

MANAGING THE QUALITY OF BEHAVIOR ON HIV AMONG INJECTING DRUG USERS IN PRISHTINA**Iir Rexhepi, PhD (C)**

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ABSTRACT

Although Kosovo is a country with low HIV prevalence, the exposure to HIV among injecting drug users (IDUs) may be considerably higher. To assess the quality behaviors of HIV, HBV, HCV and Syphilis, as well HIV-relevant behavioral risks, a bio-behavioral RDS study was carried out in this key population in Prishtina in 2011. The study was a part of the second wave of HIV surveillance among most-at-risk populations. (The first wave was completed in 2006.) In total, 205 IDUs (of whom five were seeds) were tested and interviewed in the July-August 2011 period. Age range in the sample was 19-54 (Mean age = 31.0; SD = 7.14). Most participants were men (179/200; EPP¹ = 88.7%). In regard to education, the largest percentage of recruited IDUs had completed secondary education (EPP = 49.3%). Slightly less than a third of respondents have been married at the specific time the study have been carried on (EPP = 30.9%). Permanent employment was reported by 35.1% (EPP) of IDUs in the sample. No HIV+ cases were found. Four IDUs were infected with Syphilis (EPP = 2.0%; 95% CI = 0.3-4.3), 16 with HBV (EPP = 6.0%; 95% CI = 3.0-10.5) and 96 with HCV (EPP = 37.4%; 95% CI = 28.9-46.8). Of the HBV+ individuals, two were diagnosed as having an acute and nine as having chronic infection. A majority of IDUs were alone the last time they injected drugs (EPP = 63.0%). In the past week, 187 of 197 participants (EPP = 97.3%) did not share injecting equipment. A majority of IDUs (158/198; EPP = 83.8%) stated that they always use sterile injecting equipment. Slightly over a half of participants (EPP = 51.8%) were ever treated for drug abuse. In regard to sexual behaviors, a majority of recruited IDUs were sexually active in the month preceding the study (EPP = 74.1%), of which about a quarter had multiple sexual partners (EPP = 27.1%). A minority of participants had regular sexual partner who was also injecting drugs (EPP = 8.5%). Less than a third of the surveyed IDUs used condoms consistently in the past month (EPP = 30.3%). About one fifth of participants (EPP = 22.0%) answered correctly to all five standard UNGASS HIV knowledge indicators. Although the study met all basic requirements of RDS methodology (Johnston et al., 2009), generalizability of the findings should be approached with caution due to a relatively small sample size and the fact that a majority of recruited IDUs have used Labyrinth drop-in and needle-exchange services in the past. The findings point to low levels of injecting equipment sharing, although the prevalence of HCV infection suggests that this is a recent development. Relatively infrequent and inconsistent condom use, coupled with low HIV risk self-assessment, emphasizes a need for a stronger promotion of condom use in the population. Overall, the observed changes in the levels of risk-taking behaviors in this key population confirmed the importance of repeated high-quality bio-behavioral HIV surveys in this key population (Zaba et al., 2005; Brown, 2003).

¹ EPP = estimated population proportion (RDS-weighted percentage)

INTRODUCTION

The fact that injecting drug use (IDU) has been responsible for a rapid spread of HIV epidemic in a number of countries world-wide (Aceijas & Rhodes, 2007; Reintjes & Wiesing, 2007; Jarlais, 2009) was taken as a starting point for setting surveillance priorities in Kosovo. Apart from direct risks of HIV transmission through sharing injecting equipment, IDUs' vulnerability stems from the characteristics of the social environment in which they commonly live (Rhodes et al., 2005; Strathdee, 2010). Poverty and poor health, inaccessibility of health services, violence, and lack of social support are typical characteristics of the social world in which many IDUs live.² Coupled with the existential centrality of securing a daily dose of drugs, such living conditions foster short-term planning and a high tolerance to a range of health risks.

Despite the currently low levels of HIV risk in Kosovo (between 1986 and 2008, 74 HIV/AIDS cases were registered, mostly among migrant workers; Kosovar AIDS Committee, 2009), several potential drivers of the HIV epidemic remain present. Widespread poverty, high unemployment rates, and a rapid pace of societal transformation, which has been coupled with political instability and security issues related to the ongoing dispute with Serbia, provide a socio-cultural background conducive to risk taking. In addition, a growing drug problem (Arenliu & Donoghoe, 2001; Labyrinth, 2007) – closely associated with organized crime and the fact that Kosovo is on an important international drug trafficking route (heroin is relatively cheap in Kosovo) – has been increasing potential exposure to HIV, particularly among young people.

According to a 2007 research report, about 3000 individuals may be injecting drugs in Kosovo, a half of them in Prishtina (Labyrinth, 2007). The number was expected to rise to about 5000 in 2012. It has been suggested that age at first heroin injection is decreasing and that the prevalence of IDU may be increasing among young women. In the 2007 mapping study carried out by the Labyrinth, an NGO working with IDU population, difficulties with obtaining sterile injecting equipment were noted.

Taking into consideration the plan of action stipulated by Kosovo Strategic Plan on HIV/AIDS 2009-2013 (Kosovar AIDS Committee, 2009), which emphasized the need to strengthen the national HIV surveillance system focusing on key populations at risk, three BBS studies were carried out in 2011 among men having sex with men (MSM), female sex workers (FSW), and Injecting Drug Users (IDUs). A commitment to using high-quality, state of the art methodology was judged essential for all research activities within the Second generation HIV surveillance (SGHS) framework – both in terms of capacity building and future data comparability. In this report, findings from the bio-behavioral surveillance study carried out using RDS methodology among IDUs in Prishtina are presented and discussed. The primary aims of the study were to provide biological and behavioral indicators of HIV exposure in this key population and to compare the levels of risk exposure to those observed in the first surveillance round (2006; cf. Impact, 2007).

² For the situation in Kosovo, see the recent Kosovar AIDS Committee report (2009).

METHOD

RDS Methodology

Respondent-driven sampling (RDS) was used in different cases in order to recruit difficult reaching populations (Heckathorn, 1997; Malekinejad et al., 2008). By the end of 2007, RDS methodology has been used in at least 29 countries in the world (Johnston et al., 2009). The most important side of RDS approach is that it can penetrate and get into individuals which cannot be reached otherwise (e.g. in institutionalized settings or public venues). By simplifying it, RDS is a chain methodology with a referral base selection of specific limited number of initiated respondents (“seeds”) from which it is required to recruit additional participants/individuals of the target focus group through the distribution of coupons received from the researchers. Every recruited participant who participates in the study and fulfills the specific set of criteria will get the particular coupons and the recruitment procedure will continue up to the reach of specific targeted sample size. RDS sampling demonstrates that the specific introduced bias of initial respondents by not random selection are eliminated as the recruitment evolves from one to another wave.³ In particular after 4 to 6 waves, the structure of the sample gets out of depending from the seeds initiated. Unless its core assumptions about peer recruitment are violated, RDS can produce a probability-based sample and enable generalization of findings (Abdul-Quader, 2006). Population estimates can be calculated using specific statistical software (RDSAT), which enables data weighting according to personal network size (recruitment probability) and recruitment patterns (selection probabilities).

In order to evaluate the RDS feasibility, formative (constructive) study is implemented in order to gather data for the personal network sizes, willingness to take part in a HIV bio-behavioral study, the desirable incentives and specific forms of preferred site study. In the case of this study, only a brief and informal formative research was carried out among the IDUs who use Labyrinth services. As no major problems were encountered during the 2006 RDS study in the same population (see Impact, 2007), there was no need for a more detailed formative research.

Procedure and Participants

According to inclusion criteria, an individual was entitled to become part of this research only if she/he was: (a) 18-50 years of age, (b) spoke Albanian, (c) had injected drugs at least once in the past month, and (d) living and/or working in Prishtina (or having injected drugs there regularly for at least three months in the past year).

All entitled individuals have been previously informed about the process and demands of the relevant study research such as the data collection form/type, specific proceedings, kind/type and level of incentives. In addition all participants taking part in the study research have been asked for specific individual informative consent. As long as the verbal and written consent was obtained, the respondent undertook the interview and then briefed about biological testing (pre-test counseling). Following blood drawing, the participant received three additional coupons for further peer recruitment and the primary incentive compound of 10 EUR. During the second visit, the participant was given post-test counseling, during which test results were communicated, and asked a few questions about recruitment (“How many

³ The point after which further recruitment cannot substantially change the distribution of a particular characteristic in the sample is called *equilibrium*.

IDUs refused your coupons and why?"). Secondary incentive was paid depending on how successfully the participant recruited (max. 3 x 2 EUR).

Participants resulted with positive infection of HBV and HCV immediately have been directed/referred for treatment to a specialist of Infectology at the Infectious Disease Clinic, University Clinical Centre of Kosova in Prishtina. Data collection took place from July 3 to August 3, 2001. The total sample size was 205 IDUs, including five seeds (one female and four male IDUs). Of the men who visited the site, only two were found non-eligible – one tried to participate for the second time and the other was a non-injecting drug user.

Measurement and the structure of Questionnaire

The structure and design of the questionnaire has been drafted at the WHO Collaborating Center Zagreb. It was translated to Albanian, piloted for comprehension, and then slightly revised (cf. Appendix). In addition to sociodemographic data, information on IDU and related treatment, sexual behaviors, HIV knowledge, HIV testing, self-reported sexually transmitted infections (STIs), and HIV risk self-assessment was collected. The standardized UNGASS indicators (UNAIDS, 2007) were used as the core variables. *Personal network size* have been evaluated by a sequence of the specific questions such as: (1) Do you know many IDUs who live in Prishtina which at the same time they know you by name/initials; (2) Have you seen many of them during the last three months, if so how many have you seen?; (3) Do you remember if many of those you saw were younger than 18; (4) How many of them were older than 50?

Ethical Considerations

All study proceedings/protocols were priory approved by the Professional Ethical Board of the Republic of Kosovo Ministry of Health and carried out in accordance with ethical principles stipulated in the Declaration of Helsinki. Informative consent for the behavioral and biological information gathering have been asked from every respondent taking part in the research study. In order to protect the respondents' anonymity (no personal data was obtained), screeners signed a consent form after the participant gave his/her consent orally. The signature testified that the consent was given. In order to ensure the confidentiality all interviews were handled privately, in closed and separated rooms. All research personnel were previously trained on the specific field of conducting ethical interviews.

Study Research Results & Data Analyses

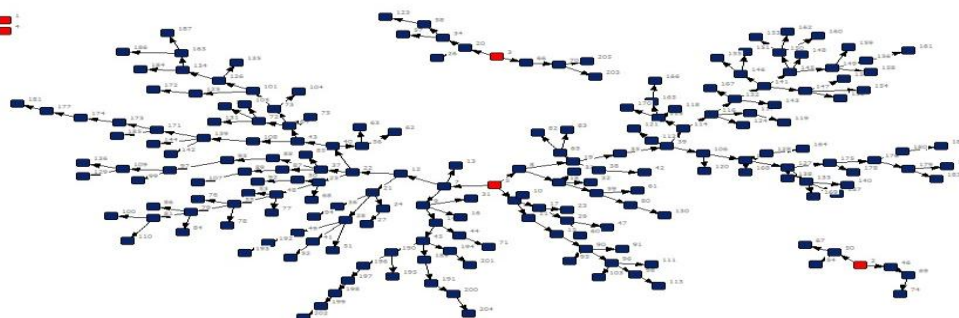
In the following there are presented the major issues/findings derived from this specific study research. Starting with the sample of socio demographic characteristics up to the report on HIV-relevant indicators using RDSAT weighted data.

Basic Socio demographic Characteristics of the Sample

The study included 205 IDUs, of whom five were seeds (non-randomly selected participants). The network structure of the sample is shown in Figure 1. Participants were well-networked; the mean personal network size was 12.6. Age range in the sample was 19-54 (Mean age = 31, SD = 7.14). Considering age structure, the 19-29 age group was the most numerous (EPP = 47.8%), followed by the 30-39 age group (EPP = 42.8%).

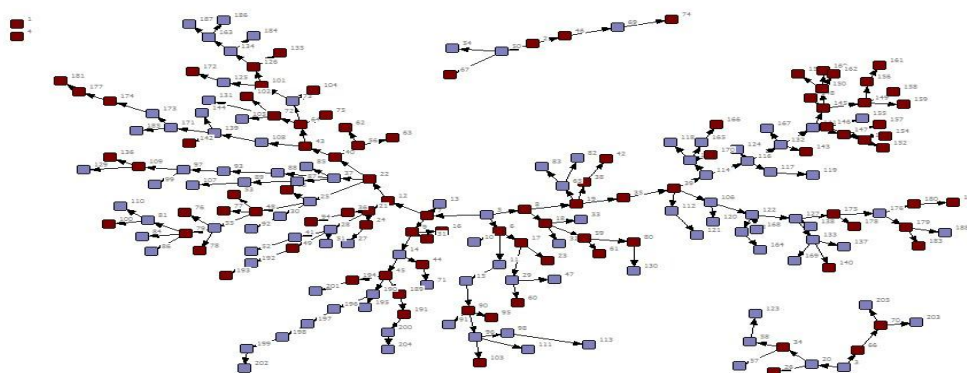
Most participants were men (179/200; EPP⁴ = 88.7%). A majority of recruited IDUs had completed high school (100/200; EPP = 49.3%), while a fifth of participants reported at least some college education (EPP = 21.6%). Less than six percent (EPP = 5.8%) of IDUs had no income in the past month. A similar proportion of participants reported being financially supported by their family (EPP = 40.4%) and being employed – either permanently (EPP = 35.1%) or temporary (EPP = 10.8%). A majority of IDUs were living in their own apartment/house (EPP = 47.4%) or with their parents (EPP = 27.7%). About a half of participants were single (EPP = 48.4%), while slightly less than a third reported being married at the time of the study (EPP = 30.9%).

Figure 1 – The network structure of the IDU Prishtina 2011 study (seeds are shown as red nodes)



No HIV+ cases were found in this study (Table 1). Four IDUs were infected with Syphilis (EPP = 2.0%; 95% CI = 0.3-4.3). HBV was diagnosed in 16 (EPP = 6.0%; 95% CI = 3.0-10.5) and HCV in 96 cases (EPP = 37.4%; 95% CI = 28.9-46.8). Of the former, two cases were diagnosed as an acute and nine as chronic HBV infection. As expected, HCV+ participants were moderately clustered within the sample network (see Figure 2), with a homophily rate of .33 among the infected IDUs.

Figure 2 – Network clustering of HCV infection (red nodes = HCV+)



⁴ EPP = estimated population proportion (RDS-weighted percentage)

TABLE 1 –Sample and population prevalence of the core biological and behavioral indicators of HIV-related risk taking among IDU in Prishtina

Indicator	n/N ^a	Sample prevalence (%)	Estimated population prevalence (%) ^d	Population prevalence 95% CI	Equilibrium reached at wave # ^e
HIV	0/200	/	/	/	/
Syphilis	4/200	2.0	2.0	0.3-4.3	3
HBV	16/200	8.0	6.0	3.0-10.5	1
HCV	96/200	48.0	37.4	28.9-46.8	3
Shared injecting equipment in the last week	10/197	5.1	2.7	0-4.5	3
Used sterile injecting equipment at last injection	197/200	98.5	99.2	98.1-100	1
Injected drugs daily in the past month	51/200	25.5	15.4	10.5-21.3	4
Most often injected drug in the past month					6
Heroin	122/194	62.9	71.1	61.7-78.6	
Methadone	71/194	36.6	28.7	21.3-38.2	
Ever overdosed to the point of losing consciousness	64/200	32.0	32.8	25.1-41.1	2
Had sexual intercourse in the past month	142/192	74.0	74.1	64.4-81.0	3
> 1 sexual partner during last year	30/105	28.6	27.1	16.0-39.2	4
Condom usage at last sexual intercourse with the living partner or spouse	65/184	35.3	28.4	21.1-37.9	2
Used a condom at last sexual intercourse with a casual (not-living) partner	104/168	61.9	60.3	49.5-67.2	2
Used condoms consistently in the past month (when having sexual intercourse)	36/106	34.0	30.3	19.2-46.0	5
Sold sex in the last 12 months ^b	10/188	5.3	3.4	1.1-6.4	2
Used a condom the last time he/she sold sex	10/10	/	/	/	/
Bought sex in the last 12 months ^b	8/188	4.3	4.0	1.5-7.9	2
Used a condom the last time he/she bought sex	8/8	/	/	/	/
Correctly identifies ways of preventing HIV transmission and rejects major misconceptions about HIV transmission ^c	43/200	21.5	22.0	15.2-29.5	4
Knows where free and	142/197	72.1	64.9	56.8-73.3	2

anonymous HIV test is (locally) available					
Received free condoms in the past year	119/196	60.7	53.2	44.2-61.8	1
Used Labirint services in the past 12 months	154/197	78.2	68.8	60.5-77.8	2
Ever attempted to quit or reduce drug abuse	99/196	50.5	51.8	43.0-60.7	2
Ever been to prison	107/200	53.5	51.5	40.9-61.8	3
Ever injected in prison	4/69	5.8	6.4	0-23.4	4
Ever tested for HIV	156/197	79.2	75.0	65.7-84.0	3
HIV tested in the last 12 months	79/130	60.8	58.5	50.2-70.1	1
Knows the result of his/her the most recent HIV test	126/130	96.9	96.4	89.6-100	6
Diagnosed with an STI in the last year	22/193	11.4	12.7	7.0-17.8	2
Self-assessed HIV risk					3-4
No risk	61/192		27.5	16.8-36.6	
Low risks	63		31.8	22.8-42.5	
Moderate risk	30		17.8	10.0-27.4	
High risk	38		23.0	14.8-32.3	

^aSeeds (n=5) are not included in the total number (N)

^bOr exchanged it for drugs

^cAnswered correctly to all five UNGASS HIV knowledge questions

^dRDS-weighted data

^eThe column shows data about the research wave in which for the specific indicator the equilibrium point was reached

CONCLUSIONS & DISCUSSION

Kosovo is currently characterized by low-level HIV epidemic, with most HIV/AIDS cases diagnosed among migrant workers. As pointedly summarized in the Kosovo Strategic Plan on HIV/AIDS 2009-2013, “incompleteness of routine case reporting, lack of accurate data, low utilization rates of VCT”, and the existence of a number of economic, socio-cultural, and security-related potential drivers of HIV epidemic demand a systematic and reliable HIV surveillance among key populations (Kosovar AIDS Committee, 2009: 3-6). As a part of this agenda, the present BBS study assessed the prevalence of HIV-related risk taking behaviors, HIV, Syphilis, HBV, and HCV among IDUs in Prishtina. The study represented the second wave of HIV surveillance among IDUs (the first was carried out in 2006).

No HIV+ cases were found among 200 mostly heroin-using IDUs, aged 19-54 years. The prevalence of Syphilis and HBV were relatively low, unlike the prevalence of HCV (37%) which suggested considerable rates of needle and syringe sharing in the past. Although the levels of injecting equipment sharing were reportedly low, the self-reported character of the data requires caution.

In regard to sexual risk taking, the findings on inconsistent condom use and multiple sexual partners suggest a need for a more comprehensive condom use promotion in the population,

especially as a majority of participants self-assessed the risk of becoming infected with HIV infection as low. (The finding that 22 participants reported being diagnosed with an STI in the past year further supports this conclusion.) Commercial sex did not seem to be a source of considerable exposure to HIV risks, although a small number of recruited women may have underestimated the prevalence of sex selling in this population.

The proportion of IDUs who ever tested for HIV was reasonably high. When compared to the results from the 2006 study (for details, see the next section), the finding that 79% percent of participants who ever tested reported that in last 12 months they have been tested for HIV, which suggests a successful scaling up process of HIV testing among IDUs in Prishtina. Overall, the study seems to have fulfilled all basic methodological requirements (cf. Johnston et al., 2009). As shown in Table 1, recruitment chains proved to be sufficiently long to reach equilibrium on all core indicators and to enable reaching less connected segments of the population.

Study Limitations

The issue of representativeness (e.g. how well the sample mirrors the population of IDUs in Prishtina) should be considered in the context of the sociodemographic structure of this study sample, as well as in the light of the fact that a majority of participants (almost 70%) have used Labyrinth services in the past. It cannot be ruled out that the study under-represented IDUs who are not affiliated with this NGO that focuses on harm reduction and who, thus, may be more exposed to HIV risks. If feasible, future studies should attempt to reduce this possible bias by selecting seeds unfamiliar with Labyrinth. As the behavioral part of this study relied on self-reporting, the validity of some of the findings needs to be assessed taking into account that all interviews took place at Labyrinth premises. Considering that a majority of IDUs in this study use services offered by the NGO, it is possible that some participants felt pressured to provide socially desirable answers (particularly when questions were associated with the services offered by Labyrinth). Such bias would have resulted in an underestimation of risky behaviors. The final study limitation is a relatively small sample size – determined solely by financial constraints – which reduced statistical power of the presented analysis.

RECOMMENDATIONS

Methodological Issues

- In the future HIV surveillance waves, larger sample sizes should be considered to improve statistical power (it has been recently suggested that even the design effect of two may not be sufficient for RDS studies);
- To increase sample heterogeneity and generalizability of findings, future studies should attempt to recruit seeds unfamiliar with the available NGO services.

HIV Surveillance and Prevention/Intervention Issues

- To enable a wider reach of the currently existing NGO services, outreach work (including peer-to-peer HIV and STI information dissemination) should be intensified in this key population;
- Although the crucial role of opioid substitution in HIV prevention among IDUs is well-established, particularly in low-prevalence settings (Strathdee et al., 2010; Degenhardt et al., 2010; Jarlais, 2009), implementation of this harm-reduction

strategy in Kosovo will need to take into account the finding that methadone is often injected;

- Inconsistent condom use in this study suggests a need for a more comprehensive promotion of protected sex among IDUs. The distribution of free condoms should be intensified and coupled with targeted sex education and information dissemination. A brochure targeting IDUs, which would focus on the importance of safer sex (to protect oneself and one's partner/s from STIs) should also be considered;
- Targeted education about HCV infection that would include prevention and treatment messages and guidelines should be intensified. The recent efforts in that direction, which were undertaken by Labyrinth, should be supported and expanded;
- STI diagnostics and treatment should be improved in the population;
- HIV observation studies/researches among IDUs should be implemented regularly in every two to three years using high-quality methods and standardized behavioral indicators;
- In regard to high unemployment among young Kosovars and the overall economic situation, a qualitative analysis of commercial sex involving IDUs of both genders is needed to provide a better understanding of the phenomenology of this bridging route for HIV infection and its potential to spread in the population.

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