups of FSW, distinguished by the type of seeking clients.

[41] This scale is a tentative indicator of the level of knowledge. For scale to be able to fully reflect on this issue, it should include the knowledge about HIV regarding all possible areas, related to FSW and their work, and take into account the "importance" of every area in building of index (in other words, the knowledge of certain areas is less important, than others). In both cases, we still lack information, so it may be interesting area of research for future studies.

[42] In order to insure maximum correctness of the scale, we analyzed answers of those respondents, who gave meaningful answers to all questions ("yes", "no", and "I don't know"), and excluded those who failed to answer to at least one question. Overall, N=2,136.

Table 4.1.1.

The number of correct answers to the questions regarding HIV-related knowledge

The number of correct answers	% of all FSW	FSW, by the method of client seeking		
		FSW, who find clients on streets, highways, railway stations	FSW, who find clients in hotels, saunas, bars, etc.	FSW, who find clients via the telephone or Internet
0	1.0	1.4	0.7	0.0
1	0.2	0.3	0.0	0.0
2	0.5	0.4	0.8	0.2
3	1.3	1.2	1.4	1.4
4	2.0	3.3	1.6	0.3
5	2.6	3.2	1.7	2.8
6	4.6	3.6	6.2	3.3
7	9.2	9.8	9.0	8.3
8	10.3	10.2	12.0	9.7
9	15.4	15.1	17.0	14.5
10	24.0	21.5	25.1	27.9
11	28.8	29.9	24.5	31.6

Another important aspect is the knowledge of correct interpretation of the results of HIV testing. In addition to absence of HIV in individual FSW, the negative result may also reflect the "window" period, when it is very difficult to diagnose HIV infection. Survey findings revealed that more than half of surveyed FSW (54%) questioned the fact that negative results of HIV testing prove the HIV negative status of an individual.

At the same time, every fourth FSW (25%) agreed with this statement. The situation is somewhat better among older FSW – among them only 21% agreed with this statement (as compared to 30% of FSW of 14-24 years of age, $p<0.01$). Somewhat better awareness regarding this issue is demonstrated by FSW, who typically find their clients via the telephone or Internet – 63% of them did not agree with this statement. As for FSW, who find clients in hotels, saunas and bars, 57% of them did not agree with the statement. 45% of those working ion streets, highways and railway stations, also rejected this statement.

4.2. The level of knowledge and practices regarding condom and drug use

Correct knowledge about HIV lays the foundation for more conscious and reasonable behaviour, because knowing potential threats (and their absence) helps an individual to adjust one's behavioural practices. At the same time, such knowledge is only *precondition*; it does not necessarily have a direct impact on behavioural patterns. It is very important to evaluate correctly, how this knowledge is related to applicable practices, because *if application of knowledge does not correlate with the use of safer practices, it would be necessary to make adjustments to campaigns aimed at promotion of safer behaviours*. Possible practices that can be influenced by knowledge include the use of condoms and drug use.

We can assume that the scale, described above (the number of correct answers) truly reflects real awareness of FSW regarding HIV. So, if the spread of condom use practices is actually linked with the general awareness about HIV, then we should receive meaningful correlation between these two variables. Survey results confirm that the frequency of condom use during sex with clients correlates

with the number of correct answers to the survey questions[43]. Even though such correlation is truly meaningful, the bonding force is relatively *weak*. For example, among FSW who correctly answered to all 5 questions, included in the national indicator, only 75% reported having *always* used condom during vaginal sex in the last 30 days. Among FSW, who gave incorrect answer to at least one of five questions, the number of those who used condom makes up 66%. Even though this difference is statistically meaningful, the size of such difference is not *significant*. In other words, increased overall level of knowledge is not strongly linked with more frequent use of condoms.

Similar conclusions can be made after individual analysis of answers to the question "Can a person reduce the risk of getting HIV by using a condom every time they have sex?", and the frequency of condom use during contacts with clients. In terms of statistical significance, answers to these questions are linked, but the bonding force remains *weak*: despite being confident in the fact that permanent and correct use of condoms reduces the risk of HIV infection, the influence of this knowledge on real practices remains *limited*. For example, 48% of those, who gave correct answers to this question, reported having always or almost always used condoms in the last 30 days during oral sex with clients. This value for those who gave incorrect answer ("no") constitutes 44% - and this difference is not statistically significant. For vaginal sex, these values make up 73% and 72% correspondingly; for anal sex - 61% and 58%. In both cases the difference is also statistically insignificant. But if we talk about the condom use with permanent or casual partners, links regarding sex with casual partners are even weaker. As for the permanent partners, links are almost meaningless[44].

We should remember, however, about certain positive links between HIV-related knowledge and the condom use practices. For example, among FSW, who confirmed that the risk of HIV transmission can be reduced by correct use of condoms during every sexual contact, quite rare are cases of incorrect use of condoms – the existence of such cases was reported by 48% of FSW (as compared to 59–62% of FSW, who answered "no" or "I don't know" to this question, $p<0.05$).

Analysis shows either very weak links, or their complete absence between knowledge and drug use practices. For example, equal numbers of FSW, who both use drugs (or used to consume drags in the past) and who never tried drugs, expressed their persuasion about possibility of HIV infection through sharing of injecting equipment. Probably, it is the lack of necessary data that hinders tracking of clear patterns between HIV-related knowledge and drug use practices: the set of eleven questions contained only *one* question, related to drug use[45].

4.3. Knowledge of STI symptoms

Even though HIV continues to be the most dangerous infection for FSW, we should not forget about other sexually transmitted infections, which also pose a threat to the health of female sex workers. To this end, it is extremely important to identify the disease in timely manner in order to start treatment, and to apply relevant behaviour practices (to refuse from sex during the treatment course, or to demand the use of condoms at all times). It is also important to know, how to identify (or, at least to try to do so) symptoms in one's own organism and in partners.

During the survey FSW were asked whether they knew any symptoms of sexually transmitted infections in both females and males[46]. The survey results demonstrated that the most frequently reported symptom in women was discharges from genitals (vaginal discharges) – 73% of surveyed FSW mentioned this symptom (see Table 4.3.1). 61% of FSW mentioned smelly discharges. 57% of FSW mentioned rash and ulcers on genitals, and 51% of them also mentioned itching in genitals. The rest of symptoms were mentioned by much fewer respondents. It is important to note that 9% of FSW failed to name at least one symptom.

One can observe certain differences among various age groups of FSW. For example, there are more of younger FSW, who failed to name at least one symptom – 12%, as compared to 7% of FSW of 25+ years of age ($p<0.01$). Moreover, older FSW mentioned such symptoms as vaginal discharges, smelly discharges, swollen lymph glands in the groin (inguinal lymphadenopathy), groin edemas, itching in the genital area more frequently ($p<0.01$ in all cases).

[43] Rank correlation coefficient for oral sex makes up -0.163 ($p<0.001$), for vaginal sex – -0.113 ($p<0.001$), and for anal sex – -0.193 ($p<0.001$).
[44] At the same time, those who answered "I don't know" to knowledge questions, the frequency of condom use is considerably lower. For example, the number of those, who always or almost always used condom during vaginal sex with clients, reaches only 34%. We should note, however, that the number of FSW, who gave answer "I don't know" to this question is extremely low – only 3%.
[45] At the same time, the set of questions regarding the drug use practices included only questions on the use of drugs in general; and only one question concerned the experience of sharing equipment.
[46] Respondents were not offered any options/variants of answers. The interviewer asked the question, and female sex worker tried to list different symptoms, based on her own experience. Then the interviewer coded the answers according to the scheme.

Table 4.3.1

Can you name any symptoms of sexually transmitted infections in women? (%)

	All FSW	Under 24 y.o.	25+ y.o.
Dull pain in lower stomach	35.9	36.4	35.5
Vaginal discharges	72.7	69.4	74.9
Smelly discharges	61.3	56.5	64.6
Burning pain during urination	35.1	32.9	36.6
Rash and ulcers on genitals	56.6	56.4	56.8
Swollen lymph glands and edemas in groin area	23.4	19.2	26.4
Itching in the genital area	51.3	47.0	54.3
Increased temperature and deterioration of the general condition	24.2	23.1	24.9
Other	1.3	1.1	1.5
NO ANSWER/DIFFICULT TO SAY	9.1	11.5	7.4

As for men, penis discharges were also mentioned in the majority of cases – 71% (see Table 4.2.2). Other frequently mentioned symptoms included rash, ulcers on genitals (62%), as well as burning and itching during urination (51%). And again, each tenth FSW (13%) failed to name at least one symptom of STI. In this case we also observe similar age-related differences: there are fewer FSW of older age, who failed to name at least one symptom, and more of those who mentioned penis discharges, burning and itching during urination, swollen lymph glands in the groin and unpleasant feelings during erection ($p<0.01$ in all cases).

Table 4.3.2

Can you name any symptoms of sexually transmitted infections in men? (%)

	All FSW	Under 24 y.o.	25+ y.o.
Penis discharges	71.1	68.1	73.1
Burning and itching during urination	50.7	47.4	53.0
Rash and ulcers on genitals	61.9	59.9	63.3
Swollen lymph glands in groin area	22.5	18.1	25.5
Increased temperature and deterioration of the general condition	27.2	26.1	28.0
Pain and unpleasant feelings during erection	36.5	30.3	40.8
Other	0.9	0.4	1.2
NO ANSWER/DIFFICULT TO SAY	12.7	15.2	11.0

4.4. Obtaining condoms. Involvement in prevention programmes. Receiving services from NGOs

One of important measures within overall response to HIV epidemic among FSW is their maximum coverage with prevention programmes. One of the national indicators – "Percentage of FSW, reached with HIV prevention programmes" – is dedicated to this issue. In order to build this indicator, the researchers used respondents' answers to the following questions:

1. Did you receive condoms (e.g. through education and information programmes or projects, at syringe exchange points, counselling centres, centres of social services for family, children and youth, at public events, etc.) during the last 12 months?;

2. Do you know where to go to have HIV testing?

Numerator of this indicator included FSW, who gave positive answers to both questions. Denominator included all surveyed FSW. According to the survey results, the indicator value for 2009 was 53.8% (see Diagram 4.4.1). The value of this indicator in 2008 was 68%; in 2007 – 69%; in 2006 – 88%; in 2004 – 34%. Taking into account different sampling methodologies (until 2007 inclusive the researchers used the "snowball" methodology; in 2008 and 2009 they used RDS and TLS methods), and different geographic representation, we cannot compare the results directly.

As in case of the national indicators, analyzed above, let us compare the values of this indicator in 2008 and 2009 for FSW, surveyed in Kyiv, Donetsk, Kharkiv, Poltava, Simferopol and Cherkassy (these cities were covered by the samples of 2008 and 2009). The level of coverage of prevention programmes in 2008 in these cities was 71%; in 2009 it constituted 64%. This difference is statistically significant ($p<0.01$); in other words, we observe *negative* dynamics for these cities, a compared to 2008.

FSW of 25+ years of age are somewhat better reached by the prevention programmes: the indicator value for this group makes up 58.8%, as compared to FSW of 14–24 years of age – 46.6% ($p<0.01$). The indicator value is also higher for FSW with sex work record over 2 years (56.6%, as compared to 41.5% among FSW working less than 2 years, $p<0.01$), and for FSW, who typically find their clients on streets/highways/railway stations (67.8%, as compared to 41–45% among female sex workers, who seek clients in hotels/saunas/bars or find them via the telephone/Internet, $p<0.01$).

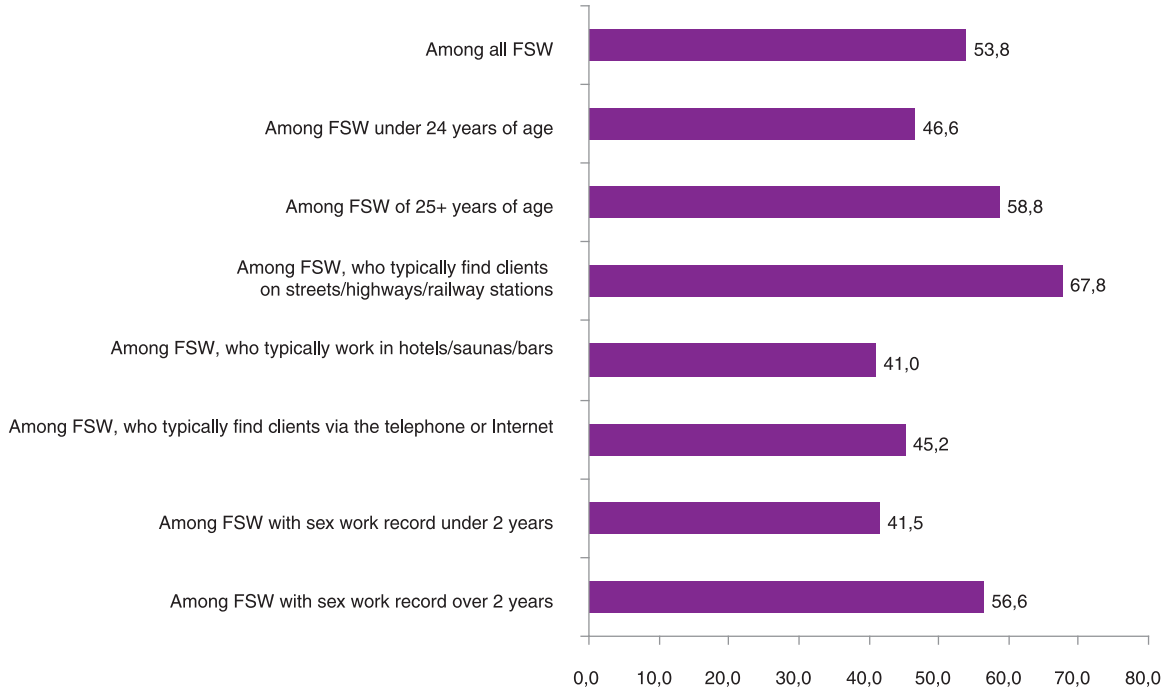

Diagram 4.4.1. Percentage of FSW, reached by the prevention programmes, %

According to the survey results, a little more than half of FSW (53.3%) received condoms in the last 12 months through education and information programmes or projects, at syringe exchange points, counselling centres, centres of social services for family, children and youth, at public events, etc. This percentage is substantially higher ($p<0.01$) among FSW with sex work record exceeding 2 years (58.2%), as compared to those working less than 2 years (44.6%). Probably, having shorter work record in this business, younger FSW could not know about these sources of obtaining condoms, in contrast to their more experienced colleagues.

The survey results also demonstrate that much fewer ($p<0.01$) FSW with the sex work record under 2 years are clients of any non-governmental organization working with female sex workers or injecting drug users (24.9% vs. 43.4%). This is why NGOs working with female sex workers or injecting drug users, need to be more active to involve FSW, who just enter this business.

In general, 40.4% of surveyed FSW[47] are clients of this or that non-governmental organization

[47] It should be noted that in order to make access to FSW easier for the purposes of the study, KIIS joined efforts with the number of organizations in project sites, which work with FSW. Staff members of such organizations helped to establish contacts with FSW to conduct interviews (especially in TLS sites). In RDS sites, NGO members helped to find primary respondents, on whom the survey chains were based. So, we can assume that among surveyed FSW we will have somewhat greater representation of those, who previously contacted with non-governmental organizations (in other words, this indicator may be a little overstated).

working with female sex workers or injecting drug users. Almost all of them (98.1%) received condoms from the representatives of these organizations during May 2009. It should be noted that among FSW, who are clients of NGOs, 48.2% reported having always used condoms during sex with clients in the last 30 days. As for FSW, not reached by the prevention NGOs, meaningfully lower percentage of them ($p<0.01$) used condoms all the time during sex with clients in the last 30 days – only 37.4%. It can be assumed that activities of NGOs working with female sex workers or injecting drug users lead to positive results, since their clients use condoms more frequently. At the same time, more than half of their clients (51.8%) still did not do it *all the time* in the last 30 days. This is why these organizations continue to face the challenge of reaching larger numbers of FSW and carrying out educational work on the importance of condom use. It is equally important to make emphasis on the correctness of condom use, as well as on the permanent use of condoms during contacts with both clients and other non-commercial partners.

For the most part, condoms in the last 12 months were provided to FSW at AIDS centres or drop-in centres "Dovira" (28.7%). Only 8.4% of all surveyed FSW received condoms in STI clinics, and even less (6.5%) – in the maternity clinics.

During the survey the respondents were asked to answer the question whether they have ever turned to NGOs for assistance. The survey results demonstrated that in the last 12 months 80.6% of surveyed FSW applied for primary assistance. A little more than half of all questioned FSW (51.4%) received condoms; 49.1% had HIV/AIDS testing; and 45.2% of FSW received information booklets and brochures. The least frequent type of assistance, requested by FSW from NGOs was counselling on safer drug use (6.2%). Quite rare were requests regarding participation in mutual help groups (9.2%); free treatment of STI (10.4%); and legal consultations (10.5%).

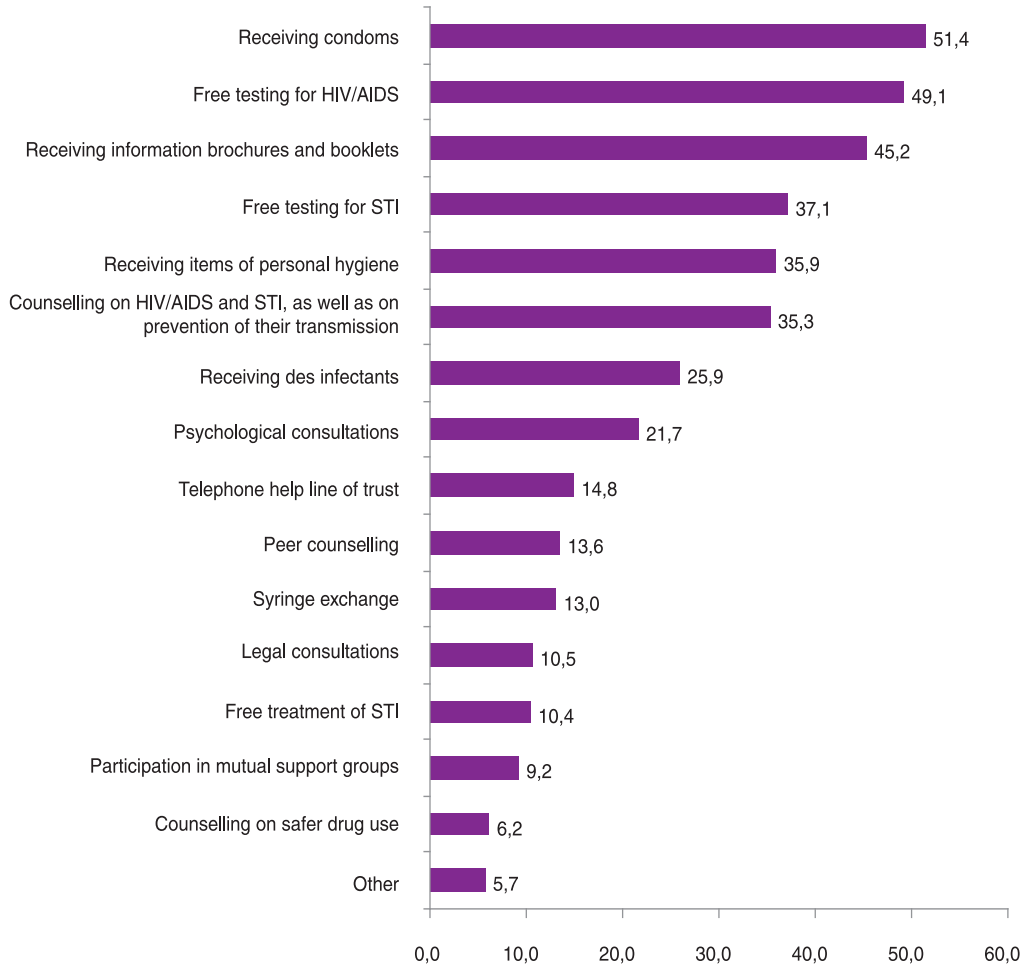

Diagram 4.4.2. Assistance and services, provided to FSW by non-governmental organizations in the last 12 months

Among FSW, distinguished by the specific method of seeking clients, one can observe different prevalence of receiving particular services from non-governmental organizations[48] (see Table 5.1.1).

[48] It includes all FSW – not just clients of specific NGOs.

The survey results demonstrate that FSW, who typically find clients on streets/highways/railway stations, generally receive NGO services more frequently. For example, there are more FSW of this type, who received condoms, information materials, personal hygiene items, disinfectants, HIV and AIDS counselling, or had free HIV and STI testing. FSW from this group also received more services, like syringe exchange, free STI treatment, participation in mutual support groups. This means that FSW working on streets, highways and in railway stations are more covered by different services. Probably, it can be explained both by easier access to these FSW for NGO representatives, and by the fact that FSW, who utilize other methods of client seeking, require services, offered by non-governmental organizations, to a lesser extent.

Table 4.4.2

NGO services, received by FSW in the last 12 months, %*

	FSW, who find clients on streets, highways, railway stations	FSW, who find clients in hotels, saunas, bars, etc.	FSW, who find clients via the telephone or Internet
Receiving condoms	66.3	35.1	44.6
Free testing for HIV/AIDS	60.7	38.5	44.9
Receiving information brochures, booklets	52.9	36.5	42.8
Receiving personal hygiene items	49.2	19.1	34.4
Free testing for STI	48.2	26.5	31.1
Counselling on HIV/AIDS and sexually transmitted infections, as well of on prevention of their transmission	44.4	26.8	29.9
Receiving disinfectants	36.3	11.7	26.0
Psychological consultations	22.9	18.7	22.7
Syringe exchange	19.5	5.0	10.7
Free treatment of STI	16.7	4.8	5.1
Peer counselling (consultations provided by women, who are currently involved or used to be involved in provision of commercial sex services)	13.6	11.7	17.5
Telephone help line of trust	13.2	18.7	15.3
Participation in mutual support groups	13.1	4.3	8.7
Legal consultations	10.6	9.6	11.9
Counselling on safer drug use	8.5	2.4	6.7
Other	5.5	8.1	2.6

*Sorted out in descending order of values for FSW, who typically find clients on streets, highways, in railway stations.

The study results demonstrate that in the majority of cases FSW (58.9%) turned to healthcare facilities of obstetrics and gynaecology profile during the last year. Centres for anonymous HIV testing received 40.2% of FSW during the last year; only 27.1% of FSW have chosen the state-run healthcare facilities to treat sexually transmitted infections. In general, it can be assumed that FSW either neglect their health or they just cannot receive necessary assistance.

Table 4.4.3

Facilities, where FSW turned to in the last 12 months

	% of all surveyed FSW
Obstetrics and gynaecology healthcare facilities	58.9
Centres for anonymous HIV testing	40.2
State-run healthcare facilities to treat STI	27.1
FSW self-help groups	10.0
Private healthcare facilities to diagnose and treat STI	9.0
Nargology services	7.1
Social services for youth	5.4
Youth-friendly clinics	3.4
Associations of people living with HIV	3.0
Rehabilitation centres for drug dependent persons	2.9
IDU self-help groups	2.8

SECTION V.
HIV/STI TESTING AND TREATMENT OF STI

5.1. The prevalence of HIV and syphilis among FSW at the national and regional levels

Monitoring survey of FSW also included a biological component, in particular, HIV and syphilis testing using rapid tests. The survey results demonstrated that average prevalence of HIV among all surveyed FSW makes up 12.9% (see Table 5.1.1). Moreover, the HIV prevalence is twice as high among older FSW: 16.1% as compared to 8.3% among FSW of 14–24 years of age[49]. In four cities – in Kharkiv, Uzhgorod, Chernivtsi and Chernigiv – there were *no* HIV positive FSW among those surveyed. Probably, it can be explained by the failure of used sampling techniques to reach HIV positive FSW, or the number of HIV infected female sex workers is truly very low – taking into account limited sample, it did not reach such FSW. As for the remainder of cities, the lowest HIV prevalence is observed in Zaporizhya (4.4%) and Ternopil (5.3%). The highest prevalence is observed in Donetsk - 42%.

As for FSW under 24 years of age, the lowest HIV prevalence (in addition to cities, where the sample did not include any HIV positive respondents) is observed in Ivano-Frankivsk (2.0%), Ternopil (2.5%), and Cherkassy (5.2%). The highest prevalence can be seen in Donetsk (39.8%). Among FSW of 25+ years of age, the lowest HIV prevalence is observed in Zaporizhya (3.7%), and the highest – in Donetsk (43.5%). So, HIV prevalence significantly varies in the regions under study, and depends on the age of female sex workers.

In general, the prevalence of syphilis is significantly lower than that of HIV. In particular, the syphilis prevalence at the national level, as revealed by the study, reaches only 4.4% (the prevalence among older FSW is somewhat higher – 5.2%, as compared to 3.3%, $p<0.01$). Samples in four cities – in Ivano-Frankivsk, Poltava, Zhytomyr and Chernivtsi – did not include any FSW with syphilis. In the rest of the cities, the highest syphilis prevalence is observed in Vinnytsia – 16.6%. Among FSW under 24 years of age, the highest prevalence of syphilis is also observed in Vinnytsia – 26.8%. The highest prevalence of this disease among FSW of 25+ years can be seen in Uzhgorod - (18.9%) (see Table 5.1.2).

[49] Taking into account the limited sample for each city, it was impossible to perform reliable statistical tests to identify differences between older and younger female sex workers.

Table 5.1.1

*HIV prevalence among FSW at the national and regional levels **

	Among all FSW			Among FSW under 24 years of age			Among FSW of 25+ years of age		
	%	Lower margin	Upper margin	%	Lower margin	Upper margin	%	Lower margin	Upper margin
Vinnytsia	10.7	5.8	15.6	9.3	0.5	18.2	11.2	5.3	17.2
Donetsk	42.2	34.4	50.0	39.8	26.6	53.1	43.5	33.8	53.1
Zhytomyr	10.0	5.2	14.8	10.7	4.7	16.6	8.5	0.5	16.5
Zaporizhya	4.4	1.1	7.6	6.5	0.0	14.3	3.7	0.2	7.1
Ivano-Frankivsk	7.3	3.2	11.5	2.0	0.0	5.9	10.0	4.1	15.9
Kyiv	26.1	20.8	31.5	17.4	7.3	27.6	28.4	22.2	34.6
Poltava	19.3	13.0	25.7	9.5	0.6	18.4	23.1	15.2	31.1
Rivne	8.6	4.1	13.0	8.3	0.6	15.9	8.7	3.2	14.2
Simferopol	25.0	18.0	31.9	18.8	10.5	27.0	33.3	21.7	44.8
Ternopil	5.3	1.7	8.9	2.5	0.0	5.9	8.6	2.0	15.1
Uzhgorod	0.0	–	–	0.0	–	–	0.0	–	–
Kharkiv	0.0	–	–	0.0	–	–	0.0	–	–
Cherkassy	25.6	17.0	34.2	5.2	0.0	12.9	35.1	23.7	46.5
Chernivtsi	0.0	–	–	0.0	–	–	0.0	–	–
Chernigiv	0.0	–	–	0.0	–	–	0.0	–	–
Overall in all cities	12.9	11.5	14.3	8.3	6.5	10.0	16.1	14.2	18.1

*"Upper margin" and "lower margin" show limits of confidence intervals with confidence probability of 0.95.

Table 5.1.2

*Syphilis prevalence among FSW at the national and regional levels **

	Among all FSW			Among FSW under 24 years of age			Among FSW of 25+ years of age		
	%	Lower margin	Upper margin	%	Lower margin	Upper margin	%	Lower margin	Upper margin
Vinnytsia	16.6	10.7	22.6	26.8	13.4	40.3	12.7	6.4	19.0
Donetsk	2.1	0.0	4.3	1.4	0.0	4.6	2.4	0.0	5.4
Zhytomyr	0.0	–	–	0.0	–	–	0.0	–	–
Zaporizhya	10.8	5.9	15.7	5.0	0.0	11.8	12.8	6.7	18.9
Ivano-Frankivsk	0.0	–	–	0.0	–	–	0.0	–	–
Kyiv	0.1	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.6
Poltava	0.0	–	–	0.0	–	–	0.0	–	–
Rivne	6.2	2.3	10.0	3.8	0.0	9.1	7.3	2.3	12.4
Simferopol	11.5	6.4	16.6	7.0	1.6	12.4	17.6	8.3	26.9
Ternopil	6.7	2.7	10.7	3.8	0.0	7.9	10.0	3.0	17.0
Uzhgorod	11.0	4.9	17.1	6.3	0.0	12.4	18.9	6.3	31.5
Kharkiv	0.6	0.0	1.9	0.0	0.0	0.0	1.1	0.0	3.4
Cherkassy	0.3	0.0	1.3	0.0	0.0	0.0	0.4	0.0	2.0
Chernivtsi	0.0	–	–	0.0	–	–	0.0	–	–
Chernigiv	4.1	1.0	7.2	2.2	0.0	5.3	6.4	0.6	12.3
Overall in all cities	4.4	3.6	5.2	3.3	2.2	4.5	5.2	4.0	6.3

*"Upper margin" and "lower margin" show limits of confidence intervals with confidence probability of 0.95.

5.2. Treatment of infectious diseases

The survey results have revealed that the most widespread disease among FSW was candidiasis – *every sixth* female sex worker (16.4%) had this disease in the last 12 months. The next most "popular" disease was clamidiosis – 9.1% of female sex workers had this disease in the last 12 months. The prevalence of tuberculosis and hepatitis B was 1.9% and 1.6% correspondingly among surveyed FSW. In general, one can observe relatively low levels of incidence and, which is more important - high numbers of FSW who sought medical treatment. In almost all cases of different diseases more than 80% of FSW were receiving treatment. Almost all of them reported having no problems or obstacles during diagnostics and treatment, or they just couldn't identify such factors (variant of the answer "Difficult to say/I refuse to answer"). Despite the fact that the majority of patients had to pay for their tests fully or partially (from 49.9% of syphilis patients to 82.6% of those who had clamidiosis), and to buy all or some of medications at their own expense (from 58.9% of syphilis patients to 85.8% of those who have clamidiosis), no one – with rare exceptions – considered high cost of tests and medications, as well as necessity to "reimburse doctor's services" as factors that hindered or prevented FSW from receiving treatment procedures in healthcare facilities. Probably, the absence of factors (according to the survey) that prevented treatment is the result of this question being posed to those FSW, who confirmed receiving treatment. In other words, if a particular FSW recovered from the disease, it is possible that she just could not identify any "problems", related to treatment. In the upcoming studies it would be advisable to seek information about factors that hinder adequate treatment, among FSW who reported receiving no treatment or diagnostics.

Despite large number of FSW, who received treatment from these diseases, it is necessary to consider *immediacy* of seeking treatment after the development of symptoms. It will make it possible to assess approximate level of threat of transmission of these diseases to sexual partners. Table 5.1.1 contains median numbers of days from the development of symptoms to the start of treatment. For example, in case of candidiasis the median value of this period (between the development of symptoms and the beginning of treatment) is the lowest – 3 days. As for the rest of diseases (for which reliable statistical calculations are possible), the median number of days range from 7 to 10. Taking into account the data, which proves that FSW rarely start treatment immediately after the development of symptoms, it is safe to say that sick FSW can easily infect their sexual partners.

Average number of sexual partners during the last working week, as reported by FSW respondents who had one of the abovementioned diseases, ranges from 9 (for candidiasis) to 12 (for syphilis) – for cases, where reliable statistical calculations are possible. It should be noted, however, that the question about diseases concerned the last 12 months, while the question about the number of partners concerned the last working week. So, we cannot fully affirm that FSW, after getting sick, had the same number of clients per week, as they had prior to the survey.

Table 5.1.1
Diseases among FSW and their treatment

	Percentage of FSW, who had this disease	Percentage of FSW, who treated this disease (% of those who had this disease)	Days from detection of symptoms to seeking treatment, on average (median value)*	The number of partners during the last working week, on average
Tuberculosis	1.9	80.9	–	–
Gonorrhoea	6.4	100.0	8	11
Genital herpes	4.5	91.8	7	10
Clamidiosis	9.1	95.0	7	8
Hepatitis B	1.6	79.9	–	–
Hepatitis C	4.3	51.0	–	–
Syphilis	3.2	97.6	10	12
Trichomoniasis	7.3	98.0	7	11
Candidiasis	16.4	93.1	3	9

* «–» means that sample is insufficient to calculate median number of days after the development of symptoms until seeking of treatment.

So, one of the key objectives for non-governmental organizations, which try to prevent the spread of these diseases, should include ensuring timely diagnostics of these diseases (as well as regular medical check-ups in general).

5.3. HIV testing

Since high risk of HIV infection is a "peculiar feature" of female sex workers' profession, they have to have HIV testing quite frequently. The list of the national indicators contains one indicator specifically dedicated to this issue: "Percentage of FSW, who received an HIV test in the last 12 months and who know their results". This indicator is built on answers to two questions:

1. When did you have HIV test last time? (with specification "Let us specify: did it happen in the last 12 months?");

2. I don't want to know the results, but did you receive the results of that test?

The numerator included respondents who had HIV testing during the last 12 months, and who also received results of their last test. Denominator encompasses all surveyed FSW. The survey results demonstrate that in 2009 the indicator value was 56.5% (see Diagram 5.1.1). In 2008 this indicator reached 62%; in 2007 – 46%; in 2006 – 19%; and in 2004– 32%. As in case of other national indicators, it is highly problematic to compare survey results, received in different years, because different methods were used to select respondents – in particular, surveys were conducted in different regions of Ukraine.

In six cities, where the study was conducted in both 2008 and 2009, the value of this national indicator was 62% and 605 correspondingly. This difference is not statistically significant, that is, no dynamics is observed.

The value of the national indicator among FSW, surveyed in 2009, is higher among those of 25+ years. Among them almost 60% have reported receiving HIV testing in the last 12 months and receiving its results. Among FSW of 14-24 years of age their number reached about 52% (the difference is meaningful at the level of $p<0.01$). In addition, the indicator is higher among FSW with sex work record over 2 years – 61%, as compared to 45% among FSW with work record under 2 years ($p<0.01$). In addition, HIV testing is a little more "popular" among FSW, who typically find clients on streets/highways/railway stations (60%, as compared to 55% among FSW working in hotels/saunas/bars, or those finding clients via the telephone or Internet, $p<0.05$). In general, it is possible to state that the indicator value is not very high, since almost half of all FSW did not receive HIV testing during the last 12 months.

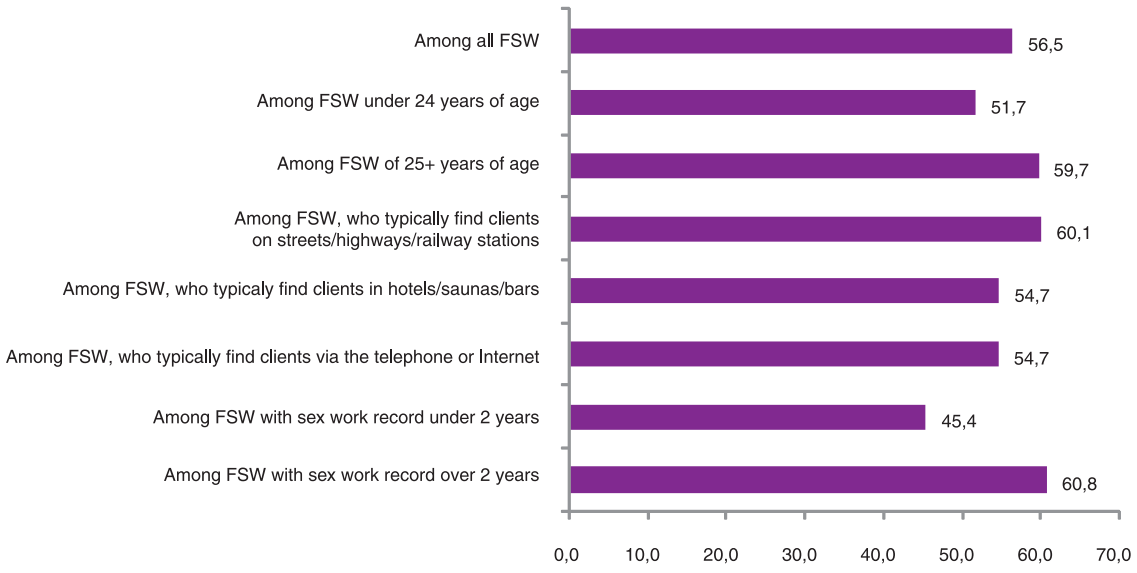

Diagram 5.3.1. Percentage of FSW, who received HIV testing in the last 12 months, and who know its results

The survey results show that absolute majority of FSW know where to go to receive HIV testing (88.3%). This knowledge is higher among FSW with longer sex work record: only 80.3% of FSW with the work record under 2 years know where to go receive HIV testing, which is meaningfully lower ($p<0.01$) than the knowledge of FSW involved in commercial sex for 3 and more years (91.7%). This difference can be explained by the fact that the majority of FSW with the sex work record exceeding 3 years are clients of non-governmental organizations working with female sex workers or injecting drug users. There are fewer NGO clients among less experienced FSW. For example, almost all clients of such organizations know where to get HIV testing (97.7%), whereas the percentage of non-clients of these organizations, who know where to go, is 81.9%.

Knowledge of places, where one can get HIV testing, is closely related to conceptions about accessibility of testing and opportunities for anonymous testing: almost all FSW, who know where to go to get testing, also believe that this testing is accessible (96.6% as compared to 15.1% of those who does not know), and that they can receive it anonymously (96.3% as compared to 9.3% of those who does not know). Another argument to support this interrelation is the fact that among FSW, who believe HIV testing to be inaccessible, 53.7% explained it by the lack of knowledge about where to go; by not knowing the location of testing facility/unit/centre (23.7%); and by fear of disclosure of their HIV status (35.5%). Another widespread reason for perceived inaccessibility of HIV testing, according to FSW, is the lack of money to receive testing (20.8%). So, it is extremely important to inform FSW about the places where they can have unimpeded HIV testing: it will significantly improve their perceptions of accessibility and anonymity of the procedure and, hopefully, encourage them to have HIV testing regularly.

In general, together with high levels of knowledge of places where to go to get HIV testing, we should note significant percentage of FSW, who believe testing to be accessible (87.1%) and anonymous (86.2%). However, only two thirds of FSW (66.9%) came to institutions and organizations to receive HIV testing. Of them 98.6% did receive this test (66.0% of all surveyed FSW), and 88.1% did so in the last 12 months (58.1% of all surveyed FSW). Among those who had HIV testing, 96.7% received their results, and for 1.4% of FSW results are pending. The rest of FSW, who had tests, did not receive the results, did not remember them, or refused to answer. So it is obvious that accessibility of testing does not necessarily mean that all FSW will go and receive it. In other words, there exist other factors that force sex workers to avoid HIV testing.

Probably, one of such factors is inability to understand the necessity of regular check-ups. FSW, who had last HIV testing more that 12 months ago, explained, why they did not have any tests later: 54.4% of them did not do it, because they already passed the test; 16% of FSW did not feel it was necessary to make such tests more than once a year. Another reason was their unwillingness to know test results (7.8% of those who received HIV testing, but did not do it in the last 12 months). We should also note that among those, who had HIV testing more than 12 months ago, more than a half of FSW reported having pre-test (53.3%) and post-test (50.7%) counselling. Speaking about those, who had HIV tests in the last 12 months, these numbers make up respectively 86.8% and 78.6%.

So, we can conclude that the reason why FSW either make HIV tests irregularly or avoid such testing is their partial *unawareness* of the necessity of regular testing; lack of knowledge regarding where to go; fear of disclosure; or simple unwillingness to learn the test results. Taking onto account the fact that the accessibility of anonymous testing is high (according to 86% of surveyed FSW), it can be assumed that the main challenge for NGOs working on this issue is to *motivate* FSW to receive HIV testing.

SECTION VI.
RISK FACTORS OF HIV INFECTION AMONG FSW

6.1. Logical regression model

The study also included the biological component, namely HIV and syphilis testing using rapid tests. Obtained data makes it possible to analyze the prevalence of HIV and syphilis among different categories of FSW, as well as to analyze possible factors, closely related to probability of this or that FSW having HIV infection.

In order to analyze specific factors, linked with positive (or negative) HIV status of FSW, the researchers applied logical regression analysis. Dependent variable in this analysis was HIV status, identified with the help of rapid tests; all other factors, which could be related to HIV probability, were considered as independent variables. Basically, such logical regression model makes it possible to assess changes in chances to have HIV with changes in the size of factor. Second, obtained coefficients of links are calculated under control of influence of all other variables, that is, assessed link is "clean". Specific feature of logical regression analysis is that in addition to metric variables, it is possible to apply categorical ones. However, the peculiarity of the use of categorical variables is that we analyze chances of having HIV against certain ("reference") group.

Significant weakness here is that we do not know when this or that FSW got infected. So, we cannot determine, whether this or that factor was the cause of getting HIV. In this case logical regression shows the factors that had the strongest links with chances to get HIV infection.

Factors, that can be related to HIV status, include:

1. Practices of condom use during sex with clients

The frequency of condom use during provision of different sex services, variability of sex services and "correctness" of the use of condoms are all important factors that can be related to chances of having HIV. For example, if FSW rarely or never uses condoms and provides all types of sex services (oral, vaginal and anal sex), and has experience of incorrect use of condoms, she is characterized by higher chances of having HIV.

The study results have demonstrated that there is no meaningful link (Pearson's X2 criterion was used for analysis) between HIV status and the *frequency of condom use* during provision of different services. At the same time we can observe meaningful link between the fact of provision of oral and anal sex services in the last 30 days and HIV status. However, this link is opposite to the expected one: among FSW, who did not provide such services, the HIV prevalence was higher than among those who offered such services. Probably FSW, already knowing her HIV positive status, will try to avoid provision of such services in order to minimize risks for others.

Meaningful links can be observed between the presence and absence of problematic situations with the condom use (e.g., condom slipping off) in the last 30 days. Among FSW who reported having such situations, the HIV prevalence was somewhat higher. In other words, situations, where a condom failed to play its "safety device" role, can be related to higher probability of having HIV. This is why this factor is also analyzed within the logical regression model.

2. Practices of drug and alcohol use

The drug use practice generally concerns the overall experience of drug use and the experience of injecting drug use in the last 30 days. Narcotic substances affect human consciousness for certain periods of time. In these periods individual's actions may fully contradict more "adequate" behavioural patterns – for example, a person may forget about condom use during sex with unfamiliar people. Injecting drug use

brings even greater danger, since the sharing of injecting equipment is one of the main ways of HIV transmission. The list of factors may also include the frequency of substance use and consumption of alcohol immediately before sexual contacts with clients (alcohol may also change consciousness).

All variables demonstrate meaningful link with HIV status – as a rule, in all cases one can observe expected increase of HIV prevalence among FSW (even though in some cases such increase is not always linear, especially in terms of alcohol consumption: among FSW, who never consumed alcohol before sexual contacts in the last 30 days, the HIV prevalence is 15%; among FSW, who sometimes drank alcohol before sex, the prevalence drops to 10–11%, but among FSW, who always consume alcohol, the prevalence increases again to 20%). All factors in this paragraph are analyzed though the logical regression model.

3. Knowledge about HIV and knowledge of STI symptoms

It can be assumed that better knowledge about HIV, ways of HIV transmission, and knowledge of major misconceptions about HIV transmission is related to lower HIV prevalence. However, the survey results demonstrate that there are no links, or such links are very weak. Since this variable was not built for all respondents, it was not included in the analysis.

4. The presence of partners with high chances of being HIV-positive

Sexual contacts with persons, who potentially have high chances of being HIV positive themselves, are linked with greater probability of FSW contracting HIV. Such risk groups may include injecting drug users (who may be clients, permanent and casual partners of FSW), homosexuals and bisexuals being STI patients, and HIV-infected individuals. The latter category is extremely difficult to identify, but some FSW reported that some of their clients in the last 12 months were HIV-infected individuals.

The survey results reveal close links between the presence of such partners and the HIV prevalence – in all cases the prevalence of HIV was higher among FSW, who had sexual contacts with partners of this kind. So, with the goal of deeper analysis of interrelations, these factors were included in logical regression analysis.

5. The presence of syphilis

During the study, FSW have also received testing for syphilis. The presence of syphilis may indicate higher probability of having HIV, and this was confirmed by the study results. This variable was included for further analysis.

6. Social and demographic characteristics of FSW

Education of FSW has meaningful, but very weak link, so it was not included in the analysis. Meaningfully linked social status was used in the analysis as independent variable. Other important social and demographic characteristics include the presence of meaningful link with the main ways of client seeking; whether FSW is a native resident or newcomer; as well as links with financial conditions of households – these variables are also included for further analysis.

Age is also closely linked to the HIV prevalence. At the same time the age correlates with such FSW characteristic as sex work record. Considering the influence of the sex work record on chances of HIV infection, which can be interpreted more substantially, the model includes the work record and ignores physical age.

7. The number of sexual partners in the last week

It can be assumed that the more clients FSW has, the higher are her chances to contract HIV. The survey results demonstrate that this interdependence is not always unambiguous – among FSW, who had 0 clients, the prevalence was 22%. Among FSW, who had 1–10 clients, the HIV prevalence was 10–11%, while among those, who had 10 and more clients, HIV prevalence reached 20%. With the exception of the first category, this link confirms expectations. Taking into account strong links, the number of sexual partners per week was included in the logical repression model.

8. Coverage of prevention programmes

FSW coverage with prevention programmes may be linked with lower chances of having HIV. However, among FSW, reached by prevention programmes, the HIV prevalence is almost three times higher than that among those, not reached by programmes – 18.3% and 6.7% correspondingly. Probably, it is the presence of HIV infection that motivates FSW to cooperate closely with various NGOs – it means that NGO services generally cover those, for whom the issues of risk reduction regarding HIV are not urgent anymore.

Variables, described above, were analyzed using logical regression. The quality indicators for the models include coefficients of pseudo-R^2, which demonstrate the model's capacity to forecast dependent variable correctly (in our case – HIV status). Such coefficients are Cox & Snell R Square and Nagelkerke R Square, which make up 0.154 and 0.294 correspondingly (these values are sufficient) for the final model. Second, it is the share of correctly forecasted values of dependent variable for respondents (in other words, how correctly we can foresee the female sex worker's HIV status using this model). The analysis results have shown that it is much easier for factors under study to "deal with" the negative HIV status: for almost 98% of FSW, whose rapid tests showed negative results, the final model was able to forecast their status correctly. However, the situation with forecasting the status of HIV-positive FSW is much worse: the model was able to forecast the status of only 23% of HIV-positive FSW. So we should note that factors, that were used to build the model, truly influence the changes in chances to have HIV, but there exist a number of other factors, which may have even closer links.

While building the logical repression model, the influence of many of suggested variables turned out to be insignificant, so they were excluded from subsequent analysis. The final model included the following factors: experience of provision of such sex services as anal and oral sex; experience of incorrect use of condoms; experience of drug use; experience of provision of sex services to foreigners; experience of provision of sex services to HIV-infected individuals; the presence of syphilis; social status; FSW - native resident or newcomer; sex work record; the presence of permanent partners among IDU; coverage by prevention programmes (See Table 6.1.1).

The strongest link was identified in relation to the experience of drug use. For example, among FSW, who use drugs, the chance to be HIV-positive is by 4.4 times higher as compared to FSW, who do not have experience of drug use. Strong links can be observed with the provision of sex services to HIV-infected individuals. Among FSW, who had HIV-infected clients in the last 12 months, chances to become HIV positive are by 3.9 times higher compared to FSW, who did not have clients of this type. Coverage by prevention programmes is linked with higher (by 2.9 times) probability to be HIV positive. Among FSW, who have syphilis, the chance to have HIV is by 2.5 times higher compared to those without syphilis. Experience of sex with permanent partner-IDU increases the chances to contract HIV by 2.2 times. Chances of being HIV positive are by 2.2 times higher if FSW has syphilis. The rest of factors are also closely linked to chances of FSW having HIV.

Table 6.1.1

Standardized coefficients Exp(B), based on the results of logical regression analysis

	Statistical significance	Exp(B)	Confidence interval (95%)	
Whether FSW provided such services as anal sex (0 – did not provide (reference category), 1 – provided)	0.01	0.66	0.47	0.92
Whether FSW used condom correctly (0 – correctly (reference category), 1 – there were cases of incorrect use)	0.08	1.33	0.96	1.84
Whether FSW has an experience of drug use (0 – no experience (reference category), 1 – such experience is present),	0.00	4.38	3.03	6.33
Whether FSW had sex with foreigners (0 – no experience (reference category), 1 – such experience is present)	0.00	0.61	0.44	0.85
Whether FSW had sex with HIV-infected individuals (0 – no experience (reference category), 1 – such experience is present)	0.00	3.86	2.05	7.29
Whether FSW has syphilis (0 – does not have (reference category), 1 – has this disease)	0.00	2.45	1.37	4.37
Social status (reference category – does not work and study)	0.07			
Social status – she studies	0.12	1.64	0.87	3.08
Social status – casual earnings	0.02	1.56	1.09	2.23
Social status – permanent job	0.21	1.45	0.81	2.58
Place of origin of FSW (0 – native resident (reference category), 1 – newcomer)	0.04	0.70	0.49	0.99
Sex work record (in years)	0.09	1.03	1.00	1.06
Whether FSW had permanent partners-IDU (0 – did not have(reference category), 1 – had such partners)	0.00	2.22	1.52	3.24
Whether FSW was covered by prevention programmes (0 – covered (reference category), 1 – not covered)	0.00	2.92	2.02	4.22
Constant	0.00	0.03		

CONCLUSIONS AND RECOMMENDATIONS

Based on the survey findings, the following key conclusions can be made: as a rule, female sex workers are young women of the full legal age (20–29 years, 49%), who are characterized by somewhat lower level of education as compared to other women of their age. Probably, this is one of factors, why women, who participated in the FSW study, were forced to get involved in the provision of sex services. As a rule, FSW live in low-income households (54%). At the same time, the survey has revealed that FSW live in conditions, which are somewhat better than overall living conditions of Ukraine's adult population. So, we cannot affirm that financial conditions of FSW are qualitatively worse than conditions of the general population, not involved in sex business. At the same time, only a few FSW live in boarding schools, in the basements, attics or on streets (3%). Many FSW are newcomers (39%) to the cities, but FSW from the native residents are still more prevalent. The majority of FSW start their sexual life early (19% of them started to have sex before 14 years of age), as compared to other women living in Ukraine. The study among FSW also reveals the trend towards growth of the number of persons who start their sexual life early (before 14 years of age).

As a rule, FSW either do not have permanent job, or have casual earnings (excluding their involvement in the commercial sex) - 65%. Probably it explains the fact that the main source of income for the absolute majority of FSW (69%) is the provision of commercial sex services. Only a few FSW may consider commercial sex as an additional occupation. Deep involvement in sex business activities is also confirmed by the fact that absolute majority of FSW (88%) provide services almost every week. Both FSW with relatively short sex work record and experienced FSW work with more or less similar frequency (regularly). Moreover, women, involved in this business, generally use different types of client seeking. In other words, they can use both "safer" ways (e.g. through newspaper ads or Internet), and more "dangerous" ways (e.g. work on streets, etc.). As a rule, FW have several clients every week. However, it should be noted that those working on streets, highways or railway stations, usually have more clients.

Despite rather significant involvement in commercial sex, the practice of condom use is not very widespread among FSW. On the one hand, absolute majority of female sex workers (89%) used condoms during the last sexual contact with the client, but on the other hand not all FSW use condoms on the permanent basis: unfortunately, significant numbers of FSW have experience of sexual contacts with clients without the use of condoms. While the indicator of the permanent use of condoms during oral sex is not very threatening (43%), the consistency of condom use during vaginal (66%) and anal (55%) sex is much more dangerous. Moreover, there exists interdependence between the permanency of the condom use and the frequency of alcohol consumption immediately before sexual contacts with clients. The more frequently FSW consume alcohol, the lower is the number of them who uses condoms on the permanent basis. However, it is interesting to note that in case of drug use, such linear dependence is typical for anal sex only. The situation with non-permanent use of condoms is further worsened by the widespread (51%) cases of incorrect use of condoms. Very important is the permanency of condom use during sex with permanent and (or) casual partners. Unfortunately, there are a lot of FSW (who had sexual partners of this kind), who do not use condoms permanently even during these contacts.

Each fourth FSW (25%) has an experience of the drug use. The most popular drug among FSW is the opium extract (46% of FSW, who have an experience of drug use, have consumed this substance in the last 30 days). Quite widespread among FSW is the use of stimulants (e.g. "vint" and "pervitine" – these were used by 18% of FSW). We should add, that the popularity of different drugs is different among various age groups of FSW. Younger FSW generally prefer stimulants, while opioids are the drugs of choice of older FSW. Negative factor here is that the majority of FSW, who have the experience of drug use, also inject them. In fact, 15% of all surveyed FSW have an experience of injecting drug use in the last 30 days.

FSW are characterized by generally low level of knowledge about HIV. In particular,

only 52% of FSW gave correct answers to all five questions, included in the national knowledge indicator. And only 29% of FSW gave correct answers to all eleven questions on HIV knowledge, asked during the survey. At the same time, the majority of FSW gave correct answers to each specific question. In particular, FSW are well aware of various STI symptoms, but high level of awareness regarding HIV is not the factor that fosters safer behaviour. For example, the link between knowledge and frequency of the condom use is extremely weak. In other words, despite having deep knowledge of various dangers, FSW still use harmful behaviour practices. This points to the necessity to change motivation of specific actions: campaigns should target the motivation, instead of aiming to increase the overall level of HIV-related knowledge.

About half of all FSW (54%) are reached by prevention programmes. Significant numbers of FSW received various services from non-governmental organizations in the last 12 months. The most popular services, received by FSW, were condom distribution, HIV/AIDS/STI testing and relevant counselling, as well as distribution of information materials (booklets, brochures) and personal hygiene items.

FSW represent one of most-at-risk groups to HIV infection. However, the survey results demonstrated that HIV prevalence varies, depending on the survey site. For example, in some cities (in Kharkiv, Chernigiv, Uzhgorod, Chernivtsi) not a single surveyed FSW had HIV. At the same time, 43% of Donetsk FSW received positive results of HIV testing. Quite high levels of HIV prevalence are observed in Kyiv (26%), Cherkassy (26%), Simferopol (25%), and Poltava (19%). HIV prevalence in the rest of the cities under study made up 5–11%. Taking into account difficult epidemiologic situation, related to HIV prevalence, regular HIV testing becomes a priority. However, only 57% of FSW have received HIV testing in the last 12 months and know its results. In other words, significant percentage of FSW does not pass regular HIV tests. If we add low spread of the permanent condom use, the situation becomes even more dangerous.

The following key factors can be identified as factors having the closest links with the presence of HIV: experience of provision of such sex services as anal and oral sex; experience of incorrect use of condoms; experience of drug use; experience of provision of sex services to foreigners; experience of provision of sex services to HIV-infected individuals; the presence of syphilis; social status; FSW - native resident or newcomer; sex work record; the presence of permanent partners among IDU; coverage by prevention programmes. We should add that links regarding such factors, as provision anal sex and coverage of prevention programmes, are totally unexpected. For example, the chances to have HIV among FSW, who provided anal sex services, are lower. Probably, it can be explained by the fact that FSW ceased to provide such services after learning about their positive status. Lower chances of having HIV are also observed among those who have an experience of provision of services to foreigners and those reached by the prevention programmes.

The prevalence of syphilis is significantly lower. The maximum prevalence can be observed in Vinnytsia (17%), Simferopol (12%), Uzhgorod and Zaporizhya (11% each). Experience of other diseases is not particularly widespread among FSW as well. Speaking about the last 12 months, the most prevalent diseases were candidiasis (16% of FSW had this disease) and clamidiosis (9%).

It should be noted that certain results could have been preconditioned by the specifics of methodologies, used in this study - RDS and TLS. Despite the ability of each of these methods to overcome certain difficulties, they also have peculiar weaknesses. First of all, it is necessary to improve the implementation of each of these methodologies in the present-day conditions in Ukraine. For example, TLS requires improvement of the point mapping procedure and more effective addressing of the issue of accessing closed points and overall selection of respondents. In order to apply RDS more effectively, it is necessary to study the structure of relations between FSW (networking) more deeply, and to improve procedures of selection of primary respondents. It is very important to compare respondents, who are actually recruited through this methodology, and those who refused to participate in the study. Bringing the entire toolkit in compliance with applied methodology would be another general methodological improvement. For example, TLS envisages the use of short questionnaire, because large questionnaire will likely lead to reduction of the data quality. It should be added that the analysis was significantly limited by impossibility to track factors that became real causes of HIV positive status of FSW. In other words, available data helped to reveal certain links, but it was not enough to identify causes. So, in further implementation of similar projects it is important to attempt to carry out studies that would answer the question about factors, which precondition the spread of HIV among FSW.

Second, it is necessary to conduct comparative methodological study, which would make it possible to evaluate the best methodology in terms of results and real changes, preconditioned by them. For example it would be useful to carry out a survey using both TLS and RDS methods within one community in order to compare them correctly.

ANNEX 1

National M&E Indicators on the effectiveness of response to HIV/AIDS epidemic among FSW at the site level

Table 1.

National Indicator "Percentage of FSW, who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission"

	Sample type	Sample size*	Share in sample **	Estimated share, based on RDS	Confidence intervals	Homophily
Donetsk	RDS	154 (4)	50.6	51.5	41.5-61.9	0.065
Kyiv	RDS	260 (4)	61.9	63.3	56.5-69.4	-0.041
Zaporizhya	RDS	154 (4)	52.6	49.6	40.2-60.5	0.134
Chernigiv	RDS	154 (4)	66.2	68.0	59.7-76.1	0.043
Cherkassy	RDS	99 (4)	60.6	61.4	47.4-78.6	0.184
Kharkiv	RDS	154 (5)	50.6	50.5	41.2-58.7	-0.089
Vinnytsia	TLS	150	66.6	-	58.7-74.5	-
Zhytomyr	TLS	150	42.7	-	34.5-51.0	-
Ivano-Frankivsk	TLS	150	43.3	-	35.0-51.6	-
Poltava	TLS	150	66.7	-	58.8-74.6	-
Rivne	TLS	152	58.8	-	50.7-67.0	-
Simferopol	TLS	150	28.2	-	20.7-35.7	-
Ternopil	TLS	150	34.7	-	26.8-42.7	-
Uzhgorod	TLS	100	18.0	-	10.0-26.0	-
Chernivtsi	TLS	151	55.6	-	47.3-63.9	-

* Figures in brackets for RDS sites provides the number of primary respondents in sample. In the column "Stare in Sample", the percentage for RDS sites is calculated on the basis of entire sample, including primary respondents. In the column "Estimated share based on RDS", the percentage is calculated in RDSAT software without primary respondents.

** For TLS sites the value is calculated on the basis of weighting according to survey sites, presented in the sample.

Table 2.

National Indicator "Percentage of FSW, who received an HIV test in the last 12 months and who know their results"

	Sample type	Sample size*	Share in sample **	Estimated share, based on RDS	Confidence intervals	Homophily
Donetsk	RDS	154 (4)	64.9	69.9	59.8-79.3	0.079
Kyiv	RDS	260 (4)	56.5	53.9	46.5-61.1	0.135
Zaporizhya	RDS	154 (4)	20.8	15.7	9.0-22.6	0.128
Chernigiv	RDS	154 (4)	59.7	59.1	49.3-68.7	0.203
Cherkassy	RDS	99 (4)	55.6	53.9	37.6-67.6	0.365
Kharkiv	RDS	154 (5)	55.2	47.5	35.2-60.1	0.480
Vinnytsia	TLS	150	86.8	-	81.1-92.6	-
Zhytomyr	TLS	150	30.7	-	23.0-38.4	-
Ivano-Frankivsk	TLS	150	57.3	-	49.1-65.6	-
Poltava	TLS	150	41.3	-	33.1-49.5	-
Rivne	TLS	152	68.6	-	60.9-76.3	-
Simferopol	TLS	150	96.8	-	***	-
Ternopil	TLS	150	60.0	-	51.8-68.2	-
Uzhgorod	TLS	100	44.0	-	33.8-54.2	-
Chernivtsi	TLS	151	57.6	-	49.4-65.8	-

* Figures in brackets for RDS sites provides the number of primary respondents in sample. In the column "Stare in Sample", the percentage for RDS sites is calculated on the basis of entire sample, including primary respondents. In the column "Estimated share based on RDS", the percentage is calculated in RDSAT software without primary respondents.

** For TLS sites the value is calculated on the basis of weighting according to survey sites, presented in the sample.

*** It is impossible to perform statistically significant calculations to build confidence intervals.

Table 3.

National Indicator "Percentage of FSW, reached with prevention programmes"

	Sample type	Sample size*	Share in sample **	Estimated share, based on RDS	Confidence intervals***	Homophily
Donetsk	RDS	154 (4)	65.6	70.6	60.1-79.1	0.176
Kyiv	RDS	260 (4)	47.7	40.6	32.4-48.4	0.290
Zaporizhya	RDS	154 (4)	29.2	19.5	12.8-27.2	0.194
Chernigiv	RDS	154 (4)	7.1	7.5	3.4-12.2	0.018
Cherkassy	RDS	99 (4)	64.6	61.7	47.0-76.7	0.277
Kharkiv	RDS	154 (5)	53.2	35.8	25.2-48.8	0.534
Vinnytsia	TLS	150	93.8	-	89.6-98.0	-
Zhytomyr	TLS	150	28.0	-	20.5-35.5	-
Ivano-Frankivsk	TLS	150	43.3	-	35.0-51.6	-
Poltava	TLS	150	79.3	-	72.5-86.1	-
Rivne	TLS	152	77.2	-	70.2-84.2	-
Simferopol	TLS	150	98.1	-	---	-
Ternopil	TLS	150	25.3	-	18.0-32.6	-
Uzhgorod	TLS	100	16.0	-	8.3-23.7	-
Chernivtsi	TLS	151	100.0	-	---	-

* Figures in brackets for RDS sites provides the number of primary respondents in sample. In the column "Stare in Sample", the percentage for RDS sites is calculated on the basis of entire sample, including primary respondents. In the column "Estimated share based on RDS", the percentage is calculated in RDSAT software without primary respondents.

** For TLS sites the value is calculated on the basis of weighting according to survey sites, presented in the sample.

*** A symbol "---" means that it is impossible to perform statistically significant calculations to build confidence intervals.

Table 4.

National Indicator "Percentage of FSW, who provided commercial sex services in the past 12 months reporting the use of condom during sex with their most recent client"

	Sample type	Sample size*	Share in sample **	Estimated share, based on RDS	Confidence intervals	Homophily
Donetsk	RDS	154 (4)	85.1	87.5	79.3-94.6	0.225
Kyiv	RDS	260 (4)	89.6	90.1	86.3-93.5	-0.017
Zaporizhya	RDS	154 (4)	79.9	76.6	66.4-86.5	0.278
Chernigiv	RDS	154 (4)	92.9	92.2	87.5-96.4	0.091
Cherkassy	RDS	99 (4)	81.8	89.4	74.2-97.3	0.419
Kharkiv	RDS	154 (5)	96.8	97.1	94.0-99.4	-0.005
Vinnytsia	TLS	150	97.1	-	***	-
Zhytomyr	TLS	150	79.3	-	72.5-86.1	-
Ivano-Frankivsk	TLS	150	83.3	-	77.0-89.6	-
Poltava	TLS	150	83.3	-	77.0-89.6	-
Rivne	TLS	152	95.8	-	92.3-99.3	-
Simferopol	TLS	150	100.0	-	***	-
Ternopil	TLS	150	90.0	-	84.9-95.1	-
Uzhgorod	TLS	100	74.0	-	64.9-83.1	-
Chernivtsi	TLS	151	97.4	-	***	-

* Figures in brackets for RDS sites provides the number of primary respondents in sample. In the column "Stare in Sample", the percentage for RDS sites is calculated on the basis of entire sample, including primary respondents. In the column "Estimated share based on RDS", the percentage is calculated in RDSAT software without primary respondents.

** For TLS sites the value is calculated on the basis of weighting according to survey sites, presented in the sample.

*** it is impossible to perform statistically significant calculations to build confidence intervals.

Table 5.
National M&E Indicators on the effectiveness of response to HIV/AIDS epidemic among FSW, by age subgroups

	Among all FSW, N=2,276		Among FSW under 25 years, N=927		Among FSW over 25 years, N=1,349	
	%	Confidence intervals	%	Confidence intervals	%	Confidence intervals
Percentage of FSW, who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission	51.9	49.8-54.00	47.8	44.5-51.1	54.7	52.0-57.4
Percentage of FSW, who received an HIV test in the last 12 months and who know their results	56.5	54.4-58.6	51.7	48.4-55.0	59.7	57.1-62.4
Percentage of FSW, reached with HIV prevention programmes	53.8	51.7-55.9	46.6	43.3-49.9	58.8	56.1-61.5
Percentage of FSW, who provided commercial sex services in the past 12 months reporting the use of condom during sex with their most recent client	89.0	87.7-90.3	89.6	87.6-91.6	88.5	86.8-90.2
HIV prevalence	12.9	11.5-14.3	8.3	6.5-10.0	16.1	14.2-16.1