HIV seroprevalence in street youth, St. Petersburg, Russia

Allison Lynch[1], Dmitry Kissin[2], Lauren Zapata[2], Roman Yorick[1], Elena Vinogradova[3], Galina Volkova[3], Elena Cherkassova[1], Jennifer Leigh[1], Denise Jamieson[2], Polly Marchbanks[2], and Susan Hillis[2]

(1) Doctors of the World-USA, (2) Division of Reproductive Health, U.S. Centers for Disease Control and Prevention, (3) St. Petersburg City AIDS Center

Abstract

PURPOSE/BACKGROUND: This study assessed HIV seroprevalence among 313 street youth in St. Petersburg and described social, sexual and behavioral characteristics associated with HIV infection. Survey was conducted during March-May 2006 in St. Petersburg, Russia.

PARTNERSHIP MODEL: Doctors of the World (DOW) sought assistance confirming HIV test results of its 2005 HIV convenience sample of 55 street youth (31% positivity). DOW received assistance from US Centers for Disease Control and Prevention (CDC) to conduct a systematic, unbiased survey of HIV seroprevalence among St. Petersburg street youth; incorporated Russian NGO service provider partners in site selection, survey staffing. St. Petersburg City AIDS Center facilitated compliance with requirements, interagency cooperation, and clinical, virologic, and immunologic assessments for youth with positive rapid HIV tests. DOW co-designed, co-implemented, and co-staffed survey, provided follow-up services.

DESIGN/METHODS: A cross-sectional assessment was conducted which included city-wide mapping of 41 street youth locations, random selection of 22 study sites, rapid HIV testing for all consenting 15-19 year old street youth at these sites, and interviewer-administered survey.

RESULS/OUTCOME: Of 313 participants, 117 (37.4%) were HIV-infected. Subgroups with seroprevalences >60% included: double orphans (64.3%), those with no place to live (68.1%), those previously diagnosed with a sexually transmitted infection (70.5%), those currently sharing needles (86.4%), and those currently using injection drugs (78.6%), stadol (82.3%), heroin (78.1%), inhalants (60.5%). Characteristics independently associated with HIV infection included: injection drug use, sharing needles, being a double or single orphan, having no place to live, and being diagnosed with a sexually transmitted infection. Most HIV-infected street youth were sexually active (96.6%), had multiple partners (65.0%), used condoms inconsistently (80.3%). Results justify programmatic response (prevention, treatment, support). DOW, with survey partners, is beginning to implement this

Doctors of the World-USA

DOW promotes global health through the advancement of human rights, improving the underlying conditions necessary to fulfill the right to health at the community and policy levels, and increasing awareness about the negative health consequences of human rights violations. DOW projects increase access to health care for marginalized populations through initiatives that develop the capacity of local communities to provide health services that will be sustainable and long-lasting. DOW projects combat the stigma, violence, discrimination, and deprivation of liberties suffered by the most excluded and vulnerable. Establishing local partnerships and working closely with communities, DOW projects combine direct service, system development, and advocacy to ensure the broadest possible impact.

Background

- Russia has the largest HIV epidemic in Eastern Europe and Central Asia
- Adult HIV seroprevalence 1.1% (0.8%-1.8%)
- 80% of total reported HIV infections among individuals <30 y/o
- Estimated 1-3 million street youth in Russia; 5-17 thousand street youth in St. Petersburg
- Testing of convenience sample of 69 street youth in St. Petersburg by DOW-USA in 2005: 30% HIV seroprevalence

Partnership

The implementation of this survey hinged on a unique partnership:

- **Doctors of the World-USA**– After seeing high HIV seroprevalence in a convenience sample of clients, DOW contacted the CDC for assistance in conducting a more rigorous evaluation. DOW coordinated the survey, participated in study design and provided training for staff conducting the survey.
- **Doctors to Children** (St. Petersburg)– DOW's local partner provided staff to implement the survey.
- **U.S. Centers for Disease Control and Prevention** – Provided technical assistance in the design and conduct of the seroprevalence survey and personnel to help facilitate study implementation, and analysed the resulting data.
- **St. Petersburg City AIDS Center** – Participated in study design, approved study, licensed the mobile medical units used to conduct the survey, provided follow-up care for HIV infected clients identified through the survey.
- **Network of St. Petersburg NGOs working with street youth** – Provided information on street youth locations, and facilitated survey implementation with information, outreach, and support.

Methods

- **Cross-sectional study design**
- **Sampling:** Comprehensive mapping of all locations where street youth were known to or could potentially congregate (metro and train stations, street markets, feeding centeres). Of 41 locations included in the sampling frame, 22 were randomly selected to enroll approximately 300 youth.
- **Participants:** All youth at each selected site were evaluated for eligibility. Definition of street youth: 1)15-19 years of age AND 2)found at street venues without parents AND 3) at least one of the following: a) living part-time or full-time on the street, b) living out of family care, c) self-identified as street youth, d) attend school irregularly or not at all. Inclusion criteria: willing to learn their HIV status AND be able to provide informed consent. Exclusion criteria: previous participation, potential threat to project team, possibility of harm by learning HIV status.
- **Field assessment:** Vans equipped for counseling and testing, 2 mobile teams (1 driver, 1 nurse, 2 social workers), study coordinator, 4 outreach workers.
- **HIV testing:** Determine (Abbott Laboratories) rapid HIV test via fingerstick. Pre- and post-test counseling.
- **Questionnaire:** Interview-administered, self-reported demographic, social, sexual and drug-use information.
- **Follow-up:** Active follow-up of HIV+ street youth at the City AIDS Center (confirmatory testing, treatment and support)

Results

Table 1. Characteristics of street youth and HIV seroprevalence

		Total		HIV Positive	
		n	%	n	%
HIV status	Positive	117	37.4	-	-
	Negative	196	62.6	-	-
Gender	Male	198	63.3	84	42.4*
	Female	115	36.7	33	28.7
Age	18-19 years	167	53.4	73	43.7*
	15-17 years	146	46.7	44	30.1
Orphan status	Double orphan	42	13.4	27	64.3†
	Single orphan	91	29.1	43	47.3
	Not an orphan	180	57.5	47	26.1
Current place of residence	No place	72	23.5	49	68.1†
	Shelter/orphanage	19	6.2	6	31.6
	Apt. or house	216	70.4	62	28.7
Lifetime STI diagnosis	Yes	105	33.7	74	70.5*
	No	207	66.4	43	20.8
Current injection drug use	Yes	103	32.9	81	78.6*
	No	210	67.1	36	17.1
Current needle sharing	Yes	59	18.9	51	86.4*
	No	253	81.1	65	25.7
Current Stadol** use	Yes	62	19.9	51	82.3*
	No	249	80.1	64	25.7
Current heroin use	Yes	73	23.3	57	78.1*
	No	240	76.7	60	25.0
Current inhalant use	Yes	124	40.1	75	60.5*
	No	185	59.9	40	21.6

** Statistically significant at p<0.05; ** Butorphanol tartrate – narcotic-like pain reliever*

Table 2. Adjusted odds ratios for having positive HIV test result

	Adjusted OR (95% CI)
Age 18-19 years	1.8 (1.03, 3.1)*
Orphan status	
Double orphan	3.3 (2.0, 5.7)*
Single orphan	1.8 (1.2, 2.8)*
Not an orphan	Referent
No place to live	2.4 (1.4, 4.1)*
Ever lived in orphanage	2.9 (1.8, 4.5)*
Lifetime STI diagnosis	2.1 (1.1, 4.1)*
Lifetime injection drug use‖	23.0 (12.6, 42.2)*
Lifetime needle sharing	13.3 (6.2, 28.7)*
Lifetime Stadol use	19.4 (10.2, 36.8)*
Lifetime heroin use	7.3 (4.1, 13.1)*
Lifetime inhalant use	6.2 (2.8, 13.9)*

** Statistically significant at p<0.05*

DOW Follow-up Response

Following the survey, DOW implemented the **"HIV/AIDS Treatment Preparedness for Street Youth Project"** to develop and implement a **replicable community-based model to facilitate access to care, treatment, and support for HIV-positive street youth** and to **prevent HIV transmission** among street youth, including:

- Continued HIV testing and counseling (142 youth tested in past year)
- HIV prevention services (261 youth served in past year)
- Equipping and launch of new mobile medical unit to continue outreach and testing and reach more areas of the city
- Integration of HIV services into ongoing DOW initiatives, including two Drop-In Centers and emergency and transitional housing facilities.
- Development of a referral network and the exchange of client information between partner organizations to enable timely registration of youth and the regular monitoring of their health status
- Client Case Management, including expanded psychological services
- Increased staff training in outreach work, case management, social work, family assistance, and other services.
- New transitional housing facility in development for drug using HIV infected youth, as drug use and unstable housing are both significant hurdles to treatment adherence.

Conclusions

Survey Results:

- High HIV seroprevalence among street youth ages 15-19
  - Overall: 37.4%
  - Many subgroups had rates >50%
    - Highest for age group in Eastern Europe
    - Higher than commercial sex workers & MSM
- Drug use strongest modifiable risk factor
- Social and sexual characteristics also important independent risk factors
  - Orphan status, ever lived in orphanage, no place to live, previous STI diagnosis
- HIV-positive street youth engage in risky sexual and drug use behaviors → potential for spread
- Multiple sex partners, inconsistent condom use, exchanging sex for goods, needle sharing

Partnership Lessons Learned

Partners' strengths improved results and impact in all areas with no significant challenges:

1. Improved study design, project implementation, accuracy of results.
2. Strengthened documentation of need for improved prevention, treatment, and support programs and policies among high-risk youth via knowledge of HIV prevalence and related behavioral risk characteristics.
3. Created constituency among survey partners for service and policy initiatives.

This study was made possible through support provided by the following organizations: Larkin Street Youth Services, State Center for Prevention of Child Neglect and Drug Addiction, Children's Crisis Center, Center for Innovations, Foundation for Child Protection, Humanitarian Action, and Stellit.

The study and follow-up project were funded by the Ford Foundation, the MAC AIDS Fund, the World Childhood Foundation, USAID's Displaced Children and Orphans Fund, PEPFAR, Johnson & Johnson, the Hilda Mullen Foundation, Davidson College's Adopt-a-Country Campaign.