



# **BIOLOGICAL AND BEHAVIORAL SURVEILLANCE SURVEY AMONG PRISONERS IN ALBANIA**

October 2015



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## About “STOP AIDS” NGO

“STOP AIDS” is a national NGO located in Tirana, Albania with focus on HIV/AIDS, substance abuse, reproductive and sexual human rights, advocacy and research. It brings together staff with academic expertise, skills and field experience in public health, sociology, economics and political science. “STOP AIDS” NGO works with variety of Albanian, regional and international partners to accomplish its organizational mission. It also provides independent analyses of important current issues in Albania and beyond, ranging from research to policy.

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# ACRONYMS

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**AIDS** Acquired Immune Deficiency Syndrome

**Bio-BSS** Biological and Behavior Surveillance

**HIV** Human Immunodeficiency Virus

**HBV** Hepatitis B Viral

**HCV** Hepatitis C Viral

**GPA** General Prison Administration

**MoH** Ministry of Health

**STI** Sexually Transmitted Infection

**UNFPA** United Nations Population Fund

**UNODC** United Nations Office on Drug and Crime

**WHO** World Health Organization



## EXECUTIVE SUMMARY

Prisoners are at great risk for contracting HIV and Hepatitis Viral B and C (HBV&HCV) infections, and evidence suggests that these infections are becoming an increasingly important problem for prison populations, public health and health systems all over the world. Certain characteristics of prison environments could increase the risk of HIV, HBV and HCV transmission. Despite being largely controlled areas, prisons still allow prisoners to access various illegal substances and because of reduced access to prevention measures and health education in prison settings, inmates engage in various risky behaviors, including drug use, tattooing, unsafe sexual relationships, violence, etc.

Albania continues to be a low HIV prevalence country (less than 1%), with 406 known HIV cases since 1993, whereas the prevalence of HBV and HCV infections is estimated at 8% and 0.99%-1.2% in the general population, respectively, and increasing over time. The situation of HIV in prison environments in Albania is still unclear mainly due to limited data and data accuracy issues whereas regarding HBV and HCV the data are largely lacking. In this context, a Biological and Behavioral Surveillance Survey among inmate population in Albania was carried out in order to assess the prevalence of STIs and other risky behaviors and the factors associated with them in order to provide a baseline assessment of the situation and suggest relevant measures to minimize the risk of future transmission of STIs in this well-defined population group.

Inmates in Albania constitute a high risk group both before and after incarceration as the majority of them are males characterized by low education level and high unemployment rates (mainly blue-collar workers) before incarceration. The prevalence of illicit drug use and injecting drug use before incarceration was several times higher compared to rates in the general population and high proportions of them engaged in risky behaviors such as sharing needles, tattooing by non-professionals, etc. The prevalence of never or rare condom use during sexual encounters before imprisonment was about four in five inmates. Also, about half of inmates declared that this was their second or third time of incarceration which increases the chances of spread of STIs from community to prison settings and vice-versa.

In prison settings various drugs were being used including cannabis, heroin, cocaine, ecstasy as well as alcohol and the prevalence of any substance use in prison settings was about 13%, marking a substantial reduction compared to rates of substance use before incarceration. However, the prevalence of never or rare condom use during sexual encounters had increased compared to before incarceration period and inmates continued to engage in other risky behaviors such as homosexual relations, tattooing, exchange of needles, etc. Drug use was higher in prisons located outside the capital implying tighter control measures and regulations in prisons of the capital, Tirana. The rate of STIs testing while in prison was very low and their knowledge about signs and symptoms of STIs, routes of transmission and prevention and testing sites were very limited. The current prevalence of HIV, HBV, HCV and Syphilis in this sample of Albanian prisoners was 0.5%, 9.5%, 11.8% and 2.4%, respectively, representing generally higher levels compared with the general population, except for HBV. The prevalence of HBV and HCV was higher in prisons other than Tirana and in males while the opposite trends were observed for HIV and Syphilis. Of all violence episodes reported, about half of them occurred in prison settings marking a clear increase compared to before incarceration period for all kinds of violence except for being hit by a gun or knife. Lastly, only one in three inmates had asked for help when victims of violence with the family being the most supportive source of help, followed by medical staff and friends. The main reason for not asking for help was that it "was not worth it".

The findings of this survey suggest that the incarcerated population in Albania constitutes an especially high risk group for various STIs and other disadvantageous consequences. The actual inmates had been in high risk even before incarceration and therefore there is need to timely identify such individuals and promptly approach them when in community in order to prevent them from further engaging in such risky behaviors. There is need for supportive services that will assist inmates for some time after being released to community. There is also need for targeted education interventions in order to increase the awareness of inmates about STIs and their transmission and prevention routes. Testing for STIs in prison settings has to be improved and strengthened. There is need for strengthening of support services for victims of violence in prisons, especially for the most vulnerable groups. In addition, there is need to reinforce existing regulations and control of substances in prison settings in order to minimize the problems associated with drug use in these environments, thus reducing violence and other risky behaviors and improving the overall situation of inmates in Albania.





# I. INTRODUCTION

Prisoners are at great risk for contracting HIV and Hepatitis Viral B and C (HVB&C) infections, and increasingly, evidence suggests that these infections are a major health problem for prison populations all over the world. Since their early stages, the epidemics of HIV and other blood born infections have affected prison environments and prison populations in many countries, and their prevalence rates are significantly higher than those in general population (UNAIDS, 1997). Certain characteristics of prison environments could increase the risk of HIV, viral hepatitis B (HBV) and C (HCV) transmission (Strang et al., 1998). According to UNODC (2006), internationally, the high rates of HIV (and hepatitis B and C, as well) among prison population are closely related to two main factors: a) high rates of HIV infection among intravenous drug users that are often incarcerated during their drug use “career”. Moreover a good proportion of them may continue injecting drugs during their imprisonment period. Under this scenario, the high rates of HIV and viral Hepatitis C are largely related to sharing drug injecting equipments outside and inside the prison environments; and, b) high rates of HIV infection among general population mostly driven by unsafe heterosexual relationships. Therefore, the spread of HIV infection (and other blood borne viruses) in prison population is specifically related to unsafe sexual relationships and unsafe drug use practices.

Although prison administration and system in general undertake efforts to prevent drug use and illegal sexual activity (men having sex with men), yet prisoners are likely to continue their illegal involvement in such risky behaviors in an unsafe manner, with reduced access to prevention measures and health education, which in turn significantly increases their risk for acquiring HIV, HBV and HCV. Another common risky activity that takes places in prison settings is tattooing, which is considered a social activity by prisoners, but could be considered as risky due to sharing of unclean needles. These factors make prison settings a high risk environment for transmission of HIV and other infections.

Data on HIV and other blood borne viruses in prison settings come mostly from high-income countries and relatively little information is available for developing countries and countries in transition. Available evidence from several countries suggests high rates of HIV, HBV and HCV, and the prevalence rates range from 10 to 25 percent (Betteridge, 2004).

A review of injection drug users and HIV infection in prisons, undertaken for the United Nations Reference Group on HIV/AIDS Prevention and Care among Injecting Drug Users, found that, worldwide, HIV prevalence was higher compared with population outside the prison. For example, 41% of South- African prisoners have been reported to be HIV positive; in Latin America the HIV prevalence varies from 2-50% of HIV infections, in USA, HIV counts for 1.7% of the total custody population and being 2.7-4.8 times higher than in the general U.S. population (CDC, 2009). In the Russian Federation this prevalence in prison population counts for approximately 20% of known HIV cases. The above data support findings from many studies which have shown that the prevalence of HIV infection is higher in the incarcerated population than in the general population (Rotily et al., 2001; Dufour et al., 1996).

However, recent studies have shown that an even greater proportion of inmates may be infected with HBV and HCV infections (which are more easily transmitted than HIV) than with HIV. For instance, in 2005, the HCV sero-prevalence rates varied from around 4.8% in Indian jail system to over 90% in Spain and Ukraine. The same is the case for HBV - its prevalence ranged from around 4% in American prisons (Gough et al., 2010) to around 62% in German prisons (Stark et al., 1997).

In Albania, the first HIV case was diagnosed in 1993, and since then the transmission rate in this transitional South East European country has remained low (less than 1%) with 406 known HIV cases in a population of approximately 3.500.000 inhabitants. The prevalence of HBV is higher and reported to be more than 8% among the general population, while the prevalence of HCV is low among the general population: 0.99–1.2 % (MoH, 2010). However, the prevalence of acute viral hepatitis B and C has increased over the years and shows a high circulation among drug users, especially when compared to the rates in the general population.

There is an unclear picture on HIV prevalence in prison settings in Albania, as documented cases or data are limited, and accurate data are difficult to be accessed. According to General Prison Administration (GPA), in Albania there are four HIV known cases among Albanian prisoners, whom according to GPA have been prisoners deported from other countries and thus, they believe that have contracted HIV infection while they were abroad. Moreover, data on HBV and HCV are almost lacking, despite some efforts from two local NGOs that run harm reduction activities in the prison system. Therefore, the existing data do not provide a real picture of the current situation in Albanian prisons, as no mandatory testing is required for prisoners. However, anecdotal data and different media reports show that Albanian prisoners are involved in high risk behaviors within prison settings, such drug and alcohol use, unsafe sex (men having sex with men), tattooing, etc.

Although HIV, HBV and HCV infections are a great risk for prison population in many countries, the health of prisoners is an issue that rarely draws attention of the government and public at large, especially in low income countries. This may be related to the closed nature or social segregation of prison environment, stigmatization or lack of available funds.

However, prisoners' health and problems are not isolated issues that remain within the prison settings. Rather, they are issues of public health concern by all means. Regardless of the type of crime prisoners have committed, prisons should be a safe place to live and work. Prisoners in Albania are predominantly indigenous; they come from the community and will return again to community after a few years or whenever their detention is due. However, due to this mobility (prison and community) the communicable diseases acquired or advanced in prison may not stay in prison, but can also be imported in community. Therefore the prison health issues become community health issues. For instance, when a prisoner infected with HIV, HBV or HCV is released from prison he/she returns to the family and community. Then, their sexual or needle sharing partners are placed at higher risk and are often not aware of acquiring such infections.

Although, officially Albania is considered a low HIV prevalence country and around 90% of HIV cases are acquired via the heterosexual route of transmission, experts of the field believe that this may not be the real picture and there are enough components suggesting that an HIV epidemic outbreak may be possible in the future. These components include: the recent entrance of HIV infection and drug abuse in Albania; one-third of the Albanians work and live abroad (majority of them between 18-50 years old); a tenfold increase of drug users (IDU included) from 5.000 in 1993 to 60.000 in 2008 (Kakarriqi and Sulaj, 2009); an increase in the rate of HBV and HCV prevalence among IDUs as well; an increase in the number of prison population and prison settings; an increase of deportation cases of Albanian prisoners from prisons outside the country (such as Italy, Greece, Belgium, France, etc), where the HIV rates in are higher than in Albania. Based on these data, two possible HIV outbreak scenarios are relevant for Albania: among intravenous drug users, and prison population.

Nevertheless, prison system in Albania may present a great opportunity to respond to behaviors or activities that put prisoners at high risk for contracting communicable diseases, and to design and implement early interventions and policies that would prevent and decelerate the rates of these infections and diseases.

## II. AIM

The aim of this study was to evaluate the prevalence of HIV, HBV and HCV infections and to explore the factors associated with them and also other risky behaviors among prisoners in seven (7) local prisons in order to highlight the current situation and suggest relevant measures to minimize future transmission of these infections in Albanian prisons.

Generally speaking, an evaluation of these findings would help not only to create a clear epidemiologic picture about HIV, HBV and HCV infections and risk factors among prisoners in Albania, but also, would help policy makers and program managers to frame policies and intervention to cope with such issues.



### III. RESEARCH DESIGN

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A cross-sectional study was employed to measure the prevalence of HIV, HBV and HCV within prison population in Albania and explore their associations with other potential risk factors.

The cross-sectional design is suitable for determining the prevalence of certain conditions and it allows the determination and identification of various statistical associations between the study variables. In addition, it is quicker and less expensive compared to other more robust study designs such as randomized controlled trials or cohort studies which, however, are not suitable for evaluating prevalence rates. When well conducted, findings from cross-sectional studies can also be generalized to wider populations with the similar characteristics. Moreover, findings from these types of survey are in general reliable and useful to draw public and policy makers attention about the problem studied, identify needs and plan services, and make comparisons with other population in regions (Prince, 1998).



## IV. METHOD

The total prison population in Albania is around 6.000 prisoners, who are kept in 13 prisons, including one prison hospital. The population of selected prisons was composed by around 211 prisoners. The design effect was estimated at 2, the level of precision was set at 0.05 for a one-sided test with 80% power.

### 1. Sample sizes Calculation

The following formula was used to determine the sample size:

$$n = D \frac{\left[ \sqrt{2P(1-P)}Z_{1-\alpha} + \sqrt{P_1(1-P_1) + P_2(1-P_2)}Z_{1-\beta} \right]^2}{\Delta^2}$$

Where:

$D$  = design effect;

$P_1$  = the estimated proportion at the time of the first survey;

$P_2$  = the expected proportion such that the quantity  $(P_2 - P_1)$  is the size of the magnitude of change that it is desired to be detected;

$P = (P_1 + P_2) / 2$ ;

$Z_{1-\alpha}$  = the z-score corresponding to the probability with which it is desired to conclude that an observed change of size  $(P_2 - P_1)$  would not have occurred by chance;

$Z_{1-\beta}$  = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size  $(P_2 - P_1)$  if one actually occurred; and,

$\alpha = 0.05$  ( $Z_{1-\alpha} = 1.65$ )  $\beta = 0.20$  ( $Z_{1-\beta} = 0.84$ )

The most conservative proportion for  $P_1$  is utilized in order to guarantee the maximization of the sample size for reaching the statistical significance. To determine the necessary sample size to detect a change of 15 percentage points, for several different indicators the initial value of  $(P_1)$  has been estimated at 50% (this being the most conservative estimate possible). The design effect is estimated at 2. The level of precision is set at 0.05.

**Application of the above formula yields a sample size of 187.** A non-response rate of 10% was used, raising the sample size to 211.

### 2. Sampling method

The sampling technique consisted of a two stage cluster sample with probability proportional to size (PPS).

- *Stage 1*: a random sample of seven prisons (prefecture based) with PPS was drawn from the total list of prisons;
- *Stage 2*: a simple random sample, with probability proportional to size, was drawn in each of the prisons selected in stage one.

The female population of prisons (women prison located in Tirana) comprises around 8 percent of the total prison population. Out of 50 individuals sampled in Tirana, 10 of them were female.

The sample size included any participant who might drop out of the study after initially giving consent.

## Setting

### Definitions

The below definitions were summed up from the National Academies Press (2006):

*A prisoner is:* “any individual involuntarily confined or detained in a penal institution”.

The term is intended to encompass individuals sentenced to an institution under a criminal or civil statute, individuals detained in other facilities by virtue of statutes or commitment procedures which provide alternatives to criminal prosecution or incarceration in a penal institution, and individuals detained pending arraignment, trial, or sentencing.

*Jail:* is an institution for people awaiting trial; people sentenced for a short duration, typically less than one year.

*Prison:* is an institution for people who committed and convicted of crimes, sentenced for a longer term.

Regarding prison settings selected for the purpose of this project, two of them are located in Tirana and five others in other districts. In Tirana they serve for those convicted and those awaiting trial but they are different in terms of security level. One prison has less supervision and control over inmates in the dormitories and less supervision of inmate movements within the prison, while the other one is classified as medium security one, and therefore more strictly regulations are applied for prisoners in that setting.

Each prison contains a group toilet and shower area as well as sinks. In addition, each prison has its own health centre composed by medical doctors, nurses and a dentist. Prisoners are provided with 24 hours health services for 7 days a week, however during night shift health services are covered by a trained nurse. In case of an emergency, the prison hospital centre or city emergency room assists the prisoner in need.

### Inclusion criteria

All prisoners 18 years or older and with a period of incarceration of more than one month at the day of interview were eligible to participate in the study.

### Exclusion criteria

Prisoners under 18 years old, those with behavior disorders such as anxiety, depression, mentally disabled were considered ineligible to participate in the study. The chief medical doctor were asked to provide a list of prisoners who might have behavior disorders or are diagnosed as mentally disable.

However, a person was considered as not eligible to participate in the study, if:

- a) Lacks the capacity in relation to a matter if at the material time he is unable to make a decision for himself in relation to the matter because of an impairment of, or a disturbance in the functioning of, the mind or brain; or
- b) Is unable to make a decision for him, and therefore is unable to: understand the information relevant to the decision, to retain that information, to use or weigh that information as part of the process of making the decision, or to communicate his decision (whether by talking, using sign language or any other means).

In addition, those who do not speak the local language (Albanian), those who refuse to provide biological samples and who may pose any danger/risk to study team (suggested by prison staff) were excluded as well.



## Procedure

### *Recruitment*

Before approaching study participants, a correctional prison medical representative (who served as the field study coordinator as well) identified the eligible prospective participants and provided the investigator with eligible participants' list. A socio-medical prison staff distributed in each cell the information sheet (at least 24 hours before the day of interview), which explained the strictly voluntary nature of the survey; guaranteed participants anonymity and confidentiality; and providing the option to refuse to answer any question or terminate the interview and participation at any time. In addition, the research team organized group information sessions with prospective participants to describe the nature of the survey, explained the consent form, procedure of completing the questionnaire and blood testing. In order to avoid and minimize any pressure put on participants they were encouraged to report to the research team any pressure that they might have received from prison staff and they were free to withdraw at any moment without any repercussion.

Once the information sheet and consent form was understood, participants were asked to voluntarily participate in the study, sign the consent form and proceed with completing pre-coded questionnaire. The consent form was not obtained in a group setting, but in anonymity conditions to protect the confidentiality of the participants. In cases where a participant had a low level of literacy or did not fully understand the consent form, the principal investigator read and explained the study purpose and procedures to the participant. Although the consent form was signed, again they had the right to skip any question they were not comfortable with, end the interview, decide not to provide blood samples for screening or withdraw from participation in the study. Withdrawing from the study would not affect the quality of services and care or relationship with the prison staff.

Once consent form was obtained, all participants were invited to complete the behavioral survey. In the next phase, the pre-test counseling, blood testing procedures, confirmatory tests would follow accompanied by post-test counseling and referral or treatment for HIV, Hepatitis Viral B and C positive results.

Inmate recruitment continued, as necessary, until the end of the data collection period for each selected institution. However, the sample size included any participants who may drop out of the study after initially giving consent.

### *Research questionnaire*

The questionnaire was self-administered to respect anonymity and was coded to preclude identification of any individual prisoner. The bar code label technique was not possible to be used. Instead, the research team was responsible to provide anonymous questionnaire coding (numerical code) for each study participants and link it with blood sample and informed consent. The Texas Unique Testing Code technique (UTC) was used to code the individuals who participated in this study. This code was created from non-changing elements of client information including name, date of birth, ethnicity and sex.

The procedure of coding was as follow:

- a) Name elements: the first letter of the first name and the last two letters of the last name (maiden name for women). Then, letters are converted to a 2 digit numeric code: A=01, B=02, C=03;
- b) Date of birth elements: Month: 2 digit number; Day: 2 digit number; Year: 2 digit number;
- c) Ethnicity: Albanian 1; Greek 2; Roma 3; Gypsy 4; other 8; no response 9;
- d) Sex: Male 1; Female 2;

For instance: Arian Boci; 03/03/1971; Albanian; Male; therefore the code will be: 0103130303197111

The questionnaire included demographic data, history of imprisonment, history of HIV/HBV and HCV, risky behaviors (unsafe sex, drug use, injecting and needle sharing, tattoo, etc), and history of STIs episodes, both outside and inside the prison. In case that someone was unable (illiterate) to fill out the questionnaire, the research team assisted the participant to complete the questionnaire.

Study participants were assured of their anonymity and confidentiality and their personal information (raw data) would be kept by principal investigator and locked in a secure place outside of prison settings.

## **Procedures**

HIV/ HBV and HCV screening: in the second phase a trained nurse from selected prisons was part of the research team, and performed HIV/ HVB and HCV screening. A 5 ml peripheral blood samples was individually drawn from each study participants to be screened for HIV/ HBV and HCV antibodies. Before testing, all participants received counselling (pre-test counselling). The testing procedure took place at the nurse/laboratory room of each prison health unit. All blood samples were equipped with a non-identifying code number which corresponded with the one placed on the questionnaire and consent form, in order to link the laboratory test results with the questionnaire responses.

For the detection of HIV/ HBV and HCV antibodies a Rapid Anti-HIV and HBV and HCV Blood Test method was used (Dolan and Larney, 2010). This method is accurate, reliable and cost-effective. Both sensitivity and specificity of these tests used in this survey are greater than 99%, however positive results need to be confirmed with follow-up tests. Results can be interpreted within 15 minutes and the person tested does not need to return again in several days to obtain the results (manufacturer's data). Nowadays, many organizations and groups advocate for greater use of these testing techniques (Fan et al., 2010).

Although Rapid Test method is an easy use technique, due to limitation of utilities in prison, HIV/ HBV and HCV testing will be not conducted in prison, but at a laboratory unit of STOP AIDS association. In case of positive samples, they would be retested in duplicate and confirmed with Elisa and/or Western Blot at National Reference Laboratory at Albanian Institute of Public Health (FHI, 2006; Azarkar & Sharifzadeh 2008). Positive samples would be declared positive whether seropositivity is found by Rapid Test and Elisa and/or Western Blot tests; while negative samples were declared as negative based on Rapid Test results. Testing results would be confidentially communicated to participants, no later than 30 days after the day of testing, who would receive counseling as well (post-test counseling).

## **Research tool**

Lately, a lot of efforts have been placed in developing standardized indicators for HIV-related risk behavior. Standardization is important to ensure comparability over time and between population groups. The standardized indicators have been developed following long years of trials in dozens of countries and situations around the world (FHI, 2000).

Therefore, standardized/structured questionnaires are a good research tool to collect information not only on socio-demographic data, but also provide information on all sorts of other aspects of risk behavior and exposure to risk, such as: unsafe sex, drug use and injecting, sharing drug tourniquets, etc.

## **Statistics**

Data were analyzed by using SPSS software version 15 for windows. Chi square analyses would be used to assess the relationship between risky behaviors and HIV test results as well, whenever variables were categorical. Simple proportions would be calculated to determine prevalence and continuous variables would be assessed using student's t-test.

## **Ethical approval**

### ***Ethical Review and consent process***

The protocol, informed consent forms and other requested documents were reviewed and approved by General Prison Administration. Participation in this study was voluntary based and participants had the right not to participate, refuse to answer any questions they were uncomfortable with or provide biological blood samples; they could withdrawal at any moment without any repercussions. Confidentiality was maintained and anonymity of responses was ensured as well. Their personal information was kept in the strictest of confidence and made available only to the research team.

### ***Potential benefits and harms***

There were various potential benefits and little harm for participation in this study. Participants received information about HIV/AIDS and HVB&C, treatment options, follow-up and care. Some participants may have felt that by participating in the research would help in improving the inmates' health in prison settings. Other than this, there were no additional benefits to participation.

There was the potential for a participant to become embarrassed because of the nature of the questions (as many questions are related to their sex lives and drug use history) or tests results. This may have been seen as emotionally difficult for some. If the participant was too embarrassed to continue, s/he had the right to skip any question or end the interview. Taking blood from their arm may cause a brief period of pain and some bleeding which stops in few minutes. It may also leave a small bruise on their arm, which it should disappear in a couple of days. There could be also a psychological risk to learning the HIV/HSV&C status. However, for those who may have mental/physical health problems related to HIV/HSV&C testing or status, particular care was provided and psychosocial support to enable them to cope with the emotional reactions resulting from such situations.

### ***Limitations of the study***

Some limitation of this study should be taken into consideration. Even though the prisons were selected at random and proportional to size, the selection bias cannot be ruled out due to the small number of prisons in the sampling frame. However, we think this bias was minimal due to broad geographical diversity of prison locations and study participants as selected prisons were national ones. Due to security problems and procedures of prisons, individuals' confidentiality might have been bridged. In addition, they could have not responded verbally and frankly to the questions relating to sex or drug behavior characteristics. Nevertheless, this limitation was minimized because the questionnaire was self-administered and anonymous. However, the self-administered questionnaire carried some limitations itself, assuming that not all prisoners would tell the truth about their risk behavior history.

Lastly, the limitation of cross-sectional design study in the casual inference in the analysis of HIV, HSV&C should be taken into consideration as well.

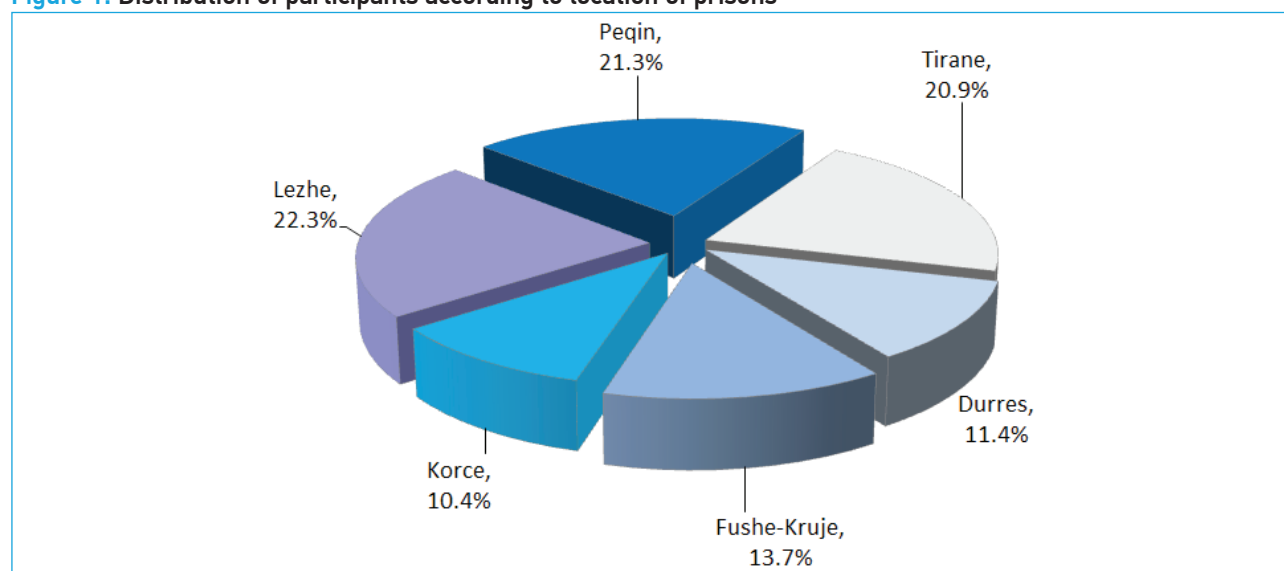


## V. RESULTS

### Socio-demographic information about study participants

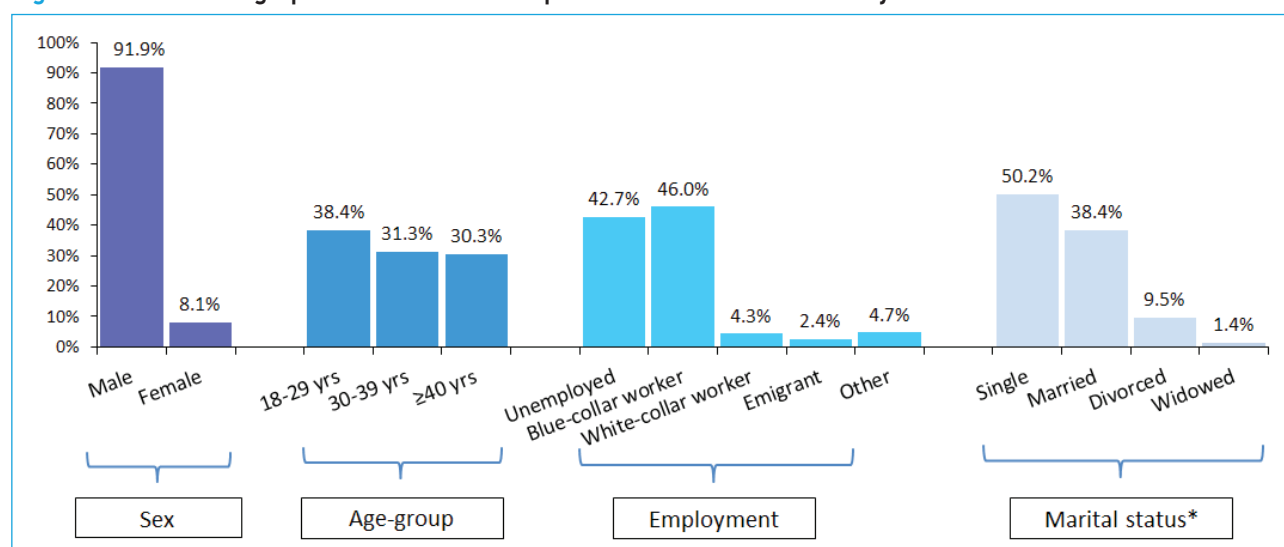
A total of 211 inmates participated in the survey. The distribution of participants by the location (at district level) of the selected prisons is displayed in Figure 1.

**Figure 1.** Distribution of participants according to location of prisons



The overwhelming majority of prisoners included in the survey were males (91.9%). The average age of participants was 34.4 years (34.2 years among males and 37.3 years among females), but the sex differences were not statistically significant. The age of participants varied from 18 years (5 cases) to 68 years old (1 case). Before imprisonment, about half of participants (46%) were blue-collar workers, around 43% were unemployed and only 4.3% of them were white-collar workers. Also, about half of inmates were single whereas 38.4% of them were married (Figure 2).

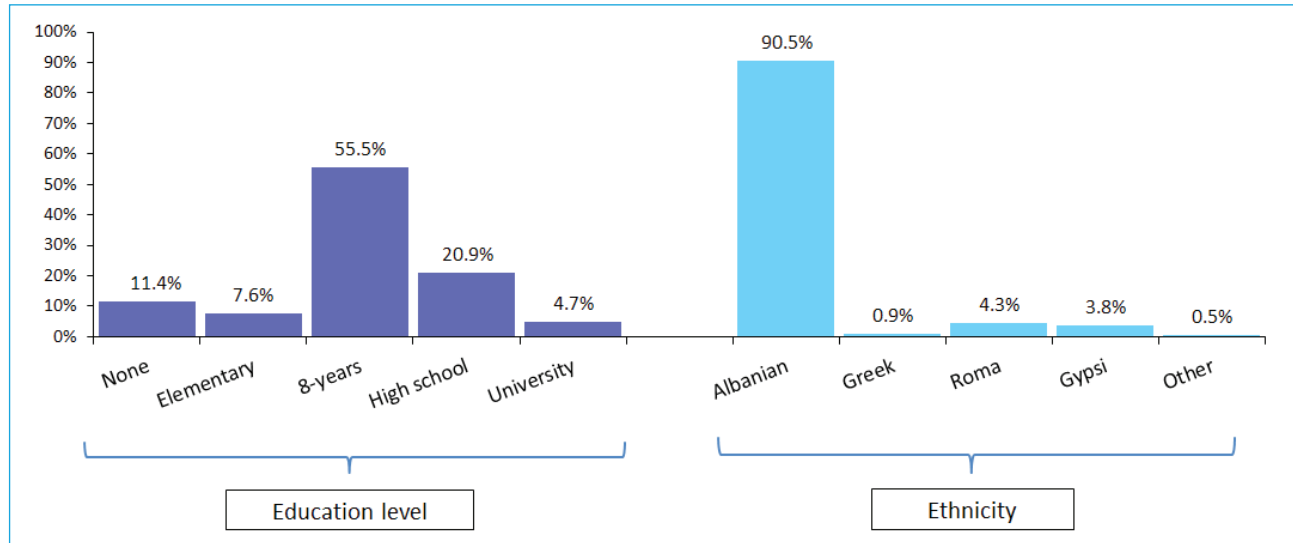
**Figure 2.** Socio-demographic characteristics of prisoners included in the study



\* Information is missing for 1 subject.

The prevailing education level was 8-years school (55.5% of inmates reporting it), followed by high school (20.9%). However, 11.4% of inmates had no formal schooling and 4.7% had university education (Figure 3). The overwhelming majority of inmates included in the survey were of Albanian ethnicity (90.5%).

**Figure 3. Some other socio-demographic characteristics of prisoners included in the study**

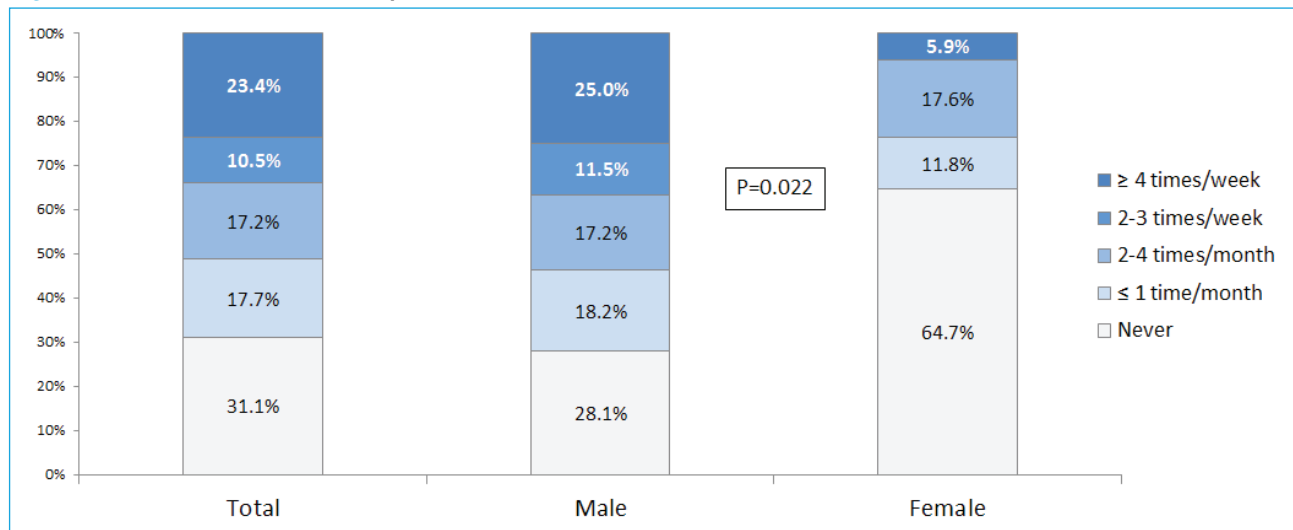


## Behavioral history before imprisonment

### Alcohol use

The prevalence and frequency of alcohol use before imprisonment is displayed in Figure 4. The prevalence of any alcohol use before being incarcerated was 68.9%, significantly higher among males than females (71.9% vs. 35.3%, respectively;  $P=0.022$ ). Also, more males than females used alcohol more frequently before imprisonment and these differences are also significant (Figure 4).

**Figure 4. Use of alcohol before imprisonment**

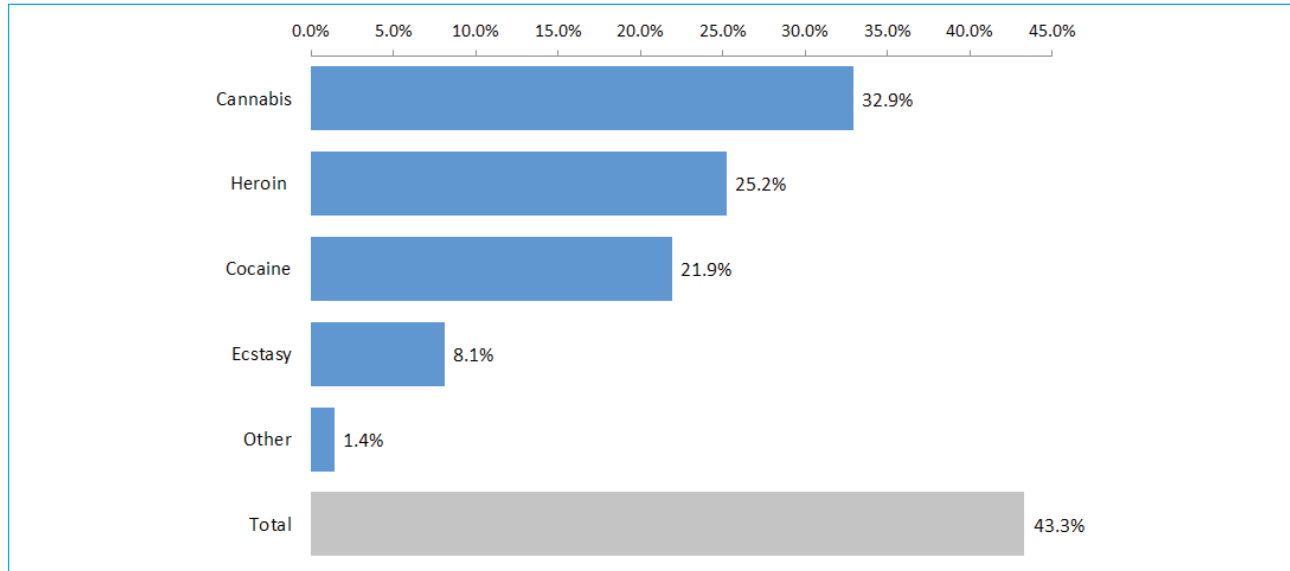


\* Information is missing for 2 subjects.

### Use of illegal drugs

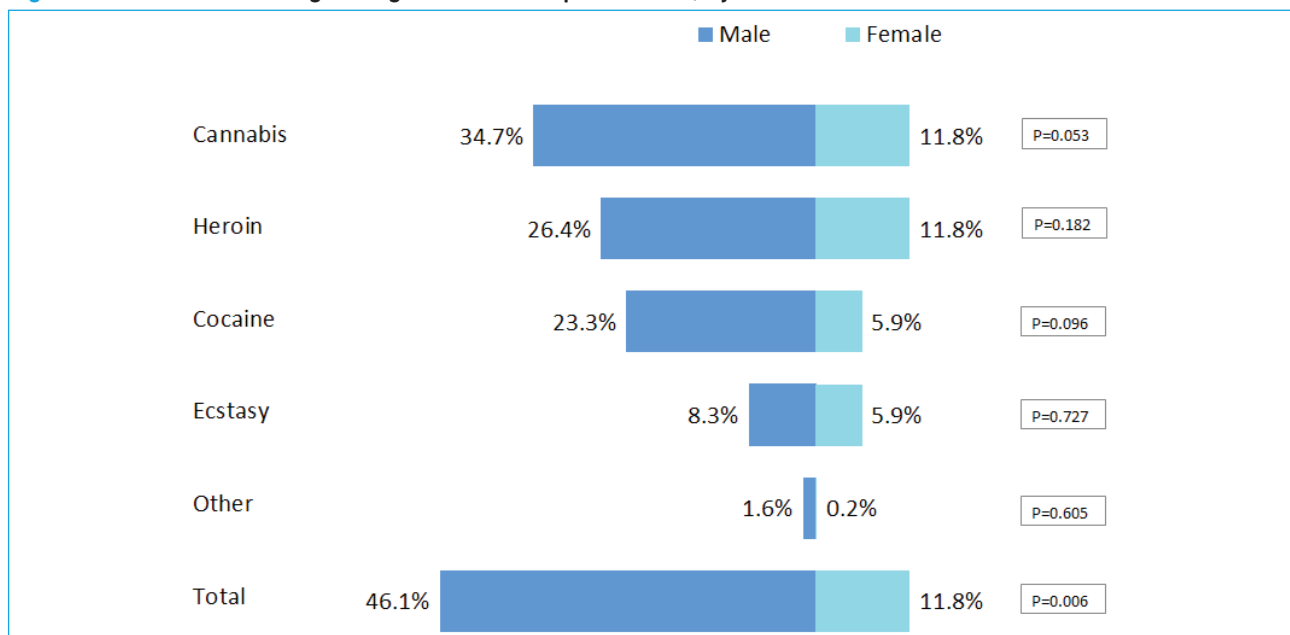
The prevalence of any illegal drug use before imprisonment was 43.3%. The most prevalent illegal drug outside prison was cannabis (32.9%), followed by heroin (25.2%), Cocaine (21.9%) and Ecstasy (8.1%) while 1.4% had used other kinds of drugs (Figure 5).

**Figure 5. Prevalence of illegal drug use before imprisonment**



As shown in Figure 6, the prevalence of any illegal drug use is higher among males than females but, however, the gender differences are not significant for each single drug, whereas in total the male-female difference is significant.

**Figure 6. Prevalence of illegal drug use before imprisonment, by sex**

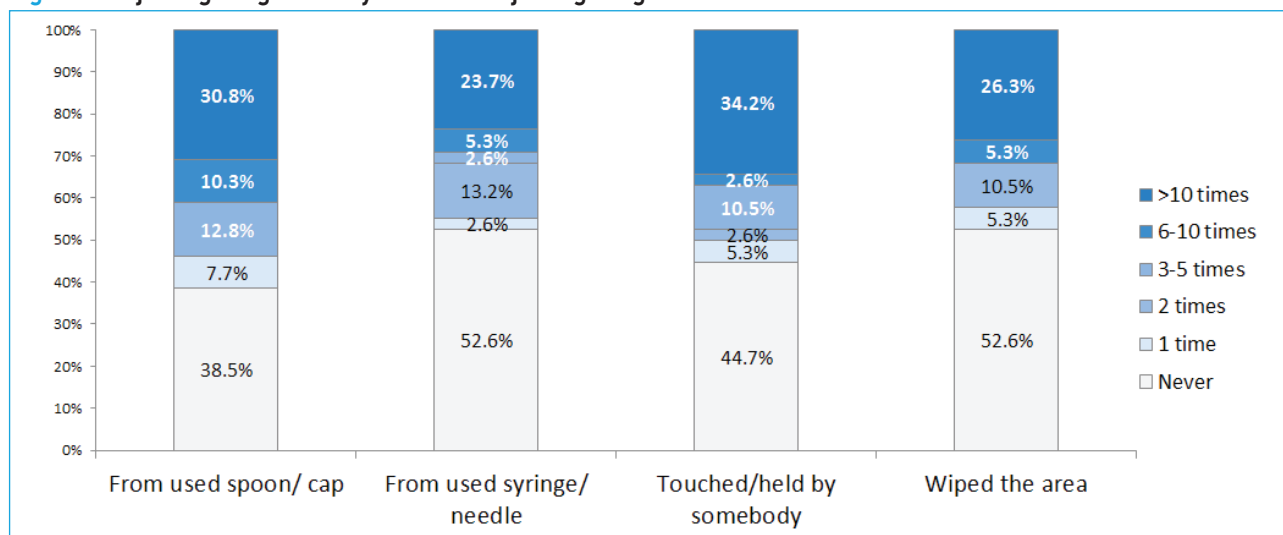


Regarding the number of drugs used when out of prison, 46.2% of users had used only one type of drug, 18.7% had used two kinds of drugs, 19.8% had used three, 13.2% had used four and 2.2% had used five kinds of illegal drugs.

### Injecting drugs

Overall, 18.2% of respondents said that they had used injected drugs when out of prison (19.3% of males and 5.9% of females;  $P=0.170$ ). Figure 7 presents the distribution of injecting drug users according to risky sources of drug. For example, 38.5% of injecting drug users declared that they never took the drug they injected from somebody else's spoon or cap, but 7.7% of them had practiced this behavior 1 time, 12.8% three to five times, 10.3% six to ten times and 30.8% had practiced it more than 10 times. About half of injecting drug users had also taken the drug to inject from a used syringe/needle at least once (Figure 7).

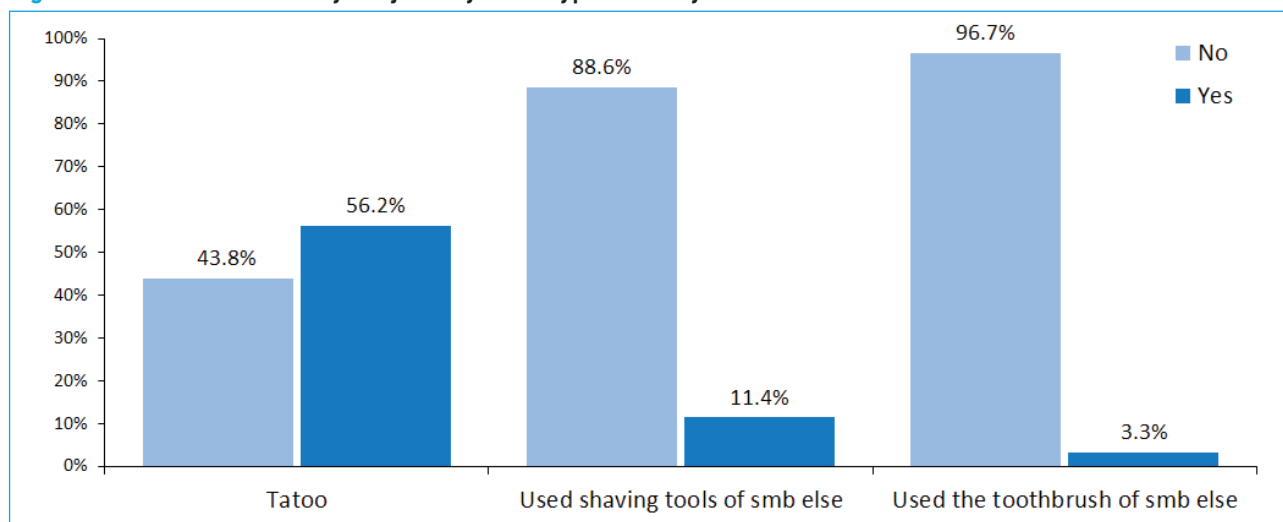
**Figure 7. Injecting drug users by source of injecting drug**



### Other risky behaviors

Figure 8 displays the information about other risky behaviors of study participants. More than half (56.2%) of prisoners had a tattoo (83.6% of whom declared that the tattoo was performed by a non-professional), 11.4% had used the shaving tools of somebody else and 3.3% had used the toothbrush of somebody else at least once in their lifetime.

**Figure 8. Distribution of study subjects by other types of risky behaviors**



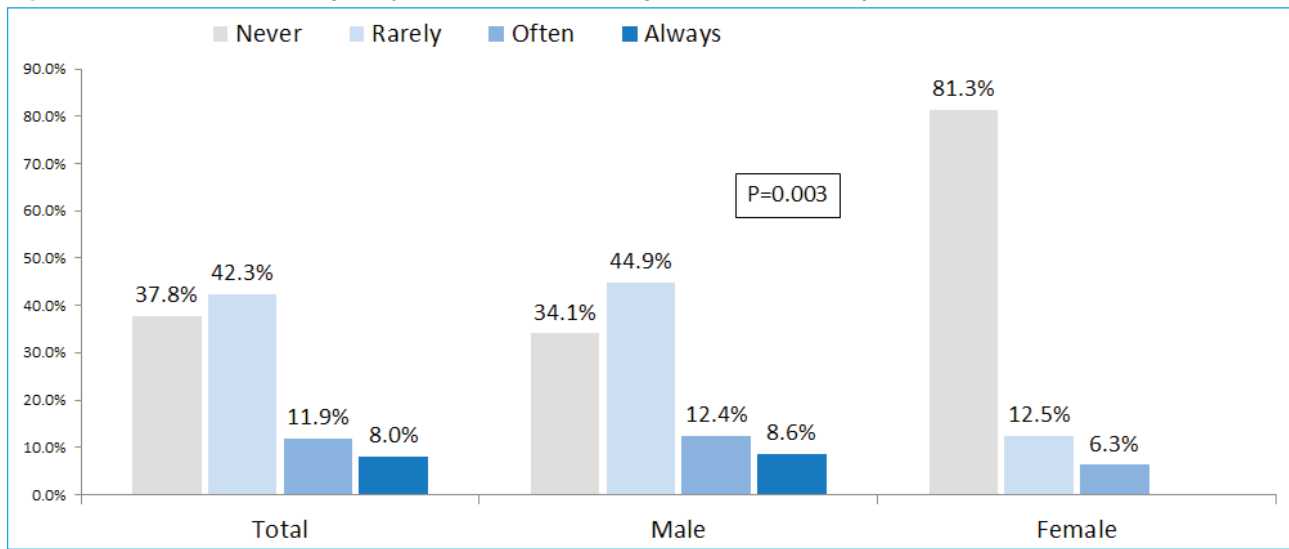


### Sexual relationships

Approximately all (97.5%) of study participants admitted they had been engaged in sexual relationships when outside the prison. Among those who had had sex, the prevailing type of sexual relationship was the straight one (96% of cases), but in 3% and 1% of cases homosexual relationships were reported (male-to-male and female-to-female, respectively).

The prevalence and frequency of condom use during sexual relationships is displayed in Figure 9. Overall, about one-third of study participants never used condom during sexual relationships. Interestingly, significantly more females than males never used condom during sexual relations (81.3% vs. 34.1%, respectively) and more males than females always used it (8.6% vs. 0%, respectively). These gender differences regarding the frequency of condom use were statistically significant.

**Figure 9. Prevalence and frequency of condom use during sexual relationships**



### Testing for STIs

Just over one-quarter (28.6%) of study participants declared that they had been tested for sexually transmitted infections (STIs) and 3.7% couldn't remember whether they had been tested in the past. Overall, 21% of participants had been tested for HIV, 14.9% for Hepatitis B, 10.8% for Hepatitis C and 4.6% for Syphilis before being incarcerated. Figure 10 displays the prevalence of testing for HIV, Hepatitis B and C and Syphilis, by gender. Interestingly, significantly more females than males had been tested for HIV, Hepatitis B and Syphilis whereas for Hepatitis C testing the gender difference was not significant.

**Figure 10. Prevalence of testing for selected STIs, by gender**

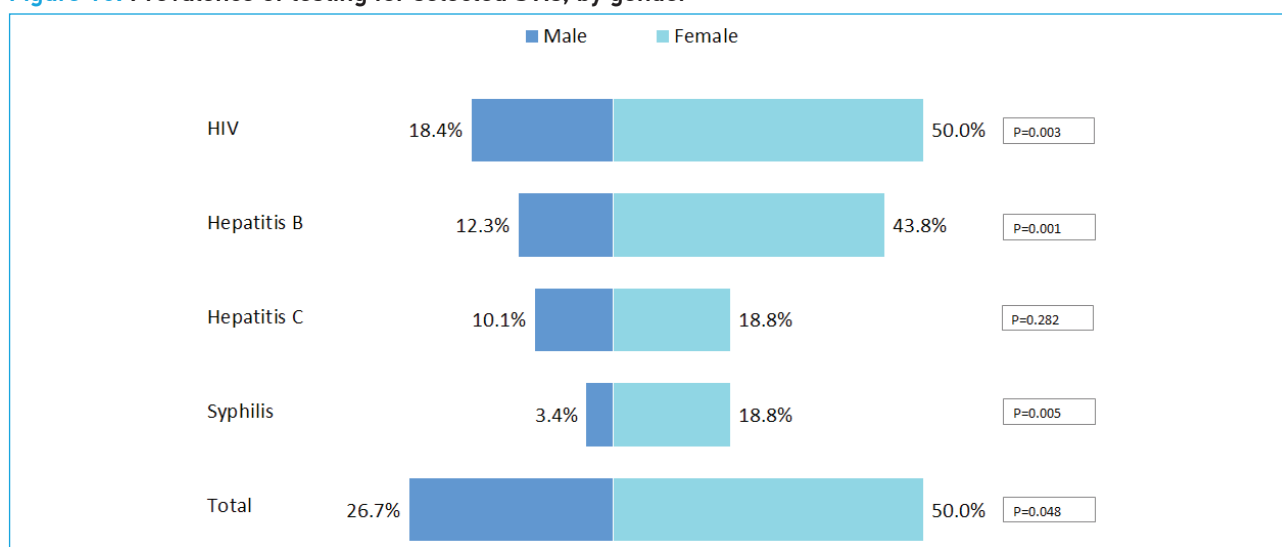
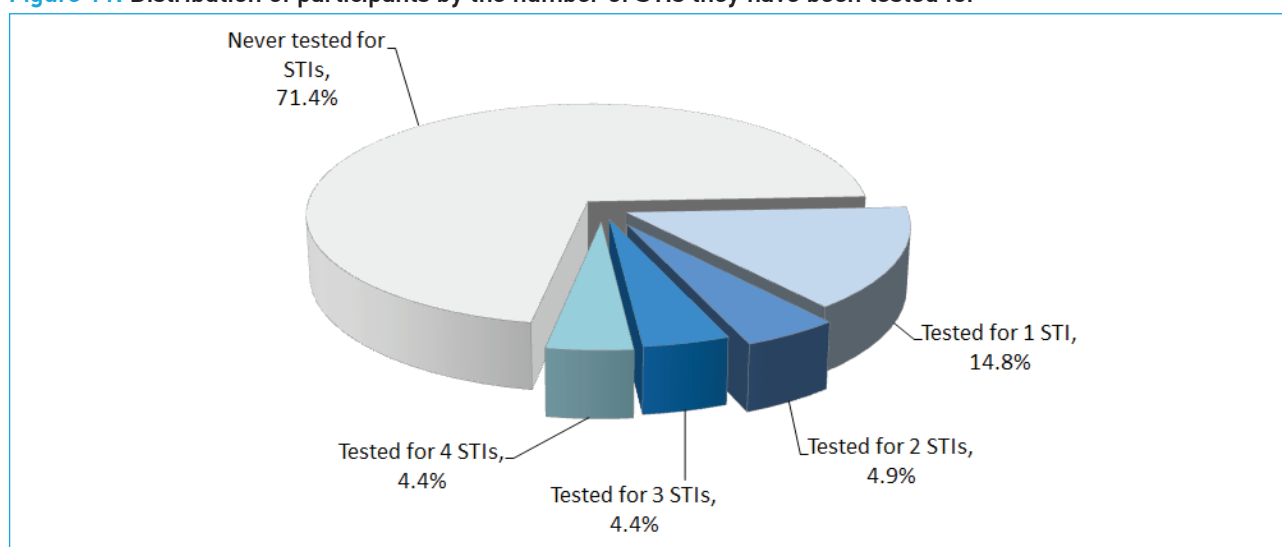


Figure 11 displays the information about the number of different STIs the study subjects have been tested for before being incarcerated. As mentioned, 71.4% had never been tested, 14.9% have been examined for only one STI, 4.9% for two STIs, 4.4% of subjects have been tested for three and another 4.4% for four STIs.

**Figure 11. Distribution of participants by the number of STIs they have been tested for**

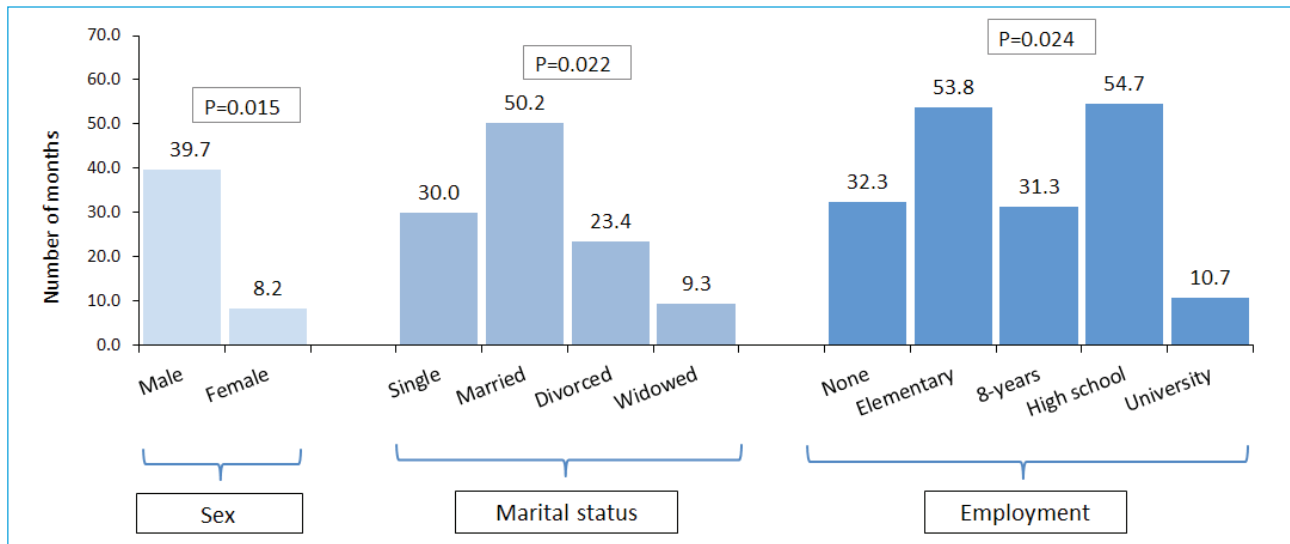


## Incarceration history

### *Time incarcerated and previous jail history*

On average, study subjects had been incarcerated for 37.1 months at the time of the interview. Males had been incarcerated, on average, for significantly longer periods compared to females (39.7 months vs. 8.2 months, respectively). Significantly longer periods of incarceration were noticed for married individuals and those with high school or elementary education, compared to their counterparts (Figure 12).

**Figure 12. Average incarceration time (in months) by selected socio-demographic variables**



More than half of respondents said that this was the first time they were imprisoned, but for 22% and 22.4% of respondents this was their second and third time in jail, respectively.

**Respondents' opinions about drug use in prison**

Figure 13 displays the opinion of respondents about use of various drugs within prison premises. Interestingly, according to inmate opinions, cannabis is the most popular drug used in prisons as 16.2% of them mentioned this drug, followed by heroin (mentioned by 8.6% of them). On the other hand, 4.6%, 3.6% and 0.5% of respondents think that cocaine, alcohol and ecstasy respectively, are also used in prisons settings. However, one third of respondents declared that they were not aware of any drug use in prisons.

**Figure 13. Distribution of respondents' opinions regarding drug use in respective prisons**

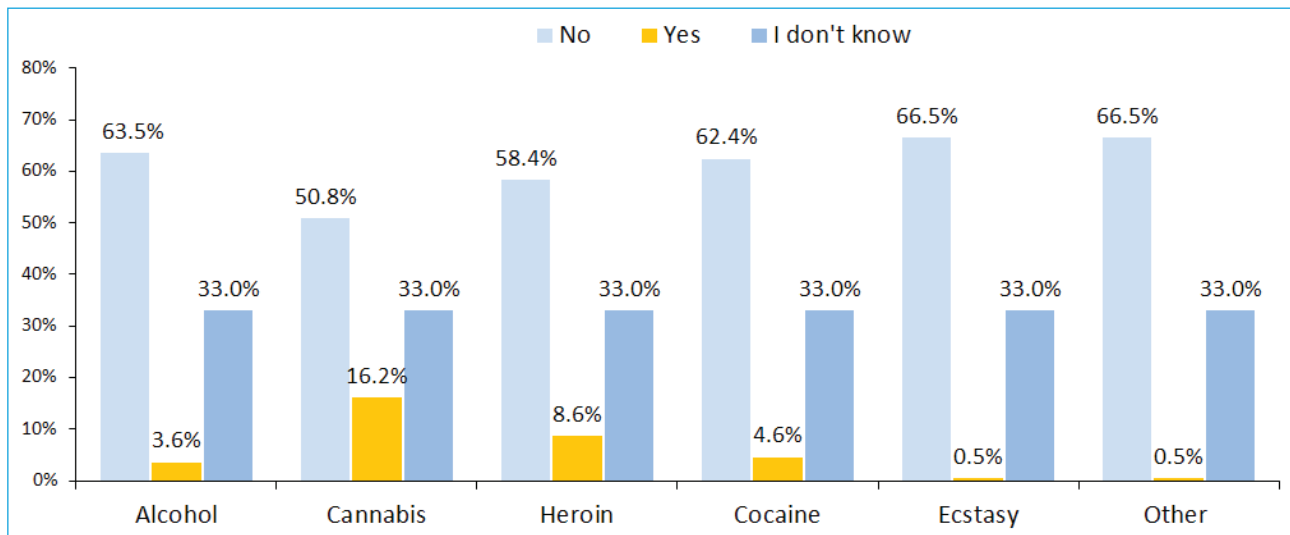
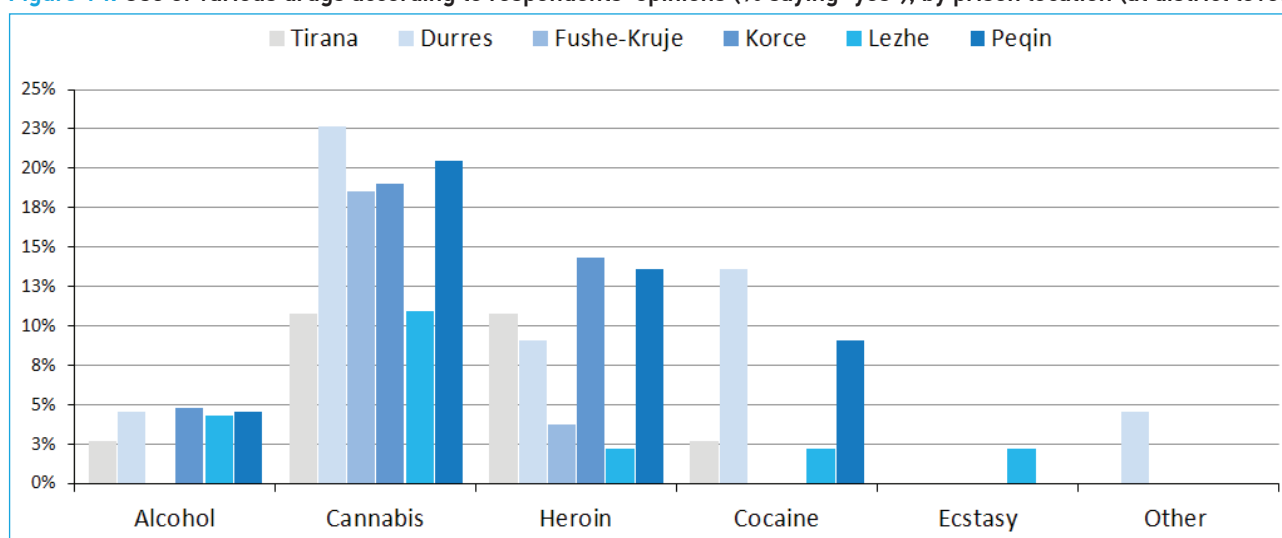


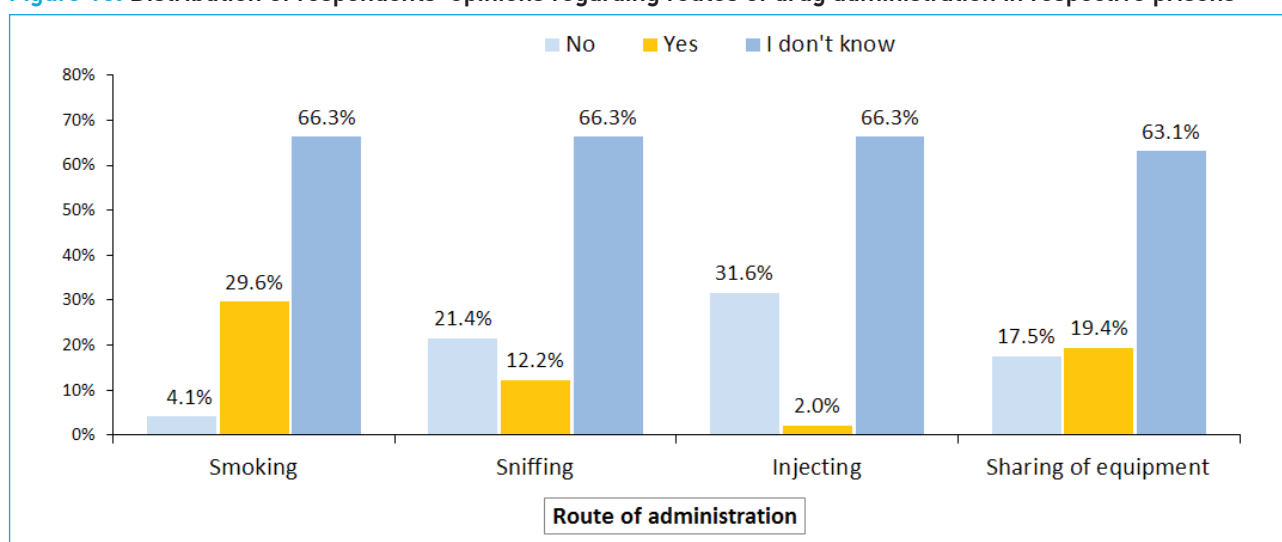
Figure 14 presents the distribution of respondents that think that the selected drugs are used in prisons according to prison location at district level. Even from this perspective and based on inmate opinions, cannabis remains the most popular drug used in jails across the country, followed by heroin. Interestingly, the percentage of inmates who think that various drugs are used in prison settings, generally, is higher in prisons of districts other than the capital, Tirana.

**Figure 14.** Use of various drugs according to respondents' opinions (% saying "yes"), by prison location (at district level)



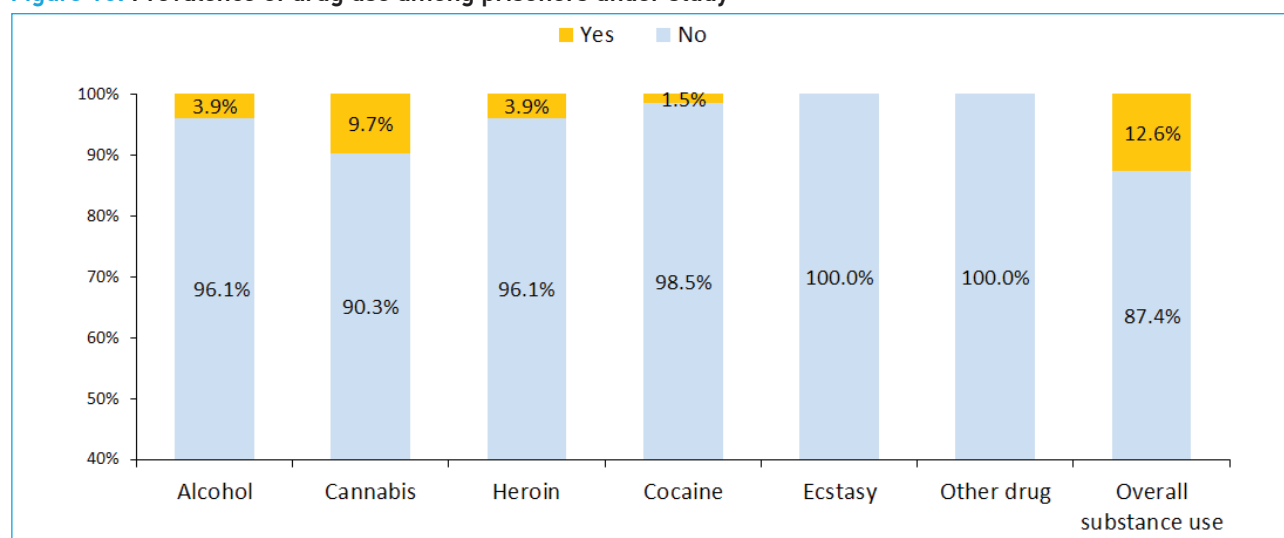
As regards the route of drug administration in prison settings according to inmates' personal opinions, only 98 inmates (or 46.4% of them) provided information on this topic. Figure 15 reveals that about two-thirds of respondents were not aware about routes of drug administration in prisons. One third think that drug is administered through smoking, 12.2% by sniffing, 2% think that the drugs are injected while 19.4% think that equipment used to administer drugs are shared between inmates that use them.

**Figure 15.** Distribution of respondents' opinions regarding routes of drug administration in respective prisons

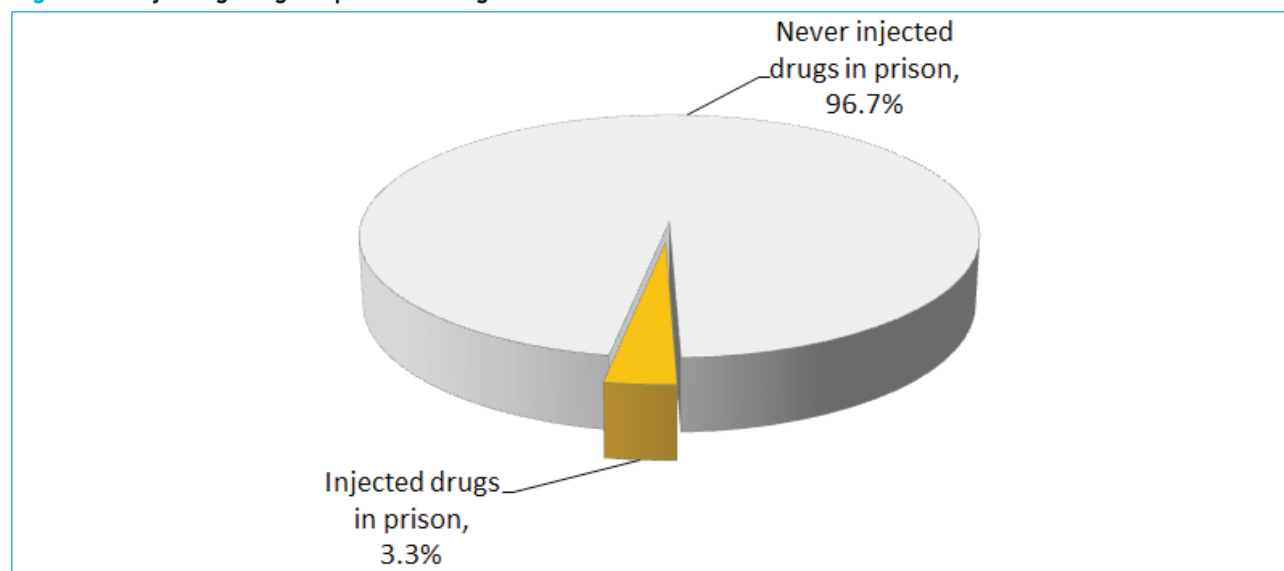


### Own drug use while in prison

Five subjects didn't provide any feedback regarding own drug use while in prison and therefore the following information includes the remaining 206 inmates surveyed. Overall, the prevalence of any drug use (including alcohol) in prison premises is 12.6% (Figure 16). Cannabis is the most common substance used with 9.7% of inmates reporting it, followed by alcohol and heroin (3.9% each) and cocaine being used by 1.5% of respondents.

**Figure 16.** Prevalence of drug use among prisoners under study

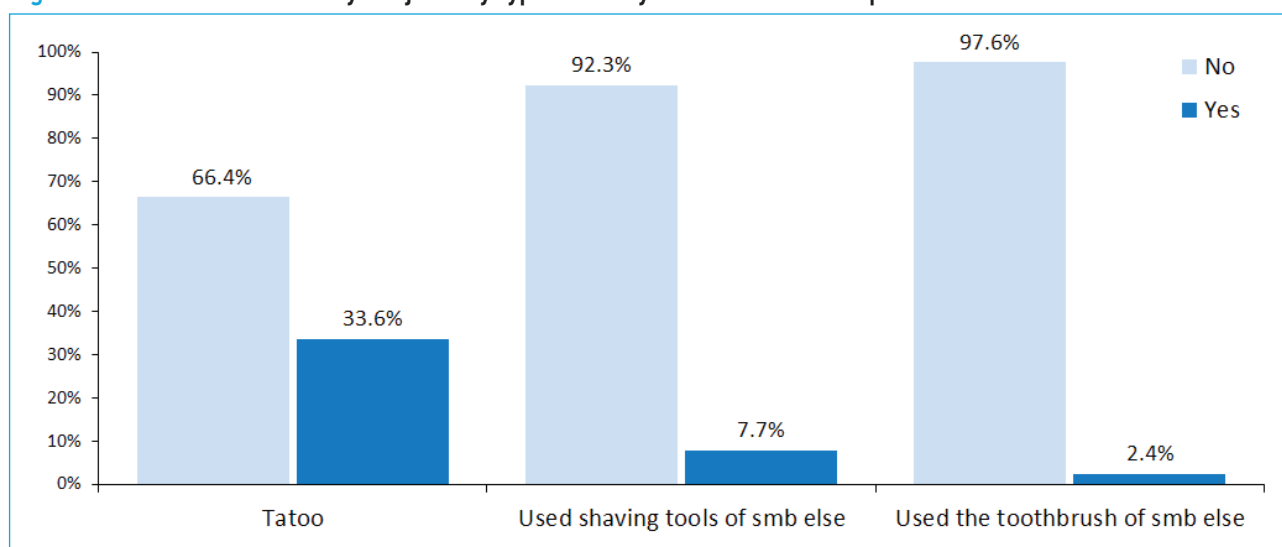
Regarding the number of substances used, 6.8% of respondents use only one substance, 5.3% use two substances simultaneously while in prison and 0.5% use three substances. No significant differences were noticed regarding the mean number of substances used in prison settings by sex, age, education level, marital status, employment status before being incarcerated, and nationality.

**Figure 17.** Injecting drugs in prison settings

Overall, 3.8% of respondents declared that they have injected drugs in prison premises (Figure 17). Among those who had injected drugs, in 37.5% of cases the drug had been taken from somebody else's spoon/cap, in 40% of cases from a used syringe/needle, in 62.5% of cases the drug was touched/held by somebody else and in 25% of cases the area was wiped.

While in prison about one third of respondents declared to have had a tattoo done whereas 7.3% had used at least once the shaving tools of somebody else and 2.4% had used the toothbrush of somebody else (Figure 18). Among those who had a tattoo before being incarcerated, 60.2% of them had had additional tattoos during prison stay.

**Figure 18.** Distribution of study subjects by types of risky behaviors while in prison



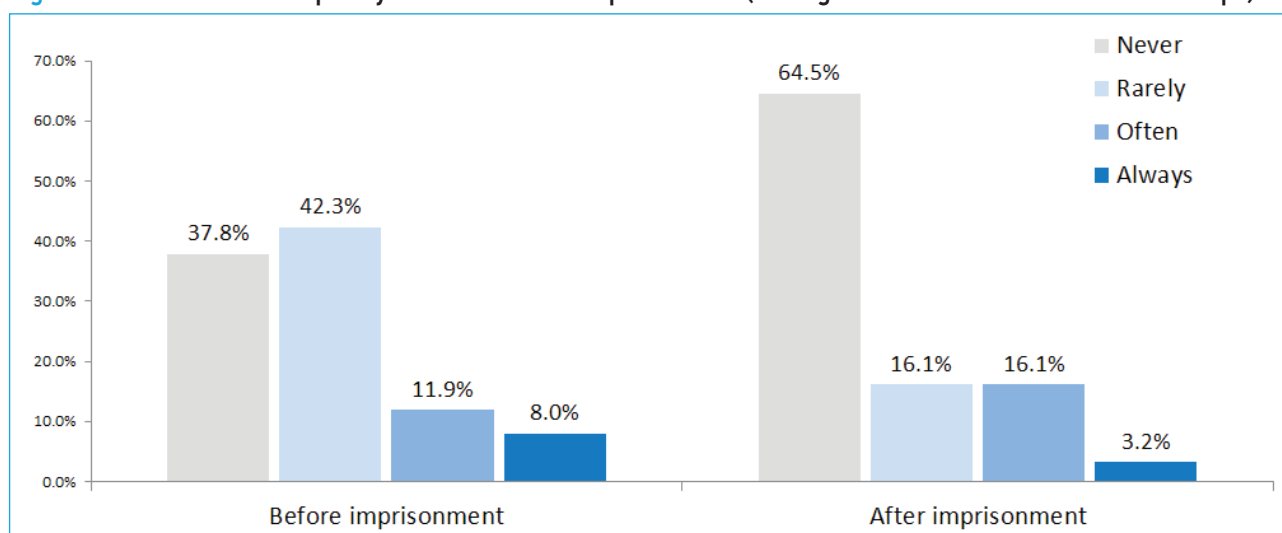
### Own sexual relationships in prison settings

About 11.4% of respondents declared to have been engaged in male-female sexual relationships while in prison, 3.3% had been having male-male sexual relations whereas 0.9% had been engaged in female-female sex. The figures about homosexual relationships while in prison are very similar to respective information before being incarcerated, meaning that the sexual behavior and orientation did not change significantly after imprisonment. Indeed, among the 6 individuals who had had male-male sexual relations before being imprisoned 5 of them or 83.3% continued such behavior in prison settings as well whereas 100% of females having homosexual sex before imprisonment continued such behavior in prison settings as well.

### Condom use

Regarding condom use during sexual relationships in prison settings, 64.5% never used it, 16.1% used it seldom and the same proportion used it often with only 3.2% reported using it every instance of sexual intercourse (Figure 19). However, compared to condom use before imprisonment, the situation seems to be deteriorated: the proportion of subjects engaged in sexual relationships and never using condom increased from 37.8% before imprisonment to 64.5% after imprisonment and the proportion of those using the condom always reduced from 8% before imprisonment to 3.2% after imprisonment.

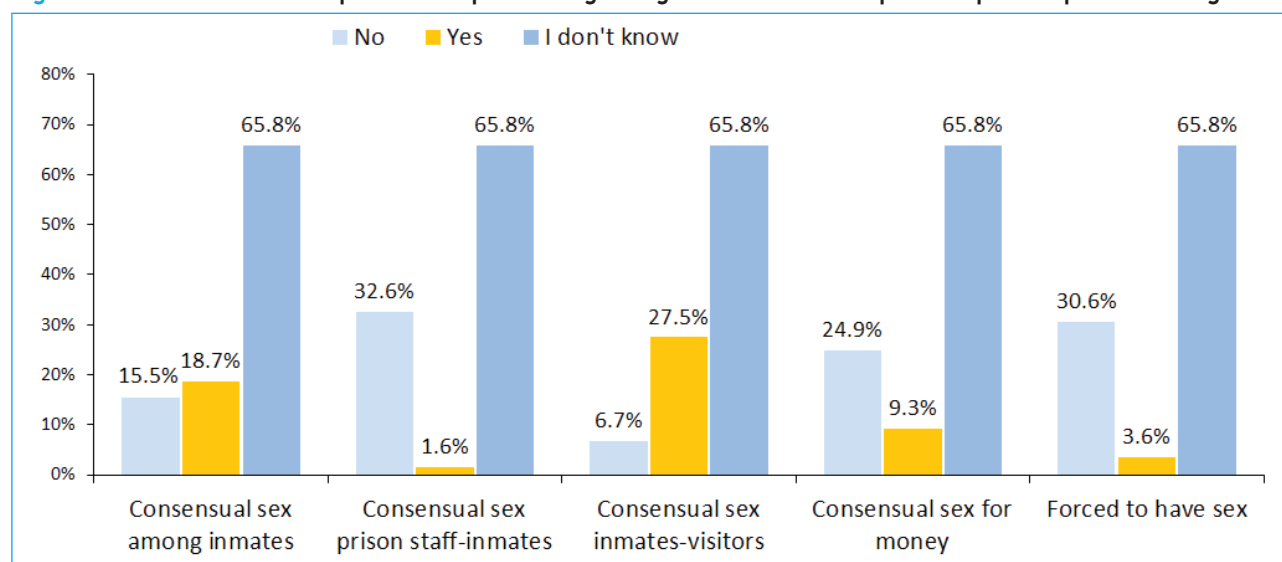
**Figure 19.** Condom use frequency before and after imprisonment (among those who have sexual relationships)



### Respondents' opinion about sexual relationships in prison

When asked to give their opinion regarding various aspects of sexual relationships in prison settings, the respondents answered as in Figure 20. About two-thirds (65.8%) of respondents declared that they were not aware about the phenomena being asked. However, 18.7% of respondents think that there are sexual relationships between inmates, 27.5% think that inmates have sex with the persons visiting them (mainly wife and/or husband) and 1.6% of respondents think that inmates are engaged in sexual relations with prison staff members (Figure 20). In addition, according to the opinion of 9.3% of respondents, inmates engage in sexual activity for money or goods and 3.6% think that there are also episodes of forced sex in the premises of respective prisons (Figure 20).

**Figure 20.** Distribution of respondents' opinions regarding sexual relationships in respective prison settings



\* Information is missing for 18 subjects on all questions.

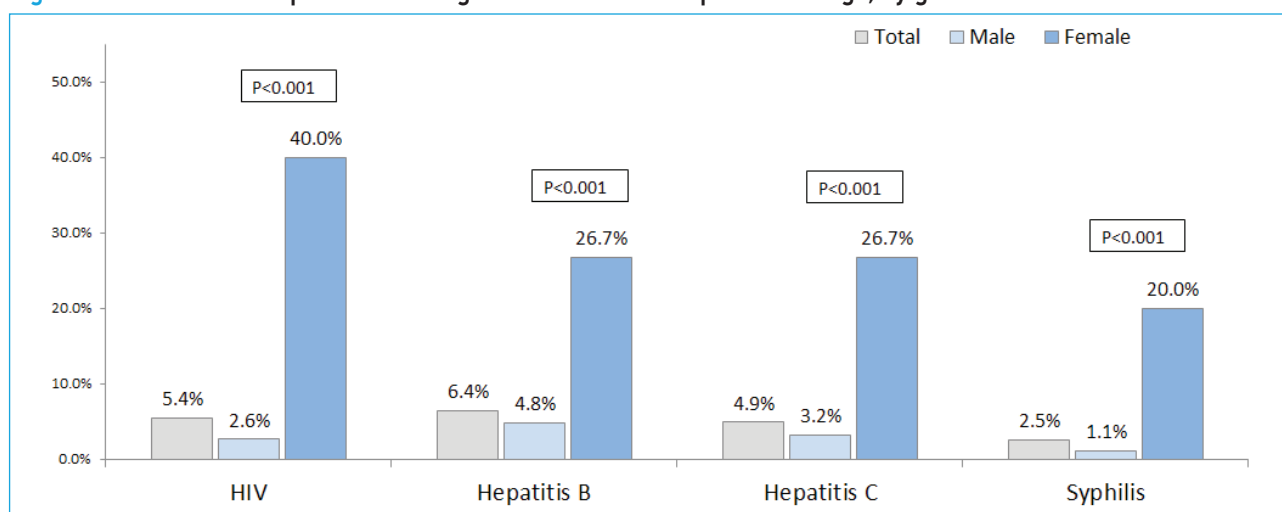
### Previous testing for STIs in prison

Overall, the percentage of respondents who had been previously tested for HIV, Hepatitis B, Hepatitis C and Syphilis while in prison was 5.4%, 6.4%, 4.9% and 2.5%, respectively (Figure 21). A significantly higher proportion of females than males were previously tested for each of STI included in the survey (Figure 21).

Among subjects tested for HIV in prison premises, testing took place less than one month ago for 6.5% of them, 1-3 months ago for 12.9%, 3-6 months ago for 41.9% and more than 6 months ago for the remaining 38.7% of subjects.

In 78.1% of HIV tested cases the subjects retrieved the results of the test. Those who didn't retrieve the test results did so for the following reasons: 1) they were sure they didn't have the infection (declared by 50% of subjects); and, 2) afraid of the test results (declared by 16.7% of subjects).

**Figure 21. Prevalence of previous testing for selected STIs in prison settings, by gender**



\* Information is missing for 7 subjects on all questions.

### Results of STI testing in the framework of actual surveillance

The current study regarding biological and behavioral surveillance among persons detained in Albania included, as a separate component, the testing of all participants regarding STIs in the study. More specifically, in the framework of this study testing for HIV, HBV, HCV and Syphilis was offered. All persons participating in the study (n = 211) agreed to undergo blood sample taking and testing regarding these diseases. The overall actual prevalence of these STIs in the prisoner population under study is presented in Figure 22 below.

The most prevalent STI was HCV, detected in 11.8% of prisoners under study, followed by HBV (9.5%) and Syphilis (2.4%). The prevalence of HIV was 0.5% (only one positive blood sample) (Figure 22).

**Figure 22. Overall actual prevalence of STIs in the prisoner population under study**

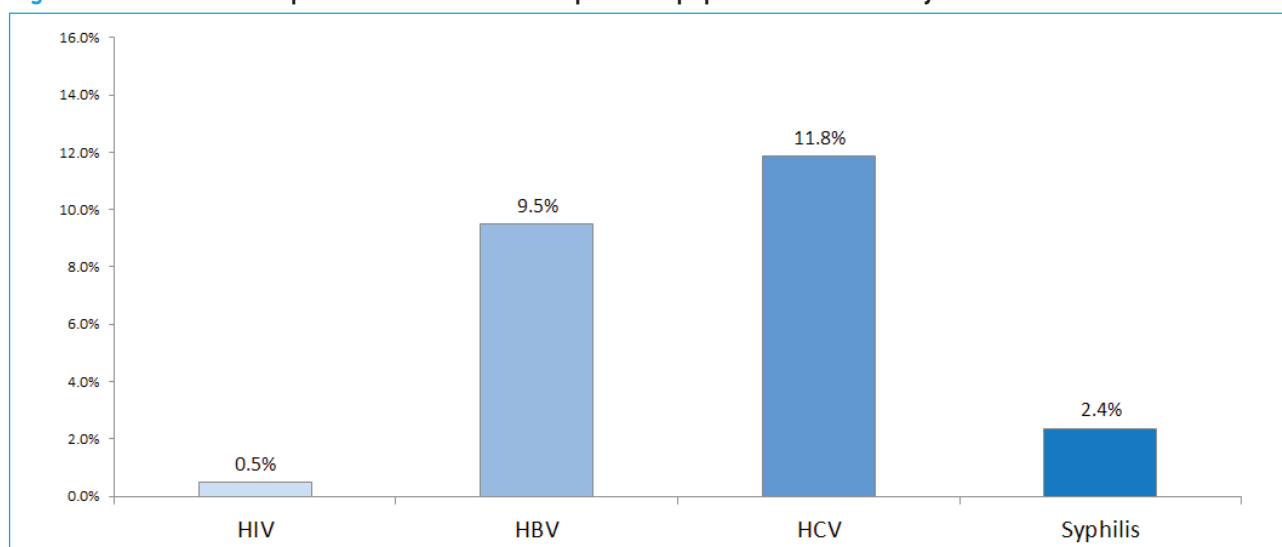
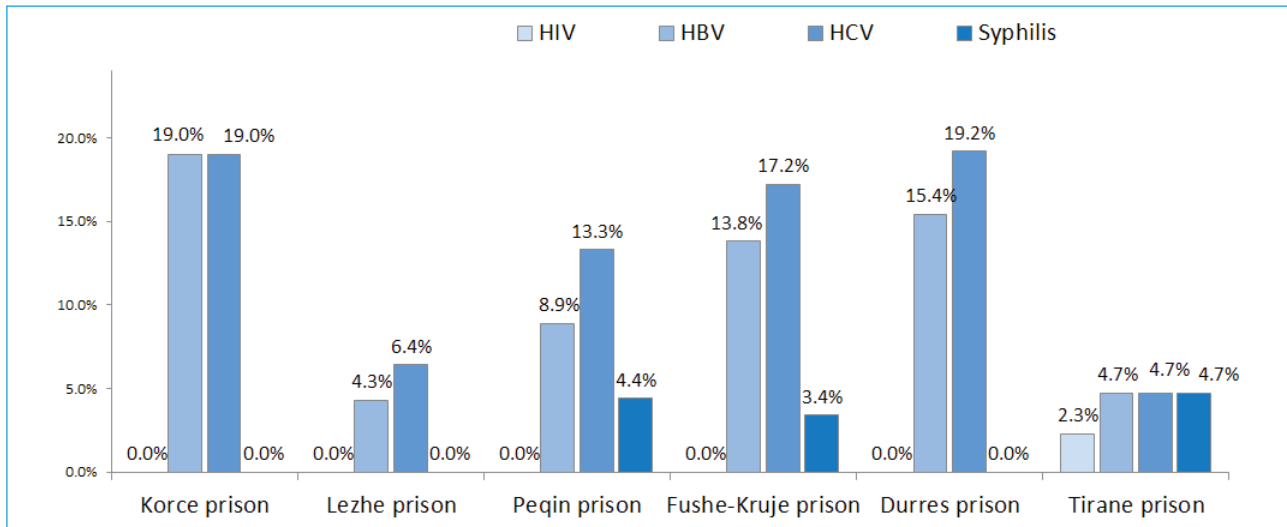




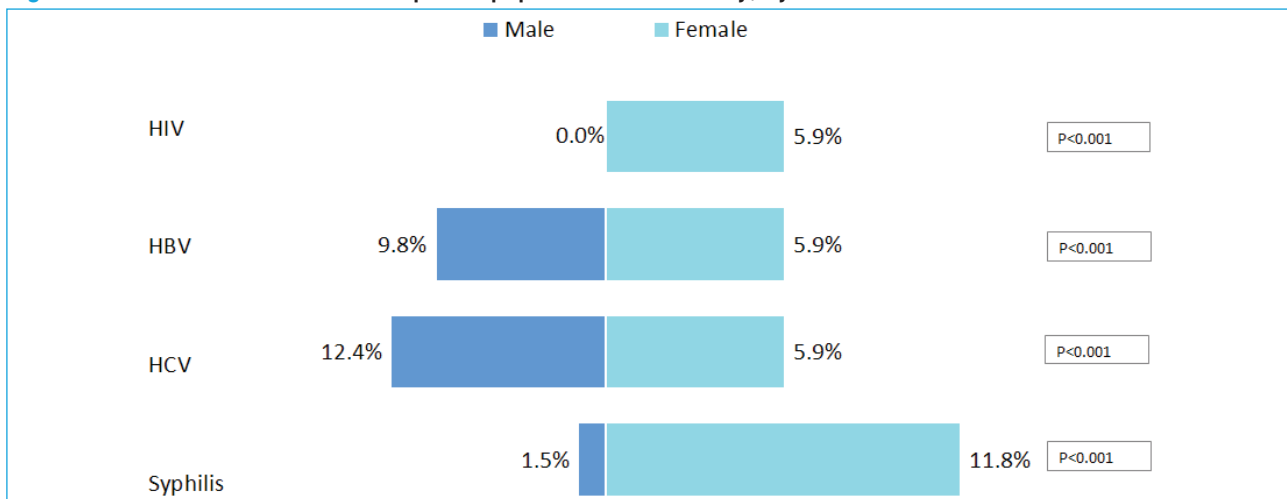
Figure 23 displays the actual prevalence of STIs by prisons included in the study. HIV prevalence is zero in all prisons except for Tirana, with 2.3% of blood samples resulting positive (only one case, female). As with the overall level, the most common diseases in specific prisons are HCV and HBV, followed by Syphilis. HBV, HCV and syphilis are more prevalent in prisons of Korca, Durres and Fushe-Kruje, followed by Peqini and Lezha (Figure 23).

**Figure 23.** Prevalence of STIs in the prison population under study, by prison settings



The overall actual prevalence of STIs by sex is shown in Figure 24. HIV and syphilis resulted more prevalent among female prisoners and Hepatitis B and Hepatitis C were more prevalent among male prisoners included in the. These changes were statistically significant ( $P < 0.001$ ).

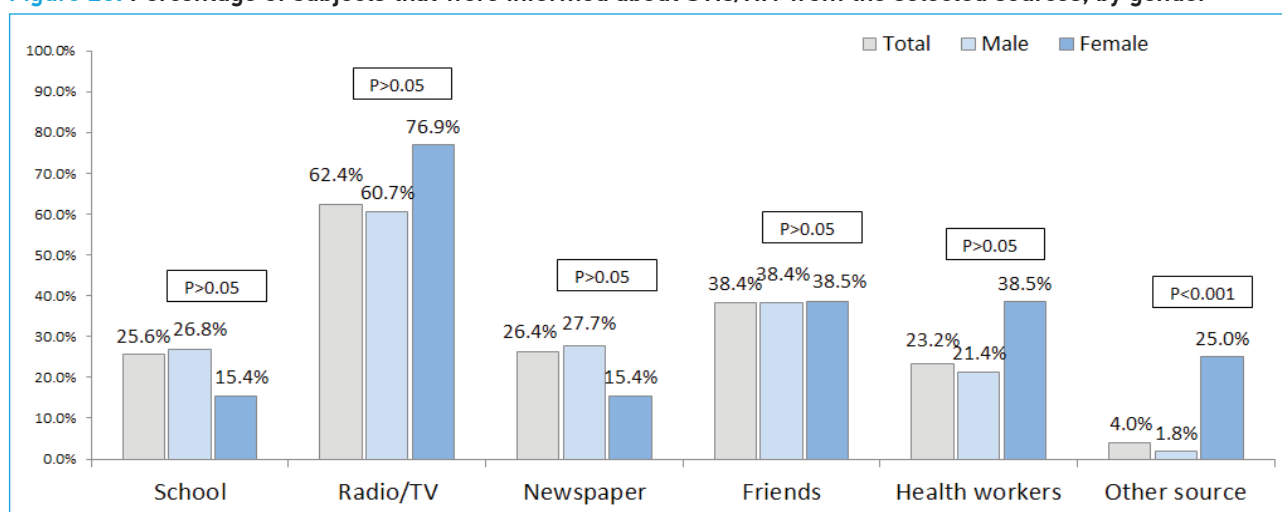
**Figure 24.** Prevalence of STIs in the prison population under study, by sex



### Knowledge about STIs/HIV

Overall, 61% of participants had heard of STIs and /or HIV. The sources of information about STIs/HIV are presented in Figure 25. The most common information source about STIs/HIV is Radio/TV, with 62.4% of them stating this. The second most common source of information is “friends” with 38.4% of respondents reporting it. However, gender differences are not significant.

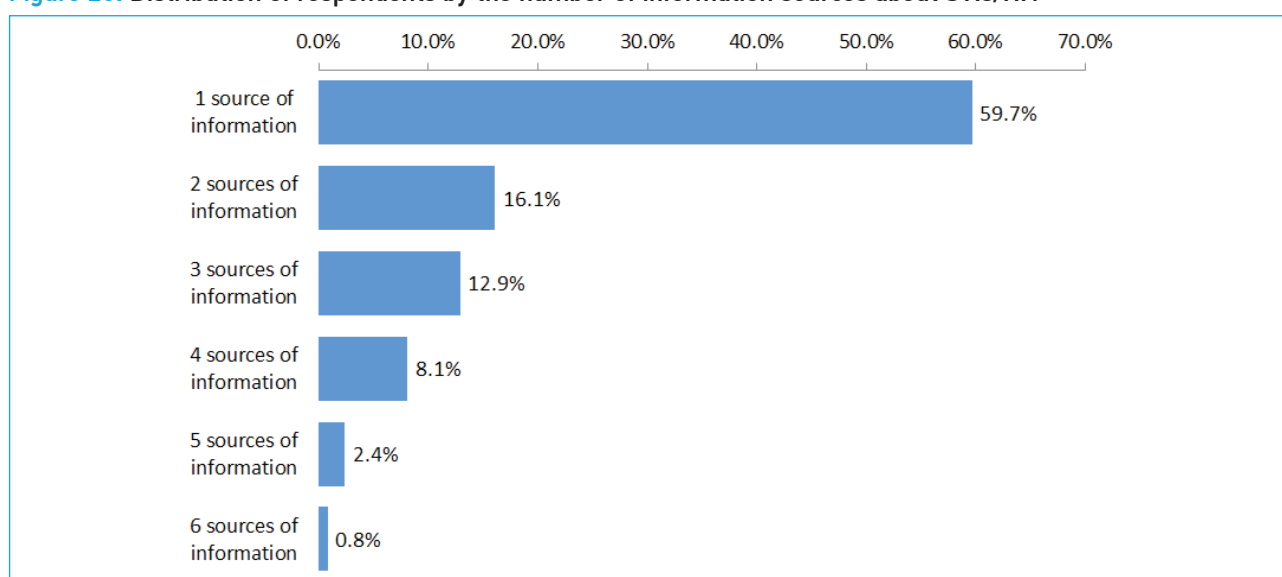
**Figure 25. Percentage of subjects that were informed about STIs/HIV from the selected sources, by gender**



\* Information is missing for 86 subjects on all questions.

Regarding the number of information sources about STIs/HIV, 59.7% of respondents mentioned only one source, 16.1% mentioned 2 information sources and 12.9% mentioned three information sources (Figure 26). Four or more sources of information were used by 8% or less of study subjects.

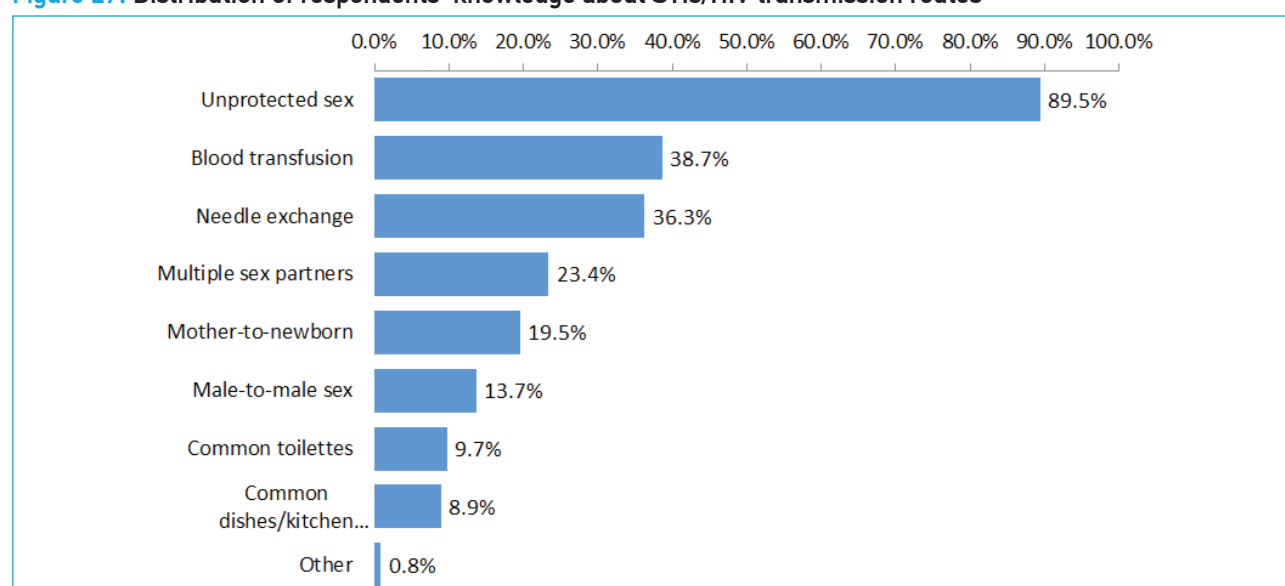
**Figure 26. Distribution of respondents by the number of information sources about STIs/HIV**



\* Information is missing for 86 subjects.

### Knowledge about STIs/HIV transmission routes

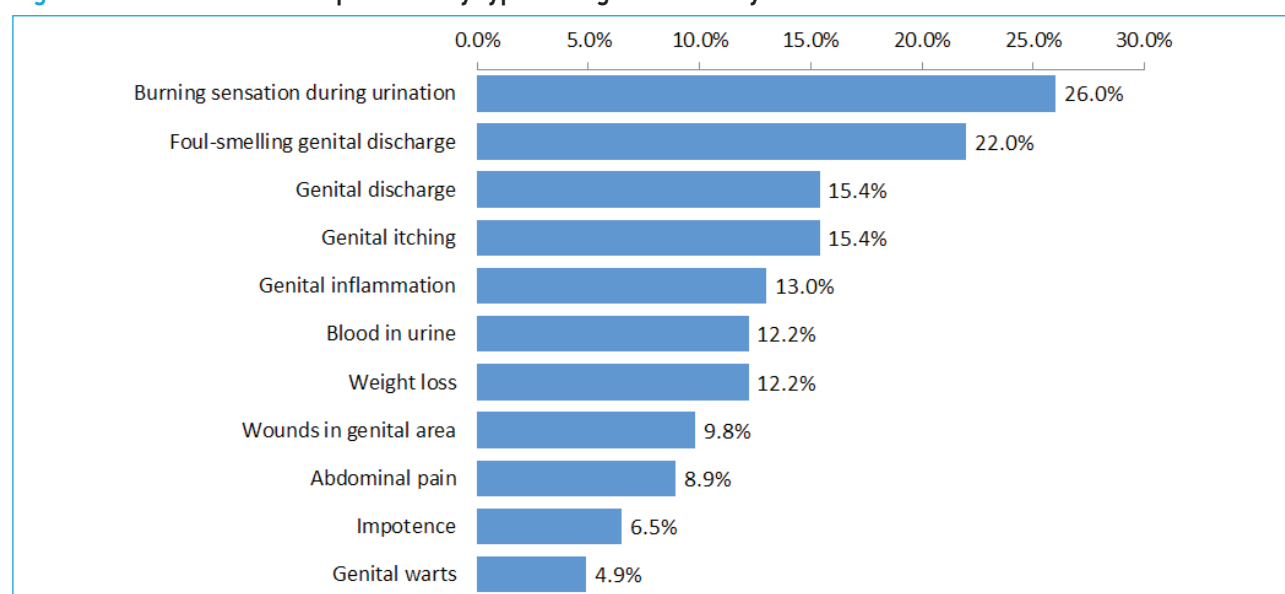
Over 89.5% of respondents were aware that engaging in unprotected sexual behavior could transmit STIs/HIV (Figure 27). However, a considerably lower percentage of inmates knew that blood transfusion (38.7%) and needle exchange (36.3%) could spread STIs/HIV. Less than one-fourth of subjects were aware of other transmission routes (Figure 27). No significant differences were noticed regarding the percentage of subjects being aware of various STIs transmission routes by sex, age, education level, marital status, employment status before being incarcerated, and nationality.

**Figure 27. Distribution of respondents' knowledge about STIs/HIV transmission routes**

\* Information is missing for 86 subjects.

### Knowledge about STIs/HIV signs and symptoms

Just over one-fourth of respondents (26%) reported that a sign of STIs could be the sensation of burning during urination, followed by 22% that identified smelling genital discharge as a sign of such diseases. Genital discharge and genital itching were identified as signs of STIs by 15.4% of respondents, each. Other signs of STIs and the respective percentage of respondents mentioning them are presented in Figure 28. No significant differences were noticed regarding the percentage of subjects being aware of various STIs signs by sex, age, education level, marital status, employment status before being incarcerated, and nationality.

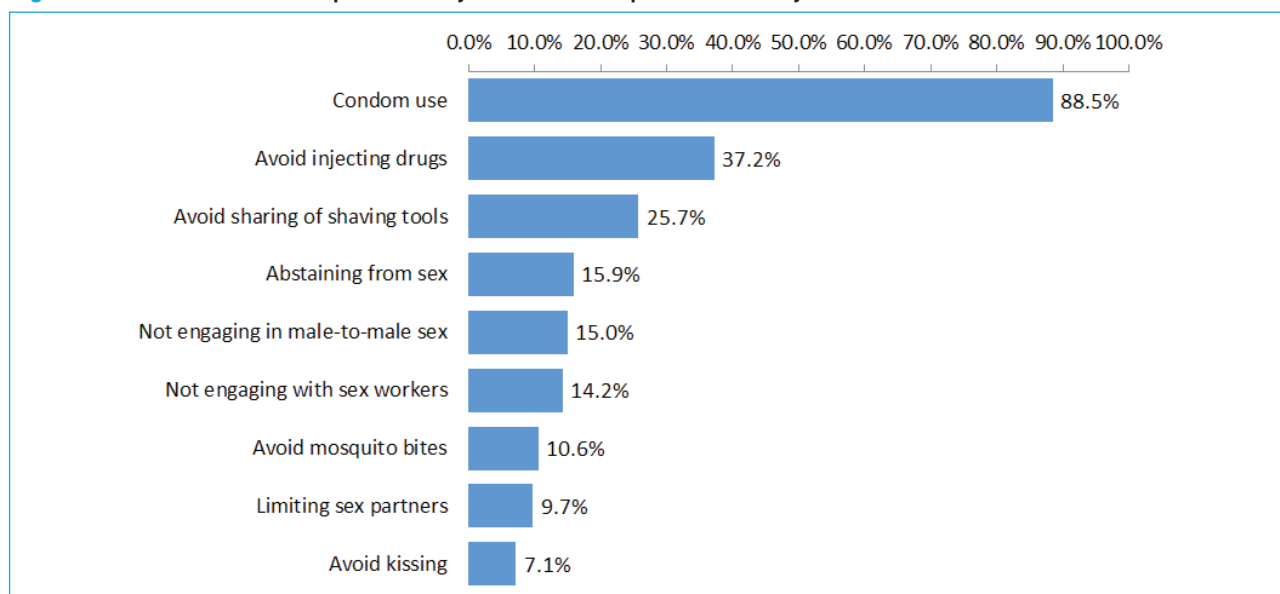
**Figure 28. Distribution of respondents by type of signs of STIs they are aware of**

\* Information is missing for 86 subjects

### Knowledge about HIV prevention

Overall, 93.2% of respondents declared that HIV can be prevented.

**Figure 29. Distribution of respondents by routes of HIV prevention they are aware of**



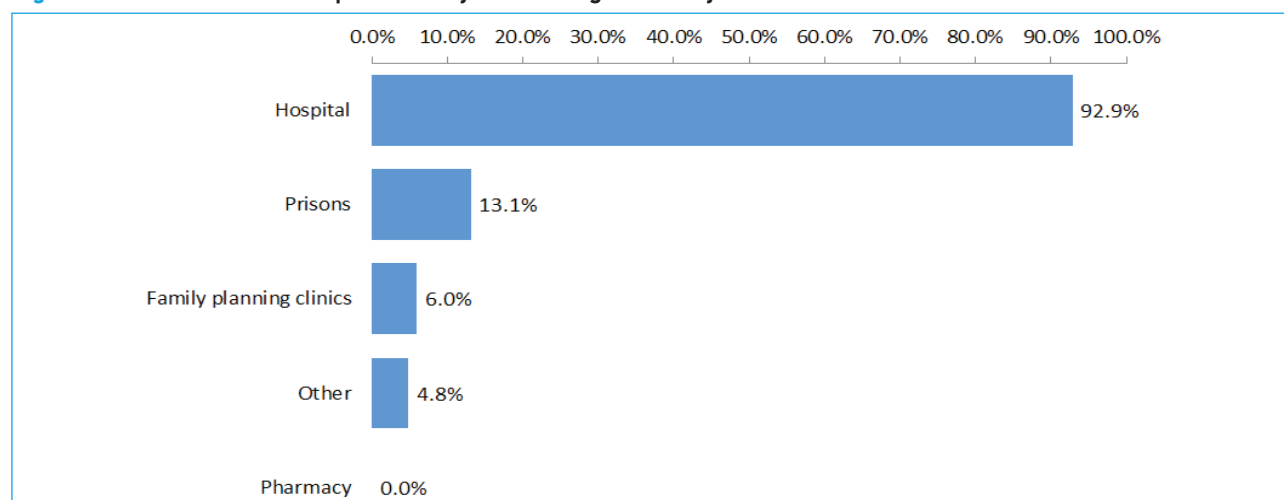
\* Information is missing for 98 subjects

The most common way to prevent HIV was condom use, reported by 88.5% of respondents, followed by avoiding injecting drugs (37.2%), avoiding sharing of shaving tools (25.7%), etc. (Figure 29). Interestingly, only approximately one in 7 inmates or fewer were aware the not engaging with sex workers or in male-to-male sex practices could prevent HIV. No significant differences were noticed regarding the percentage of subjects being aware of various STIs prevention routes by sex, age, marital status, employment status before being incarcerated, and nationality. The majority of associations with education level were significant: the higher the education level, the higher the proportion of subjects being aware of selected HIV prevention routes.

### Knowledge about HIV testing sites

Overall, 126 out of 211 subjects provided information about this topic. Of these, 67.5% declared that they knew at least one place where testing for HIV is provided.

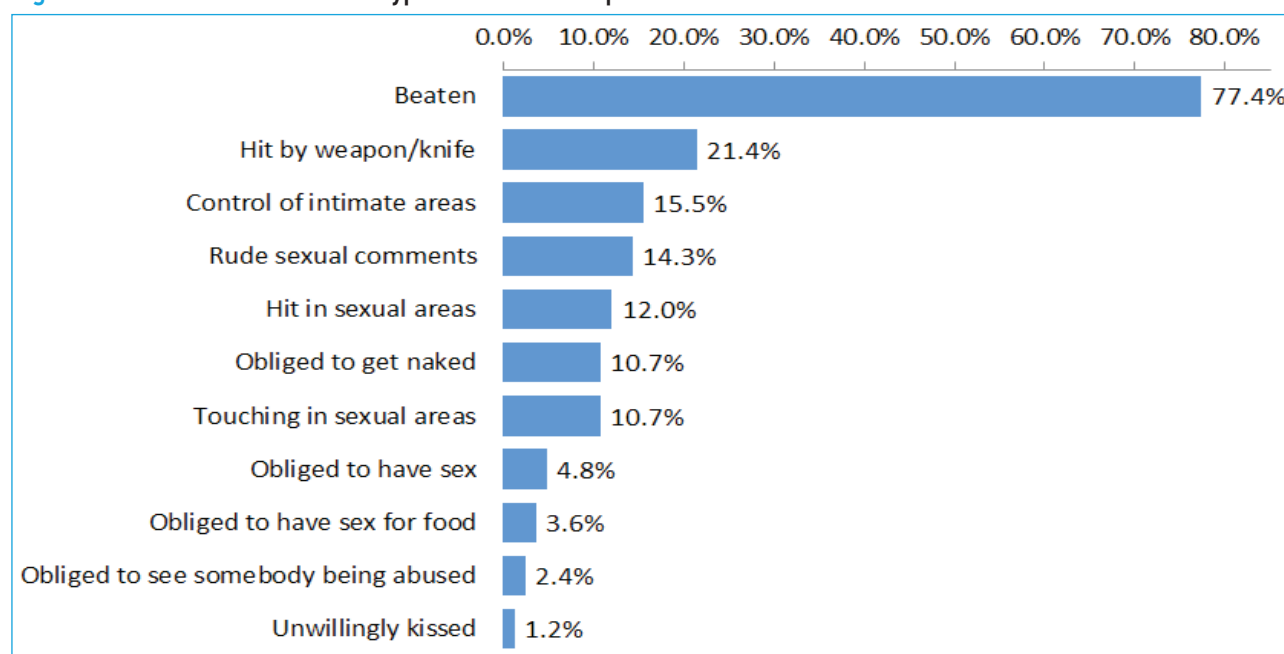
Among the later, 92.9% mentioned hospital, 13.1% thought HIV testing could be provided in prison settings, 6% in family planning clinics and 4.8% didn't mention specific places. Interestingly, no subject under study mentioned pharmacy as a HIV testing place (Figure 30).

**Figure 30.** Distribution of respondents by HIV testing sites they are aware of

\* Only among subjects who knew at least one HIV testing site (n=85).

### Violence

Study subjects were asked to provide information about any type of violence they might have encountered outside or in prison settings. The total prevalence of any kind of violence was 39.8%. The prevalence of different kinds of violence among those experiencing it is presented in Figure 31.

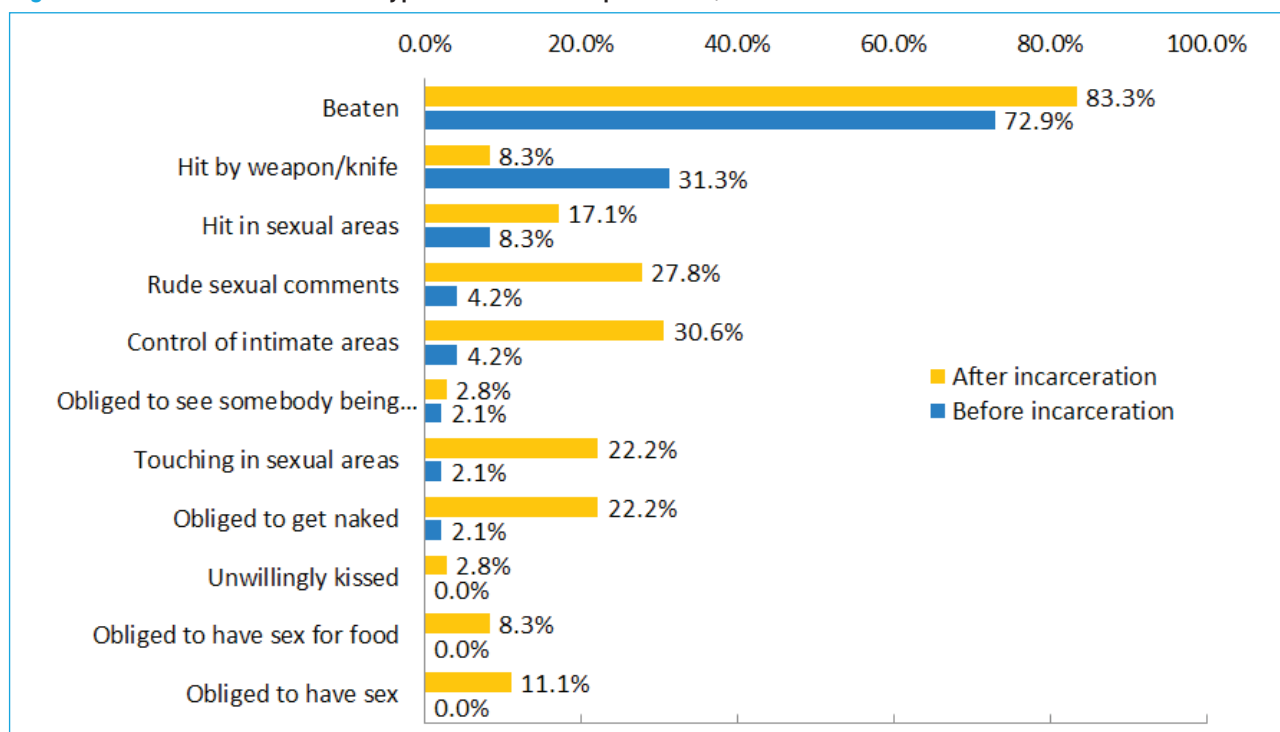
**Figure 31.** Prevalence of various types of violence experienced

\* Only among subjects who have experienced any kind of violence (n=84).

The overwhelming majority of subjects reported to have been beaten (77.4%), whereas 21.4% were hit by weapon or knife, 15.5% had experienced control in intimate areas and 14.3% complained of rude sexual comments, etc. In general, gender differences regarding types of violence were not statistically significant but the prevalence of being beaten and being subject to rude sexual comments was higher among females whereas the reverse trend was noticed for the other types of violence listed below. Also, no significant differences were noticed by education level, age and marital status.

Around 43% of violence episodes had occurred in prison premises and the remaining 57% occurred before incarceration. Figure 32 presents a comparative view of various types of violence before and after imprisonment. In general, the prevalence of all types of violence has increased after incarceration when compared to respective prevalence before incarceration, except for “being hit by weapon/knife” which showed a decreasing trend after incarceration (Figure 32). Before-after incarceration differences are significant for being hit by weapon/knife, rude sexual comments, obliged to get naked, control in intimate areas, touching in sexual areas, obliged to have sex, and obliged to have sex for food.

**Figure 32. Prevalence of various types of violence experienced, before and after incarceration**

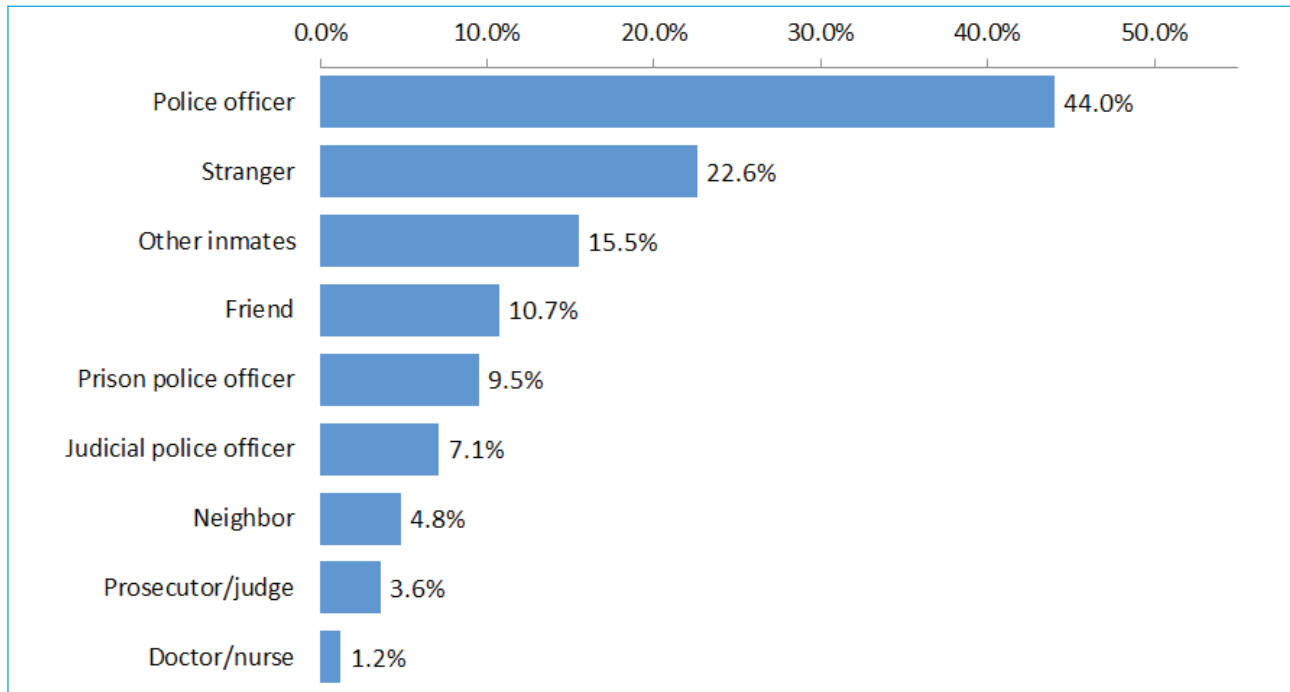


\* Only among subjects who have experienced any kind of violence (n=84).

Regarding the persons who carried out the violent acts, in 44% of cases police officers were implicated, according to the opinion of inmates that were victims of violence (Figure 33). In 22.6% of cases a stranger was the perpetrator, in 15.5% of cases violence was performed by other inmates and in 10.7% of cases by a friend. Other persons involved in committing violent acts are presented in Figure 33.

The only significant sex difference was related to violence from friends: 44.4% of female inmates and 6.7% of male inmates reported to be victims of violence from friends ( $P=0.001$ ). Otherwise, no significant differences of violence source by marital status, education level and age were noticed.

**Figure 33. Who carried out the violent acts**

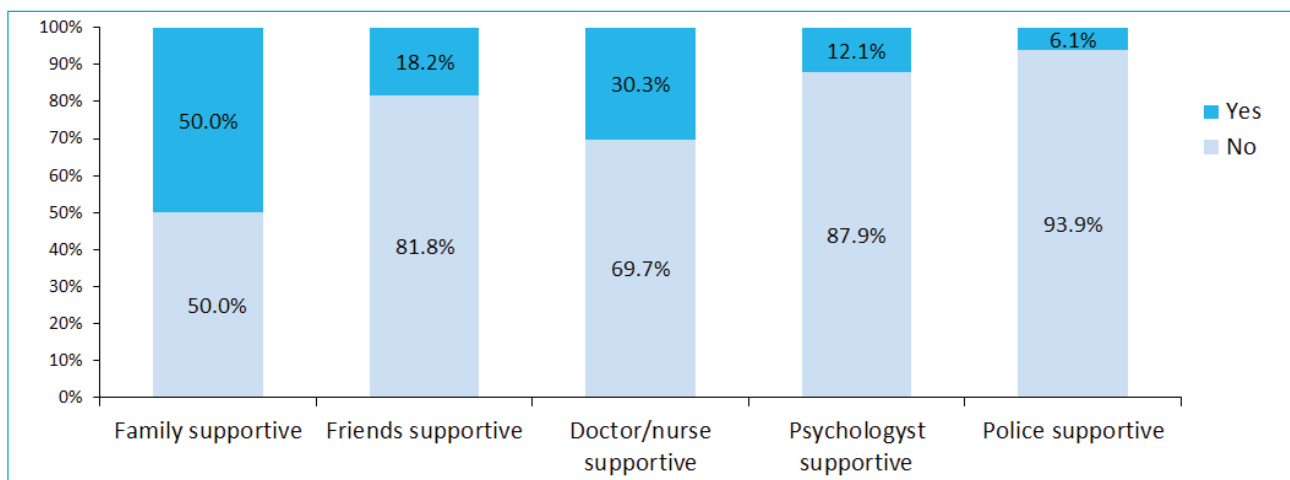


\* Only among subjects who have experienced any kind of violence (n=84).

Among those who have experienced any type of violence, 41.7% of them (35 subjects) had asked for help. The most common source of help is the prison staff with 44.1% of help-seekers reporting it, followed by friends and doctor/nurse with 35.3% of help-seekers each turning to this sources, family (in 34.3% of cases) and psychologist/educator in 14.7% of cases.

Figure 34 presents the information whether the help source, to which help-seekers victims of violence (n=35) turned to, were supportive or not. As expected, half of help-seekers reported that their family was supportive and 30.3% of them found that the doctor/nurse was supportive as well. Surprisingly, friends were supportive in only 18.2% of cases, psychologist in 12.1% of cases and police in 6.1% of cases.

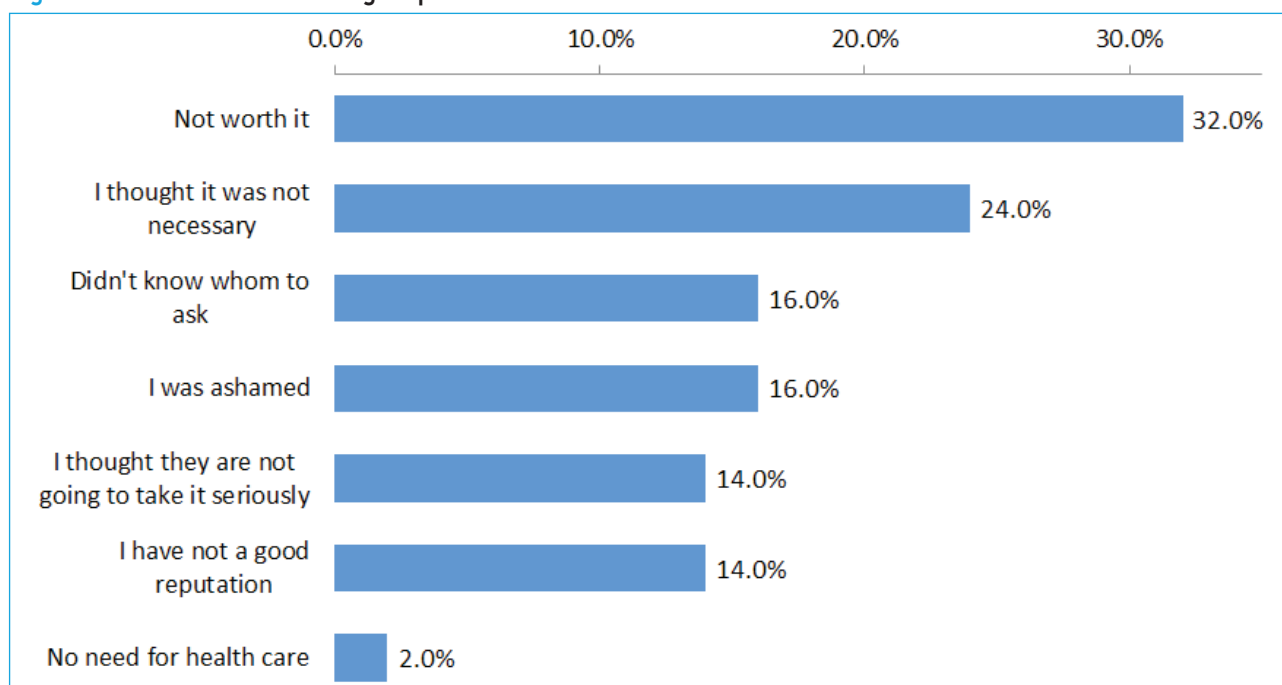
**Figure 34. Help-seekers' opinions about the supportiveness of various help sources**



\* Only among subjects victims of violence who asked for help (n=35).

The violence victims that did not ask for help (n=49) were asked to provide information about the reasons for not doing so. Their answers are summarized in Figure 35. The most common reason for not asking help by victims of violence is that it is “not worth it”, reported by 32% of non-help-seekers. About one-fourth of non-help-seekers said that it was not necessary to ask for help, in 16% of cases the violence victims didn’t know who to call or where to ask for help, in another 16% of cases they felt ashamed to ask for help, in 14% of cases the violence victims thought that their request would not be processed seriously. Finally, in another 14% of cases the self-perceived “bad reputation” prevented violence victims to ask for help (Figure 35).

**Figure 35. Reason for not asking help when victims of violence**



\* Only among subjects victims of violence who did not asked for help (n=49).



## VI. DISCUSSION

This is the first Bio-Behavioral Surveillance Survey (Bio-BSS) among inmates in Albania, a transitional country in South East Europe. The study provided interesting information about various aspects of life in Albanian prisons regarding substance use, sexual relationships, violence and other potentially risky behaviors. The most salient findings of this survey are listed below.

The overwhelming majority of inmates in Albania, as expected, are males, dominated by low education level in about 70% of cases.

Before being incarcerated, about half of respondents (43%) had tried at least one type of illegal drugs. One in three inmates had used cannabis, one in four had used heroin, one in five had used cocaine and one in twelve had used ecstasy. More males than females used alcohol, cannabis, heroin, cocaine, ecstasy and other kinds of drugs. The prevalence of injecting drugs was especially high (18.2%), with a high proportion of users taking the drug from used spoons/caps or syringes/needle. In addition, more than half of inmates under study had a tattoo, the overwhelming majority of which was performed by non-professionals, and one in ten inmates had used the shaving tools of somebody else and about 3% used the toothbrush of somebody else before incarceration.

Male-to-male and female-to-female sex was present in 3% and 1% of subjects who had been engaged in sexual relationships, respectively. In about 80% of cases, a condom was never used or used rarely during sexual encounters, with females more often abstaining from using it.

Just over a quarter of inmates had been tested for STIs before incarceration; one in five participants was tested for HIV, one in seven subjects for hepatitis B, one in ten for hepatitis C and one in twenty-two subjects had been tested for Syphilis, with more females than males reporting it.

Just about half of inmates had been incarcerated once and two times before current incarceration episode. According to the opinion of inmates, cannabis is the most frequently used drug in prison settings as declared by approximately 16% of them, followed by heroin, cocaine and ecstasy. Also, around 4% of inmates also think that other prisoners might use alcohol as well. The percentages of inmates thinking that drugs are being used in prison settings are higher in the prisons of districts other than the capital, implying a tighter control of substance use in Tirana prisons. The most frequently quoted route of drug administration was smoking, mentioned by 12% of inmates, following by injection whereas one in five inmates think that tools for administering drugs are shared among prisoners.

After imprisonment, the general prevalence of drug use decreased from 43% to around 13%. Also, the prevalence of cannabis, heroin, cocaine, ecstasy and alcohol also decreased substantially after imprisonment. About 3.3% of inmates continued to inject drugs in prison settings with high percentages of injecting users sharing syringes/needles and/or taking the drug from a used spoon or cap. Also, One third of respondents had a new tattoo in prison settings.

As expected, the prevalence of overall sexual relations substantially decreased after imprisonment. The principal decrease has involved straight sexual relations whereas the prevalence of male-to-male and female-to-female sex did not change after imprisonment. Sexual encounters in prisons are generally unsafe as about in 65% of cases a condom is never and in 16% it is used only rarely, marking an alarming deterioration compared to condom use prevalence before imprisonment. Contrary to the self-reported sexual activity, more inmates think that there are sexual relationships in prison settings between inmates or between inmates and visitors and prison staff, or episodes of forced sex or sex for money or goods.

Previous testing for STIs in prison premises was very low ranging from 2.5% for Syphilis to 6.4% for Hepatitis B with significantly more females than males reporting it. The test results in the framework of this study suggested that the most common STIs among prisoners in Albania are HCV (11.8% of cases) and HBV (9.5%), followed by Syphilis (2.4%) and HIV (0.5%). With the exception of HIV, the prevalence of HCV, HBV and Syphilis resulted higher in prisons of districts other than Tirana. Prevalence of HIV and Syphilis was higher among female inmates and HBV and HCV were more frequent among male inmates.

About two-thirds of inmates had heard of STIs/HIV and the most common information source was the Radio/TV, followed by friends. About 9 in 10 inmates providing information knew that unsafe sex could spread STIs/HIV but considerably lower percentages were aware of the potential risk of blood transfusions and needle exchange. On the other hand, only one in four inmates knew one or more signs or symptoms of STIs. About 9 in 10 inmates who provided information knew that HIV can be prevented and that condom is the main way for doing this.

About two-thirds of respondents declared to know at least one place where to get tested for HIV, with the overwhelming majority mentioning hospital settings. Considerably lower percentages were aware of other HIV testing sites. Roughly one in four inmate respondents declared to have been tested for HIV in prison settings, but one fourth of them did not retrieve the test result due to being afraid of the result or because they were sure that they did not have the infection.

About 4 in 10 inmates had experienced any kind of violence in their lifetime with physical fight being the most prevalent one (77%) followed by hitting by weapon or knife. In general, the prevalence of violence episodes increased after incarceration except for weapon or knife assaults. The most common perpetrator, according to inmates' opinions, was police officers, followed by strangers, other inmates and friends.

About 4 in 10 victims of violence had asked for help when violence occurred, turning in most cases to staff of prison, followed by friends, medical staff and family. However, family turned out to be the most supportive source of help, followed by the medical staff whereas friends and police officers were of help only in about 20% and 6% of cases, respectively. The main reasons for not asking for help when victim of violence was because it was not worth asking for it and thinking of it as not necessary.

### **Comparison with other surveys on drug use in Albania and international arena**

There is no previous Bio-BSS survey among inmates in Albania. Therefore, no comparison was possible in this perspective. However, in order to judge about the situation of prisoners in Albania, a well-defined specific population group, it is worth comparing figures on substance use generated by our survey with those reported by other surveys.

As with previous reports, the overwhelming majority of inmates are male with females accounting for around 8% of inmate population (National Center on Addiction and Substance Abuse, 2010). Similarly to other reports, inmates are characterized by low education levels and high rates of unemployment before imprisonment (Dillon, 2001).

The most recent survey on substance use among general population aged 15-64 years old in Albania took place in 2014, following a standardized methodology (Qirjako et al., 2014). The prevalence of lifetime alcohol use in general Albanian population was 70%, similar to the prevalence of alcohol use among inmates included in our survey, before being incarcerated (68.9%). However, a totally different picture is present regarding illegal substance use: the prevalence was much higher among inmates before incarceration, compared to general population figures. For example, the lifetime prevalence of cannabis use in general population was 12% in 2014, but the respective figure in our study population before incarceration was 32.9%. Similarly, lifetime prevalence of ecstasy, cocaine and heroin in general population of Albania in 2014 was 1%, 4.6% and 0.7%, respectively (Qirjako et al., 2014), whereas the respective figures among our inmates, before incarceration, were 8.1%, 21.9% and 25.2%, respectively.

It is clear that the prevalence of illegal substance use among free persons who at a certain point in their life get incarcerated for various offences is several times higher compared to the prevalence in general population: the prevalence of lifetime cannabis, ecstasy, cocaine and heroin use among free adults who got incarcerated is 2.7, 8.1, 4.7 and 36 times higher compared to respective rates in the general population. This finding is in accordance with international research that suggests that actual prisoners comprise a population with a high prevalence of drug use before the offense (Lintonen et al., 2011; Fazel et al., 2006). For example, the Bureau of Justice Statistics reported that 56% of persons being incarcerated in 2004 had used one or more illegal drugs in the month before the offense and over two-thirds of them had used drugs regularly (Mumola, 2007). According to another study, 50% of inmates had used cocaine in the six months before imprisonment and 35% had injected drugs (Kevin, 2013). Moreover, one third of inmates declared to have committed their offences while under the influence of drugs (Mumola, 2007) and about 77.5% of persons incarcerated for violent crimes and 76.9% of those incarcerated for other various offences were under the influence of either alcohol or illegal substances at the time of committing the crime (National Center on Addiction and Substance Abuse, 2010).

Substance use and abuse are major factors that lead to incarceration of individuals, with alcohol being involved in more than half of imprisonments and illegal substances being involved in more than three-quarters of incarcerations in US (National Center on Addiction and Substance Abuse, 2010). The imprisonments due to substance use and abuse have

continued to increase despite a considerable decline in violent crimes or crimes against property (National Center on Addiction and Substance Abuse, 2010).

In Albania, in 2012 about 21.6% of incarcerated and pre-detained persons were involved with drugs (Kakarriqi et al., 2014). About 60% of incarcerated persons were charged for possession of cannabis, 14% for possession of heroin and 5% for possession of cocaine (Kakarriqi et al., 2014). In contrast, in US only 2% of all persons incarcerated were charged for offences related to cannabis (National Center on Addiction and Substance Abuse, 2010).

The most prevalent illegal drug used by prisoners in our study, before and after incarceration is cannabis. This finding is in concordance with other findings from international arena (Dillon, 2001; Mumola, 2007; Kakarriqi et al., 2014).

In our study the prevalence of substance use before and after incarceration is considerably higher among males than females. These trends reflect the gender trend present also in the general population in Albania (Qirjako et al., 2014). However, in international arena different patterns are observed with the prevalence of drug use among female population and female inmates being almost similar or even higher compared to males (National Center on Addiction and Substance Abuse, 2010; Mumola, 2007; Kevin, 2013). For example, a survey among 328 male and 52 female prisoners revealed that 72% of males and 79% of females had used at least one illicit drug six months before incarceration; 48% of males and 62% of females had used cocaine and 33% of males and 46% of females had injected drugs six months before incarceration (Kevin, 2013).

Despite the restrictions, prisoners still manage to get illegal drugs in prison premises (Feucht and Keyser, 1999). The prevalence of drug use among prisoners varies from country to country, depending on the definition used, sample size and methods of ascertaining drug using subjects, ranging from 10 in Germany to 72% in Austria (Dillon, 2001). In our study, the prevalence of any drug use in this sample of inmates was about 13% (down from 43% before incarceration). Obviously, the decreasing prevalence of drug use in prison settings is expected to occur compared to non-prison settings due to regulations, segregation and restrictions imposed in these settings. In the study among 380 prisoners, the prevalence of illicit drug use in prison settings was observed to be 37% (36% of males and 39% of females), marking a considerable decrease compared to prevalence of illicit drug use before imprisonment (73%) (Kevin, 2013).

When analyzing the data on drug use among inmates in Albania, the general conclusion is that the rates of drug use before and after imprisonment are generally lower to international research reports. Several national level reports on different population groups, such as ESPAD (European School Survey Project on Alcohol and Other Drugs), Youth Risky Behavior Survey (YRBS), and the Albanian General Population Survey (GPS) have pointed out the still low rate of substance use among Albanians (Qirjako et al., 2014; Institute of Public Health, 2011), compared to developed countries.

We also noticed considerable differences regarding the percentage of inmates who think that various drugs are used in prisons settings, which are higher in prisons of districts other than the capital Tirana. This might indicate a tighter control of substance use in the jails of capital as compared to districts.

Another important finding was the fact that about 45% of inmates in Albania had been incarcerated one time and two times before current detention episode. Literature suggests that persons releasing from jail and with a previous history of illicit drug use and risky sexual behaviors, are at higher risk to resume such behaviors (Binswanger et al., 2012; Malouf et al., 2012; Adams et al., 2011), and being incarcerated again.

### **Comparison with other surveys on sexual activity, STIs knowledge and testing in Albania and international arena**

Inmates in Albanian prisons engage in sexual relationships of various types, with male-female encounters being the prevailing type of relationship (11.4% of respondents), similar to international reports (Sieck and Dembe, 2011). However, in 3.3% of cases male-to-male sex occurs and in 0.9% of cases female-to-female sex occurs. Worryingly, the prevalence of condom use during sexual encounters decreased substantially after incarceration as 64.5% of inmates engaging in sexual activity never use it after imprisonment compared to almost 38% of never-users before incarceration. On the other hand, only 3.2% of inmates engaging in sexual encounters in Albania always use condoms compared to 15.4% reported in international arena (Sieck and Dembe, 2011). In a context where inmates have a significantly higher burden of STIs, including HIV, hepatitis B, C and syphilis (National Commission on Correctional Health Care, 2002; Hammett et al., 1997; Wolfe et al., 2001), the not using of condoms during sexual relationships puts them at even higher risk of infection transmission. Unprotected sexual encounters, male-to-male sex, and injection drug use significantly increase the risk of transmission of HIV, Hepatitis B and Hepatitis C (Weinbaum et al., 2005). In our study, about 3.3% of respondents admitted to have injected drugs in prison settings, and in 40% of these cases a used syringe/needle was used, putting

them in extremely high risk of getting or transmitting to others these infectious diseases. The injection drug use among adult inmates in international arena varies from 3% to 28% (Centers for Disease Control and Prevention, 2003), tens of folds higher compared to the rate in the general population (about 0.15% of individuals aged 12 years and older) (Weinbaum et al., 2005). Since sexual encounters in prison settings include not only inmates but also visitors and prison staff, then the risk of transmission of STIs is real. Another potential source of STIs transmission could be the non-professional tattooing. In our survey about 33.6% of inmates had at least one tattoo done in prison settings, similar to other reports from literature (Sieck and Dembe, 2011).

Regarding the various forms of sexual activity, they range from consensual sex to forced sex, similar to reports from the literature (Hammett et al., 1997).

As evidenced by the present survey among inmates in Albania, only a small percentage of inmates have been tested previously for STIs and HIV in prison settings, ranging from 2.5% for syphilis to 6.4% for hepatitis B, with significantly more females than males undergoing such tests. The proportions of inmates being previously tested for STIs are worryingly low. A considerable proportion of STIs among prisoners can go undetected and, therefore, STIs testing, education and counseling of inmates is recommended (Sieck and Dembe, 2011). For example, a STI screening exercise among 916 inmates in Ohio detected about 53 new cases with STIs, including HIV, hepatitis B, hepatitis C, syphilis, etc. (Sieck and Dembe, 2011), whereas other surveys among inmates have detected various rates of HIV infection among inmates tested (Hammett et al., 1997), thus creating the opportunities for early treatment and education to limit the transmission to other inmates.

Test results in the framework of the actual study suggest that the prevalence of STIs in the inmate population in Albania is lower than the prevalence reported in similar populations in the international arena. For example, in United States the level of HIV/AIDS in inmate population decreased from 1:51% in 2001 to 1.46% in 2010 (Maruschak, 2015) representing levels about three times higher than those verified in our study (0.5%). Similarly to international studies (Weinbaum et al., 2005) HIV prevalence is higher among female than male prisoners. In our study about 5.9% of female inmates tested HIV positive, a level very similar to the data reported in the international field (Weinbaum et al., 2005). Despite the relatively low level of HIV prevalence in this sample of prisoners in Albania, the prevalence of HIV infection in this inmate community turns out to be several times higher than the general population because Albania is a low HIV prevalence country (UNAIDS, 2003; WHO, 2013), and thus underlining the high risk of HIV transmission in this population.

The prevalence of HBV and HCV in the inmate population in the international arena is reported between 13-47% and 16-41%, respectively, and higher among females than males (Weinbaum et al., 2005). Meanwhile, in our study the prevalence of HBV and HCV was 9.5% and 11.8%, respectively, higher among male than female inmates and being generally somewhat lower than the literature reports, but with smaller differences than HIV- in. Prevalence of HBV in the prison population in Albania (9.5%) was almost equal to that reported in the Albanian general population (Resuli et al., 2009). The lack of difference regarding the prevalence of HBV in the general and inmate population in our country can be partly explained by compulsory vaccination of infants against HBV, which began to be applied in Albania since 1995 (Resuli et al., 2009). Regarding HCV, the prevalence of this disease in the prison population in our country is much higher compared with the general population rates (Nurka et al., 2015). While data regarding the prevalence of Syphilis in the general population in Albania did not allow a direct comparison with our results for the groups included in these studies were too specific (Harxhi et al., 2010), they suggest a higher prevalence of Syphilis among inmates as compared to the general population.

Nevertheless, we must emphasize that our study involved a limited number of subjects, which may have affected the accuracy of levels being observed and reported and also the trends in various sub-groups of the study population.

Similarly to international research (Sieck and Dembe, 2011), the majority of inmates had heard of STIs and HIV and most of them knew that HIV can be transmitted by unprotected sexual intercourse. However, much lower percentages knew that HIV might be transmitted by needle exchange or blood transfusion, a result which again is very similar to those provided by international research (Sieck and Dembe, 2011). Also, the percentages of inmates knowing ways to prevent STIs and HIV in our study were very similar to figures provided by other studies (Sieck and Dembe, 2011). The biggest incongruence regarded knowledge about condom use in our study: while about 89% of respondents knew that HIV and STIs can be prevented by using condom during sexual intercourse, very few of those engaging in sexual activity in prison settings use them regularly, compared to 12.9% of inmates elsewhere who knew that using condoms can prevent HIV (Sieck and Dembe, 2011).

Similarly to other surveys among inmates addressing the issues of knowledge about STIs and HIV (Long and Adams, 2012; Vaz et al., 1996), low percentages of inmates in our survey were aware of signs and symptoms of STIs. Education interventions through peers seem to be effective in significantly increasing the knowledge of inmates about HIV and STIs (Vaz et al., 1996).

Regarding the violence in prison settings, the various types of violence evidenced in our sample of inmates is also reported in international research (Wolf et al., 2009). Male inmates more often engage in physical fight compared to female inmates, similarly to other reports (Wolf et al., 2009). The finding that sexual abuse and physical violence are prevalent in prison premises in Albania and that in a good proportion of cases the police officers or prison staff and/or other inmates are the perpetrators mimics the results of other research (Wolf et al., 2009). As suggested by previous research, prisons are fertile grounds for all kinds of violence and therefore, maximal attention should be paid and necessary efforts have to be taken in order to prevent victimization inside prison settings in Albania as well. This might include the creation of safe environments inside prisons that discourage victimization of inmates and reduce the chances of victimization and early diagnosis and treatment of trauma among prisoners victims of violence (Wolf et al., 2009).



## VII. CONCLUSIONS

Based on the findings of the present survey among inmates in Albania, the conclusions are as follows:

- Inmates in Albania constitute a high risk group both before and after incarceration moment, dominated by males and characterized by high prevalence of low education level and unemployment or blue-collar work before incarceration;
- Before incarceration the use of alcohol was similar to that of general population but the prevalence of illicit drug use was several times higher compared to rates in the general population. Alcohol and illicit drug use stimulate users to commit felonies and crimes of different types and are accountable for high proportions of incarceration;
- The prevalence of inmates with a history of injection drug use before incarceration was very high compared to the rates in the general population. In addition, high proportions of them shared syringes/needles putting them in higher risk of transmitting and acquiring sexually transmitted infections and HIV. Also, more than half of inmates engaged in various risky behaviors before incarceration, including tattoos, sharing of shaving tools and toothbrushes;
- Before incarceration, inmates used to engage mainly in heterosexual relationships but 4% also engaged in homosexual relations. About four in five inmates never used or rarely used condoms during sexual encounters. Just over one in four inmates had been tested for STIs before imprisonment with significantly more females than males subjected to testing;
- Because high proportion of inmates had the above characteristics compared to the general population, then the combination of low education level with high prevalence of illicit drug use and injection drug use and other risky behaviors could increase the chances of incarceration;
- About half of participants were incarcerated one and two times before actual imprisonment episode, putting them at higher risk of drug use and misuse and other risky behaviors and increasing their chances of being incarcerated again;
- In prison settings, inmates think that various drugs are being used, mainly cannabis, but also including heroin, cocaine, ecstasy and alcohol, with smoking as the main route of administration. The proportions of those thinking that drugs are used in prison settings was higher in prison of districts other than the capital city, implying maybe tighter controls on substance use in prisons of the capital;
- Even though the prevalence of any drug use reduced after imprisonment, such substances continued to be used by about 13% of inmates in Albanian prisons, including injection drug users. Inmates also engaged in other risky behaviors while in prison such as tattooing, engaging in sexual relationships without condom use, sharing of injecting equipment for drug use, etc. The prevalence of condom use among inmates that engage in sexual relations in prison settings decreased even further compared to before imprisonment period of time;
- According to inmates opinion, various sex relations take place in prison settings, including consensual sex between inmates, inmate-visitors, inmate-staff but sex for money and forced sex also occurs;
- Previous testing for HIV and STIs in prison settings resulted to be very low. The actual testing suggested that the prevalence of HIV, HCV and Syphilis in inmate population under study was several times higher compared to general population rates whereas the prevalence of HBV was similar in both communities. On the other hand, most of inmate respondents had heard about HIV and STIs and knew that unprotected sex could enhance their transmission but very low proportions of them were aware that also needle exchange and blood transfusions could increase such risk and also very low proportions were aware of common signs and symptoms of STIs;

- About 93% of inmate respondents declared that they could be tested for HIV in hospital settings and much fewer knew about other testing sites;
- About 4 in 10 inmates had ever experienced forms of violence, 43% of which occurred in prison premises. The most common perpetrators were police officers, followed by strangers and other inmates. Except for being hit by weapons/knives, the prevalence of all other kinds of violence increased in prison settings compared to the time before incarceration, pointing out to the problematic situation regarding this aspect in Albanian prisons;
- Only about one in three inmate victims of violence ask for help, mainly to prison staff, friends, family and medical staff. However, the most supportive source of help was family, followed by medical staff and friends whereas prisons staff, although being the most common source where victims turn for help, was supportive in only 6% of cases. On the other hand, the main reason for not asking help in case of violence is the lack of faith that appropriate measures will be taken to address their concern.



## VIII. RECOMMENDATIONS

Based on the study findings, discussion and conclusions, we recommend as follows:

1. Because inmates in Albania have several disadvantageous characteristics that put them at higher risk of substance use and misuse and other risky behaviors even before incarceration, such as being a male, unemployed and low educated, then all efforts should be taken to identify such risk groups in order to timely intervene through targeted appropriate actions;
2. Based on the fact that the prevalence of illicit drug use before incarceration was very high among inmates and because illegal substance use propels crimes and increases the risk of incarceration, then it is indispensable to use the appropriate identification techniques to detect such subjects and intervene with education activities or support them to reduce such behaviors. This applies especially to injection drug users;
3. Because the prevalence of condom use was very low among this population group and because of the high prevalence of their risky sexual behaviors and low testing rates for STIs before incarceration, then education efforts should also address sexual education and increasing of awareness about STIs and HIV through delivery of specific interventions targeting this specific population group;
4. Since the period right after release from jail constitutes an especially vulnerable period for the ex-inmates with a high risk of returning to old habits and risky behaviors, then it is necessary to establish programs to support inmates for some period of time after prison discharge. For the moment, such services are inexistent in Albania;
5. Although restrictions apply, still inmates manage to get various kinds of drugs within prison settings. Based on this fact, we recommend reinforcing existing regulations of effective segregation and control of such substances in prison premises in order to reduce the problems associated with drug use in these environments. This tighter control will then serve also to reduce violence episodes and other risky behaviors in prison settings, thus improving the overall situation of inmates in Albania;
6. Because substance use is thought to be higher in prisons of districts other than the capital, this means that a tighter control of substance use is feasible in these settings as well and therefore all efforts, legislative and administrative, have to be taken in order to reduce substance use in prisons outside the capital of the country;
7. Because tattooing is quite a common phenomenon in prison environments in Albania, we recommend they these services to be provided by professionals in order to reduce the risk of transmission of STIs and other complications;
8. Because sexual encounters occur in prison settings, and condoms are never or rarely used during these encounters then we suggest to strengthen the education and counseling services and awareness raising activities within prison environments in order to reduce such risky behaviors and prevent transmission of STIs;
9. All efforts and measures should be taken to limit the occurring of forced sex within prison settings in order to improve the situation of safety and support vulnerable individuals to not be victims of such violence;
10. We recommend the radical improvement and strengthening of STIs and HIV testing in prison settings in Albania. These should be accompanied by targeted education and awareness activities about STIs and HIV, their routes of transmission and the ways to prevent them;
11. It is indispensable to improve the overall situation in prison settings in Albania in order to discourage episodes of all forms of violence. The fact that almost all forms of violence have increased while in prison compared to before-prison period suggests that existing regulations and restrictions are not enforced appropriately and therefore urgent measures are to be taken to address this concerning issue;

12. We recommend the improvement and strengthening of support services for victims of violence in prison settings in Albania, targeting especially the most vulnerable groups such as female inmates;
13. Also, we think that it is important to increase the confidence of inmates that are victims of violence that they will find effective support and protection if they ask for help. This requires the training of police officers on how to handle such cases and address them properly. Also, education of inmates in general about violence issues could be another approach to reduce episodes of violence within prison settings.

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