

# HIV Risks among Female Sex Workers in Croatia and Montenegro

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## ABSTRACT

*The study analyzed the prevalence and determinants of HIV-risks among female sex workers (FSWs) in Croatia and Montenegro. Face-to-face interviews were carried out in Zagreb, Split, and Podgorica during the 2006–2008 period. Croatian participants (n=154) reported fewer clients, more consistent condom use, higher rates of HIV testing, and greater HIV knowledge. The participants interviewed in Montenegro (n=119) were more likely to have injected drugs and to have experienced sexual abuse in the previous year. Although Montenegrin FSWs were more exposed to HIV-risks than Croatian FSWs, they reported lower HIV-risk self-assessment. Consistent condom use was significantly associated with education and HIV-risk self-assessment in the Croatian and the experience of physical/sexual abuse in the Montenegrin sample. In spite of a number of methodological limitations, the empirical insights provided by this study may assist in improving the existing HIV prevention initiatives.*

**Key words:** HIV/AIDS, female sex work, risk taking, victimization, Croatia, Montenegro

## Introduction

Socio-economic and political changes, particularly in the countries of the former Soviet Union, have been linked with an increased vulnerability to HIV and other sexually transmitted infections (STIs) among specific social groups, including the growing population of sex workers. Similar social and economic disarray – coupled with ethno-national armed conflicts, migrations and forced migrations, and the presence of international forces – occurred in former Yugoslavia, but the reality of female sex work remains much less explored<sup>4</sup>.

The process of post-communist transition could have affected sex work in many different ways. Unemployment, declining standards of living, and shrinking public services during the 1990s had pushed a number of women into the sex industry, especially in the former Soviet Union. The transformation of social institutions was in some cases aggravated by ethno-national conflicts. In several countries, including Croatia, the presence of local and international military forces created an increased demand for sex work<sup>6</sup>. Growing evidence of sex traffick-

ing during the second half of the 1990s reflected these social changes<sup>7</sup>.

With respective populations of 4.4 and 0.7 million, Croatia and Montenegro, two South-East European countries that were federal units of socialist Yugoslavia (1945–1990), are regarded as developing countries. In 2007, Croatian and Montenegrin GDPs *per capita* were 8,450 EUR and 3,670, respectively. Although both countries transformed into stable democracies, they continue to struggle with inefficient judiciaries, corruption, and political clientelism<sup>8,9</sup>.

There are no reliable estimates of the number of sex workers in Croatia and Montenegro nor is there information on the types of sex work that women are mostly involved in. A recent paper reporting on an unsuccessful respondent-driven sampling survey in Podgorica<sup>10</sup> demonstrated a highly controlled nature of sex work in the city and suggested that sex work is clustered in six brothels. At the moment, very limited HIV prevention efforts

are directed at this population in the two countries. Most of the prevention activity has been carried out by local non-governmental organizations and their outreach services.

Keeping in mind that Croatia and Montenegro are popular tourist destinations characterized by an increased (seasonal) demand for sex work in the coastal areas, only a couple of HIV-related studies carried out in the two countries have included FSWs<sup>11</sup> (Muđoša B, Basković A, Marjanović Lj, Terzić N, unpublished report). However, neither of the studies offered a systematic analysis of HIV risks in this population.

This paper aims to assess and tentatively compare HIV-related risks among FSWs in Croatia and Montenegro. In both countries, sex work is currently criminalized (client solicitation constitutes a misdemeanor and pimping a felony) and considerably stigmatized. This partially accounts for the lack of systematic data on sexual and non-sexual risk taking, in spite of the fact that FSWs are included (as one of the target groups) in the National HIV/AIDS Prevention Programme in both countries. Clearly, more information on HIV risk factors among FSWs in this region is necessary in order to improve and scale up the existing, unsystematic and insufficient, prevention activities.

## Methods

### *Sampling procedure*

In Croatia, two non-governmental organizations (NGOs) provide outreach services for FSWs in Zagreb and Split. Their activity is focused on distributing free condoms and HIV educational materials, but they also provide free STI screening and referrals to HIV voluntary counseling and testing centers (VCT). In 2008, 280 FSWs in Zagreb and 300 in Split were listed as service users. In collaboration with the two NGOs, the Croatian study used convenience sampling of FSWs who use their services. Participants were not offered any incentive for their participation.

In Montenegro, a snowball sample was obtained with initial participants recruited by an NGO that does outreach work with some 150 FSWs in the capital city of Podgorica. As Montenegrin study was bio-behavioral, each woman received EUR 40 for completed interview, EUR 15 for giving a full blood sample (to be tested for HIV), and additional 15 EUR for every FSW she recruited into the study.

In both studies, the inclusion criteria for participation were having sold sex (for money) in the preceding 12 months and being of legal age ( $\geq 18$ ). In Croatia, interviewers from the NGOs made sure the respondents were eligible for participation by interviewing those FSWs that are already participating in their outreach programs. In Montenegro eligibility was examined by a set of questions at the survey site related to sex work.

### *Data collection*

In Croatia, data collection took place between late 2006 and June 2008. In Split, an unanticipated pause, caused by shifting priorities and organizational difficulties that forced the NGO staff to postpone interviewing, took up the most of 2007. In Zagreb, data collection was initiated in the early 2008. The questionnaires were completed in face-to-face interviews carried out on the street (Zagreb) or in the NGO office (Split). (The differences between the two subsamples of Croatian FWSs were analyzed in detail elsewhere<sup>12</sup>.) In five cases (all in Zagreb), the questionnaires were self-administered at FSWs' homes, at their request. All other interviews were conducted by experienced male and female NGO personnel. In Montenegro, FSWs were interviewed by a member of the research team with experience in interviewing and HIV counselling. All interviews were carried out at a VCT centre in Podgorica between December 2007 and March 2008. Verbal informed consent was obtained from all participants. To protect participants' anonymity, interviewers were instructed to sign the consent forms acknowledging that consent had been given.

### *Participants*

In total, 154 FSWs were included in the Croatian sample and 119 in the Montenegrin sample. The average age of participants was 30.82 years (SD=8.36). Women recruited in Croatia were mainly living in Zagreb (35%) and Split (43%), while the majority of FSWs interviewed in Montenegro had permanent residence in Podgorica (63%). Due to different sampling strategies, a meaningful analysis of refusals was possible only for Croatia (no information on FSWs who refused to participate was collected in Montenegro). Overall, 21% of FSWs who were approached refused to participate in the study, mainly because of lack of time or interest in the study. In comparison to those who were successfully interviewed, they were statistically more likely to have started selling sex at a younger age and less likely to have ever injected drugs ( $p < .05$ ). In both samples, most participants were street-based FSWs, although some of them also solicited clients via advertised phone numbers.

### *Questionnaire*

In addition to sociodemographic characteristics and items regarding sex work, a brief questionnaire (originally developed for the Croatian study) included questions on non-paying sexual partners, intravenous drug use and needle/equipment sharing, victimization experiences, STI history, HIV testing and HIV risk self-assessment, and six standardized UNGASS indicators of HIV knowledge<sup>13</sup>. The questionnaire was pre-tested (and, subsequently, slightly revised) on a small group of FSWs in Split. On average, the questionnaire took less than 15 minutes to complete.

### *Statistical analysis*

To assess differences in sociodemographic and socio-sexual characteristics between responders and non-re-

**TABLE 1**  
 SOCIODEMOGRAPHIC AND SOCIO-SEXUAL CHARACTERISTICS OF THE SAMPLED FEMALE SEX WORKERS BY COUNTRY

	Croatia (n=154)		Montenegro (n=119)	$\chi^2$
	n <sup>a</sup> (%)			
Age				
18–28	51 (33.1)		79 (66.4)	
29–39	71 (46.1)		31 (26.1)	30.64***
≥ 40	32 (20.8)		9 (7.6)	
Education				
Primary school or less	48 (31.2)		37 (31.1)	
Secondary school	95 (61.7)		74 (62.2)	.02
College	11 (7.1)		8 (6.7)	
Marital status				
Married	33 (21.6)		7 (5.9)	
In a relationship	55 (35.9)		32 (26.9)	20.60***
Single	65 (42.5)		80 (67.2)	
Employed (have a regular job)				
No	118 (77.1)		76 (63.9)	
Yes	35 (22.9)		43 (36.1)	5.75*
Age at first commercial sex transaction				
< 20	60 (39.0)		50 (42.0)	.26
≥ 20	94 (61.0)		69 (58.0)	
Number of clients in the past week				
≤ 4	92 (33.7)		59 (21.6)	
5–10	53 (19.4)		25 (9.2)	88.61***
≥ 11	9 (3.3)		35 (12.8)	
Condom use at most recent commercial sex				
No	3 (1.9)		32 (27.1)	
Yes	151 (98.1)		86 (72.9)	27.75***
Consistent use of condoms with clients (past month)				
No	38 (24.7)		67 (56.3)	
Yes	116 (75.3)		52 (43.7)	28.37***
Diagnosed with STI in the past year				
No	131 (86.2)		108 (90.8)	
Yes	21 (13.8)		11 (9.2)	1.34
Intravenous drug use (ever)				
No	98 (64.1)		60 (51.3)	
Yes	55 (35.9)		57 (48.7)	4.45*
Shared injecting equipment (past month)				
No	45 (81.8)		54 (94.7)	
Yes	10 (18.2)		3 (5.3)	2.29
Physically abused by client (past year)				
No	89 (59.3)		75 (63.6)	
Yes	61 (40.7)		43 (36.4)	.50
Sexually abused (past year)				
No	124 (82.1)		84 (70.6)	
Yes	27 (17.9)		35 (29.4)	5.00*
Basic HIV knowledge (no. of correct answers)				
0–3	23 (15.2)		28 (24.3)	
4	29 (19.2)		32 (27.8)	
5	38 (25.2)		31 (27.0)	12.82**
6	61 (40.4)		24 (20.9)	
Ever tested for HIV				
No	20 (13.2)		72 (60.5)	
Yes	132 (86.8)		47 (39.5)	66.73***
HIV risk self-assessment				
No or low risk	43 (28.5)		43 (36.8)	
Moderate risk	55 (36.4)		27 (23.1)	5.70
High or extremely high risk	53 (35.1)		47 (40.2)	

<sup>a</sup>Numbers do not always add up due to missing cases

\*Inter-group difference significant at \*p<0.5, \*\*p<.01, \*\*\*p<.001

sponders in the Croatian study, and between the Croatian and Montenegrin samples,  $\chi^2$ -test was used. Multiple logistic regressions were carried out to explore associations between indicators of sexual risk taking as dependent variables and sociodemographic and socio-sexual characteristics as independent variables (adjusted odds ratios and 95% confidence intervals are reported). Only the independent variables which were significantly associated with an outcome at univariate level were included in multivariate analyses. Significance level was set at .05 or higher. Statistical analyses were carried out with SPSS, version 16.0 (SPSS Inc., Chicago, IL, USA).

### Results

Most women interviewed in both countries had at least a high-school education (62%), were single (85%), and had no regular employment (64%). Croatian participants had fewer clients in the previous week ( $\chi^2=88.61$ ,  $p<.001$ ; the average number of clients in the past week was five in the Croatian and nine in the Montenegrin sample), and had used condoms with clients more consistently in the preceding month ( $\chi^2=28.37$ ,  $p<.001$ ) than women in the Montenegrin sample (Table 1). FSWs from Montenegro were less likely than those interviewed in Croatia to have used condoms at last commercial vaginal or anal intercourse ( $\chi^2=27.75$ ,  $p<.001$ ), more likely to have ever injected drugs ( $\chi^2=4.45$ ,  $p<.05$ ) and to have experienced sexual abuse in the preceding year ( $\chi^2=5.00$ ,  $p<.05$ ).

Croatian FSWs reported substantially higher HIV testing rates ( $\chi^2=66.73$ ,  $p<.001$ ) and a better knowledge of HIV ( $\chi^2=12.82$ ,  $p<.01$ ). Correct answers to all six UNGASS indicators were given by 40% of participants in

the Croatian sample and only 21% of FSWs in the Montenegrin sample.

Finally, a substantial proportion of FSWs in both countries (23%; 18% in the Croatian and 29% in the Montenegrin sample) reported having been sexually abused during the previous 12 months. Physical abuse was even more prevalent (39%), with similar rates in the two samples.

Interestingly, association between drug use and condom use was found only in the Croatian sample. As expected, reported drug use (ever) was significantly and negatively associated with consistent condom use in the last month ( $\chi^2=4.34$ ,  $p<.05$ ).

Of the four standard indicators of HIV-related risk taking: (1) sharing drug-injecting equipment, (2) being diagnosed with an STI, (3) not using a condom during the most recent commercial sexual intercourse, and (4) inconsistent condom use with clients, three (1–3) were judged inadequate for multivariate analysis due to no or extremely low variability in the Croatian (3), in the Montenegrin (2), or in both samples (1). The remaining indicator was regressed separately for each country on several sociodemographic and behavioural characteristics (Table 2).

Using condoms consistently in the preceding month was found to be significantly associated with four independent variables: education, HIV testing, HIV risk self-assessment, and victimization. In the Croatian sample, the odds of consistent condom use were significantly higher among participants who had high school or college education (AOR=2.89, CI=1.06–7.90) and those who had ever been tested for HIV (AOR=7.06, CI=2.05–24.27). In comparison to those who never tested for HIV, FSWs who tested were seven times more likely to have used condom consistently in the last month. In comparison to

TABLE 2  
CORRELATES OF USING CONDOMS CONSISTENTLY WITH CLIENTS

	Consistent condom use with clients (past month)	
	Croatia (n=147)	Montenegro (n=113)
	Adjusted AOR (95% CI)	
Age groups (1=29 or older)	1.07 (.40–2.84)	1.72 (.70–4.21)
Education (1=secondary or higher)	2.89* (1.06–7.90)	1.63 (.54–4.96)
Number of clients (past week)		
≤ 4 (reference)	1	1
5–10	.99 (.39–2.51)	2.78 (.90–8.54)
≥ 11	3.92 (.40–38.56)	2.19 (.75–6.37)
Married or in a relationship (1=yes)	.48 (.18–1.29)	.82 (.35–1.96)
Experience of physical and/or sexual abuse (1=yes)	1.92 (.77–4.83)	.29** (.12–.70)
HIV knowledge	1.17 (.85–1.61)	1.07 (.75–1.53)
Tested for HIV (1=yes)	7.06** (2.05–24.27)	1.79 (.76–4.18)
HIV risk self-assessment		
No or low risk (reference)	1	1
Moderate risk	.93 (.29–3.01)	.84 (.28–2.52)
High risk	.21* (.06–.73)	1.30 (.48–3.47)

\* $p<.05$ , \*\* $p<.01$

FSWs who self-assessed personal HIV risk as low, consistent condom use was almost 80% less likely among those who evaluated it as high (AOR=.21, CI=.06–.73). Only one correlate was statistically significant in the Montenegrin sample. Consistent condom use was about 70% less likely among FSWs who reported being physically or sexually abused than among those who reported no abuse (AOR=.29, CI=.12–.70).

## Discussion

The aim of this research was to explore HIV risks among FSWs in Croatia and Montenegro. The two groups differed in numerous aspects. FSWs sampled in Croatia were more likely to have used condoms consistently, and to have used them during their most recent commercial sex transaction. They were also more knowledgeable about HIV, and less likely than the participants in Montenegro to have injected drugs and experienced sexual and/or physical abuse. Two factors need to be considered when discussing different levels of risk taking in the two samples: the socioeconomic gap between the two countries (Croatia has a substantially higher standard of living than Montenegro) and possible differences in the way sex work is organized. It has been suggested that sex workers in Montenegro are strictly controlled by pimps and other organizers<sup>10</sup>.

In both countries, there is a substantial degree of overlap between injecting drug use and sex work. Close links between injecting drugs and sex work have been reported in many developing countries<sup>5</sup>, where drug-using FSWs were using condoms less often and were more likely to accept riskier sexual practices proposed by clients. Overlap between drug-using and commercial sex work populations signals a potentially rapid spread of HIV in these populations<sup>6</sup>. The association between injection drug use and sex work thus needs to be studied in more detail (our findings support the concerns that drug using FSWs are less likely to use condoms with clients), particularly in the geographic area that has experienced the social costs related to post-communist transition and rising drug abuse<sup>17,18</sup>.

It is important to address the association between violence toward FSWs and the levels of risky behaviours found in this study. Numerous studies have reported high levels of violence experienced by sex workers<sup>19–22</sup>. In a recently conducted qualitative research study among FSWs in Serbia, violence was reported as a primary risk concern of street-based SWs and was also linked to coerced unprotected sex, condom breakages, and reduced capacity to negotiate sexual safety<sup>23</sup>. Unfortunately, the criminalization of sex work in Croatia and Montenegro seriously limits the access of FSWs to protection from violent clients or pimps.

In light of substantial HIV and STI vulnerability observed in both studies, but particularly among FSWs interviewed in Montenegro, improving the existing risk reduction programs remains an important task. Aside from addressing the frequently overlapping sexual and drug-

-related HIV risks, our findings suggest that special attention should be paid to the association between FSWs' experiences of abuse with their increased exposure to HIV/STI risks<sup>24</sup>, particularly in Montenegro.

On the positive side, our study suggests that FSWs who tested for HIV may be more likely to use condoms consistently, at least in Croatia. Although a causal direction remains unclear – provided there is one (an alternative explanation would point that both HIV testing and consistent condom use may be the consequences of successful outreach activity) – the finding indicates a possibility that HIV testing and condom use are mutually reinforcing facets of personal responsibility. This should be explored in more detail in future research.

It is important to consider the limitations present in this study. Both surveys used non-probability sampling which precludes generalizations from the findings. The fact that Croatian FSWs were clients of outreach services could explain higher levels of protective HIV-related behaviours. The snowball sample in Montenegro has specific limitations, such as that the final sample likely reflects the characteristics of the initial respondents, particularly the size and characteristics of their personal networks. In addition, Montenegrin FSWs – unlike the Croatian participants – received incentive for participation, which may have resulted in a specific selection bias, inflating the proportion of drug abusing FSWs. Further limitations stem from small sample sizes (reduced statistical power) and the focus on street-based sex work, which should not be assumed to reflect experiences of other types of FSWs.

## Conclusion

This study assessed the prevalence and correlates of HIV-related risk exposure in a sample of Croatian and Montenegrin FSWs, mainly street-based. The findings indicate a need for a stronger governmental involvement in HIV prevention among FSWs, as well as for introducing legal reforms that would decrease current occupational risks and increase institutional protection of FSWs from physical and sexual abuse. In spite of a number of limitations, the reported findings could assist in improving the existing prevention initiatives, which are in their early developmental stages at this time. Whenever possible, future studies in the region should use probability sampling of FSWs<sup>25</sup> to enable more reliable comparisons and trend analysis.

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## RIZICI VEZANI UZ HIV MEĐU SEKSUALNIM RADNICAMA U HRVATSKOJ I CRNOJ GORI

### SAŽETAK

U ovoj studiji analizirani su prevalencija i determinante rizika vezanih uz HIV među seksualnim radnicama u Hrvatskoj i Crnoj Gori. Intervjui licem u lice su provedeni u Zagrebu, Splitu i Podgorici tijekom razdoblja 2006–2008. Sudionice iz Hrvatske (n=154) su prijavile manje klijenata, redovitiju uporabu kondoma, višu stopu testiranja na HIV i veće znanje o HIV-u. Sudionice intervjuirane u Crnoj Gori (n=119) imale su više slučajeva ubrizgavanja droge i seksualnog zlostavljanja u prethodnoj godini. Iako su crnogorske seksualne radnice više izložene rizicima vezanima uz HIV nego hrvatske seksualne radnice, njihova samo-procjena izloženosti riziku zaraze HIV-om bila je niža. Redovita uporaba kondoma je značajno povezana s obrazovanjem i samo-procjenom izloženosti HIV-u u hrvatskom, a u crnogorskom uzorku s iskustvom fizičkog/seksualnog zlostavljanja. Unatoč brojnim metodološkim ograničenjima, empirijski uvid pružen ovom studijom može pomoći u poboljšanju postojećih inicijativa usmjerenih na prevenciju HIV-a.