



RESPOND



STREET SMART

Assessment of the implementation
and effectiveness
of the Street SMART
Intervention in Ukraine

Executive summary

Kyiv – 2015

Introduction

In Ukraine, there is a great demand to expand access of effective HIV prevention services to most at-risk youth. However, evidence-based targeted interventions for this population remain limited. This study evaluates the fidelity, feasibility, and effectiveness of the implementation of the Street SMART intervention for most at-risk youth in the Ukrainian context. The study questions are the following: Are all the intervention components of Street SMART fully implemented? What are the local barriers to intervention replication and how can they be overcome? Did the intervention produce significant positive changes in sexual and drug risk behavior?

Intervention

Street SMART, developed by the US Center for Disease Control (CDC), combines group sessions and individual sessions with most-at-risk adolescents (MARA) in order to reduce substance use and improve social skills. It is based on social learning theory, which links feelings, attitudes, and thoughts to behavior change. Street SMART is a multi-session program conducted with six to ten youth between the ages of 12-18 over a six- to eight-week period. Each session has specific goals on HIV/AIDS and STI information, prevention of pregnancy, coping and negotiation skills, personalized risk behaviors and reducing drug and alcohol use. Group members participate in scripted and non-scripted role plays, activities, and video production. Street SMART has the following sessions:

- Session 1: Getting the Language of HIV and STDs
- Session 2: Personalized Risk
- Session 3: How to Use Condoms
- Session 4: Drugs and Alcohol
- Session 5: Recognizing and Coping with Feelings
- Session 6: Negotiating Effectively
- Session 7: Self-Talk
- Session 8: Safer Sex

In addition to group sessions, there is an individual session and community visit. In an individual session youth are given the opportunity to meet one-on-one with a facilitator. This one-on-one session provides the youth the opportunity to use and integrate all the skills and strategies learned during the group sessions to develop an HIV risk-reduction plan, tailored to their specific needs. During this session youth can be referred for additional services (e.g., medical care, mental health services, and housing), as needed. To promote awareness and utilization of available community resources and services, the youth visit a relevant community resource center such as an STD clinic, family planning center, or any health-related resource that best serves their needs.

Methods

The efficacy of a group-based HIV prevention intervention—Street SMART—was evaluated over eight months among Ukrainian street youth aged between 12-18 at risk for HIV. Adolescents were recruited across two cities by three partner NGOs in Ukraine: Odessa (one site, NGO “Faith, Hope, Love”) and Mykolaiv (two sites, Mykolaiv regional branch of the PLWH and NGO UNITUS). To form the experimental group, a delayed start approach was

used, with control participants becoming the experimental group in the following cycle. Four months after baseline, the control group entered the intervention and became the experimental group, thereby benefitting from project activities. The experimental group was surveyed at six and eight months; control group was surveyed at zero and four months. For analyses, the survey at four months for the control group, was used as the baseline survey for the experimental group. 140 individuals met the study criteria¹ and enrolled in the study. 81 of 140 participants (58%) joined experimental group after the cycle (4 months).

Distribution of the study participants by group and assessment period

	Baseline	Follow-up 1	Follow-up 2
Control group	140	No follow-up	113
Experimental group (former controls)	81	77	74

Outcomes studied included HIV knowledge and testing, coverage with preventive services and risk behaviour. Statistical analysis to measure the effectiveness of intervention was based on logistic regressions comparing experimental and control group at baseline (zero month as control participants and four months as experimental participants) and the final follow-up (four months as control participants and eight months as experimental participants).

The institutional review board (IRB) of the Ukrainian Institute on Public Health Policy reviewed the instruments and consent forms for the study and provided ethical approval prior the study. The study participants gave consent before enrolling in the study.

Limitations

In this study, the control group became the experimental after four months, so that everyone would have a chance to receive the intervention. This limited the comparability of the surveys of the control and the experimental groups for two reasons: 1) When the control group became the experimental and completed their baseline survey, they had previously completed a baseline survey as the control group. This experience with the instrument as well as previous the interaction with the interviewer could have altered their responses. For example, previous familiarity with the interviewer could have added to their comfort level and allowed them to open about certain stigmatized risk behaviors, elevating the reported level of risk. 2) The surveys completed by the control participant and the experimental participant were not simultaneous. The different temporal frames could have influenced the results. For example, changes in the political situation in Ukraine could have added to psychological distress and produced different interview results at baseline and follow-up that were not related to the intervention, but, rather, the political climate. There was a lapse of four weeks between these two surveys during which the control participant could have interacted with the experimental causing them to be influenced by the intervention, since both were recruited from the same milieu. This study only followed participants for four months. A longer follow-up period is necessary to witness any possible loss of effect over time. The validity of self-report measures of sexual behavior and substance use among youth has been established previously (Brener et

¹ Selection criteria for study were: Age - 11-18; Practices sex or uses psychotropic substances during the last 3 months; Provided informed consent; Hasn't been involved in Street SMART interventions before.

al., 1995; Orr et al., 1997; Shew et al., 1997). However, the interviewers knew whether the participant was in the control or experimental group, which could have affected the interview answers. It would have been desirable to have biological indices of reductions in sexually transmitted infections (STIs); future studies should have such markers.

Although the intervention is designed for street youth, only a small portion of the participants indeed lived on the street. Typically, an intervention's largest impact occurs among those with the greatest risk behaviors (i.e. the most opportunity for improvement). Youth who reported high rates of sexual risk and substance use at the time of recruitment were more likely to report higher rates of risk acts over time. This would call for more stringent selection criteria to target the populations that could benefit most from the intervention.

Results

Demographics. Over half of the youth were males: 56% of the control and 54% of the experimental group. The mean age of the youth was 16 years in both groups. Most youth were Ukrainian (94% of the experimental and 92% of the control group). One third of participants studied in the vocational school (31% in both groups). Nine percent of the control and 16% of the experimental group primarily resided on the street. Three participants lived in a boarding house, all of them participated in the control and intervention group both. Over two thirds of participants reported alcohol use in the past three months before the baseline (69% of the experimental and 74% of the control group). One third of youth reported illicit drug use in the past three months (36% of the experimental and 33% of the control group). The most commonly used substance was marijuana followed by hallucinogens and amphetamines. Four participants reported injecting drugs during the last three months in both groups. Seventy percent of the control and 63% of the experimental group reported vaginal or anal sex during the last six months. On average, participants from experimental group had nine sexual partners in the past six months, and the mean number of sexual partners among controls was six. Overall, no statistically significant differences in demographics and behavior patterns were found for the experimental and control group at baseline.

Fidelity. Ninety-four percent of sessions were implemented according to guidelines as assessed by the implementing facilitator. The sessions stayed true to the protocol and were completed in the allotted period of time. Sessions were rated both by independent observers and the clients. The independent observer rated sessions with a maximum score of 4 in accordance to their fidelity to the protocol: Overall, the sessions were rated as an average of 3.70 out of 4; 3.89 out of 4 in site one; 3.23 out of 4 in site two, and 3.98 out of 4 in site three. The participants rated each session with a maximum score of 5. The overall ratings were 4.94 out of 5 points.

Feasibility. The retention rate at the last follow-up (four months after the baseline) was 81% (113 of 140 participants) in the control group and 91% (74 of 81 participants) in the experimental group. Ninety-four percent (76 of 81 participants) completed eight or more sessions of Street SMART. The participants identified several barriers to the implementation of the study, such as discussing sensitive issues with males and females together, awkwardness when learning to use a condom, lack of information about drugs, bad behavior of some

participants, and personal problems with the facilitator of the session. The coordinators of the intervention identified the following barriers: 1) the inability to carry out Street SMARTSMART in formal educational institutions as it is not approved by the Ministry of Education 2) selection criteria 3) difficulties in retaining participants 4) the presence of people not involved in the intervention during the sessions 5) difficulty scheduling the sessions around school lessons 6) lack of trust in the intervention from the teenagers and the parents.

Effectiveness. The Street SMART intervention results in an increased awareness of HIV prevention and risk reduction behaviors among participants. The intervention produced significant positive changes in HIV knowledge (adjusted odds ratio [AOR] = 12.95, 95% confidence interval [CI]: 6.06-27.66) as well as results in improved coverage with prevention programs (AOR=24.34, 95% CI: 9.39-63.10), better uptake of HIV testing (AOR=9.65, 95% CI: 4.72-19.74), safer sex behavior (AOR for condomless sex in the past 6 months = 0.33, 95% CI: 0.16-0.72; AOR for condomless sex in the last 30 days = 0.19; 95% CI: 0.08-0.43); and greater likelihood of positive attitudes about using condoms (AOR=4.63; 95% CI 1.28-16.77).

Effectiveness indicators of Street SMART implementation

Indicator	Baseline		Follow-up 1**			Follow-up 2***						
	Control		Experimental		p-value**	Experimental		Control		Experimental		p-value**
	Nominator / Denominator	%	Nominator / Denominator	%		Nominator / Denominator	%	Nominator / Denominator	%	Nominator / Denominator	%	
Proportion of participants who correctly identify preventive measures against sexual transmission of HIV and know how HIV is transmitted	37/140	26.4	24/81	29.6	0.608	59/77	76.6	32/113	28.3	60/74	81.1	<0.001
Proportion of participants covered with preventive services (knowledge of VCT sites & receiving condoms in the past 12 months)	31/140	22.1	19/81	23.5	0.822	69/77	89.6	41/113	36.3	67/74	90.5	<0.001
Proportion of participants who reported being tested for HIV in the last 12 months and knew the result	25/140	17.9	20/81	24.7	0.224	46/77	59.7	25/113	22.1	52/74	70.3	<0.001
Proportion of participants who reported condomless vaginal or anal sex during the last 30 days	34/68	50	23/36	63.9	0.176	8/40	20	47/84	56	11/52	21.2	<0.001
Proportion of participants who reported condomless vaginal or anal sex during the last 6 months	67/98	68.4	39/51	76.5	0.300	16/50	32	53/84	63.1	24/55	43.6	0.024
Proportion of participants who have positive attitudes about using condoms	7/140	5	1/81	1.2	0.149	7/77	9.1	4/113	3.5	9/74	12.2	0.023
Proportion of participants who reported using condom at last intercourse with casual partner	12/21	57.1	9/16	56.2	0.957	6/9	66.7	14/17	82.4	16/17	94.1	0.601
Proportion of injecting drug users who reported using sterile injection equipment at last injection	1/3	-	1/3	-	-	0/4	-	2/2	-	0/0	-	-
Proportion of injecting drug users who reported always using sterile injection equipment within the last 30 days	1/4	-	1/4	-	-	0/4	-	2/2	-	0/0	-	-

** Follow-up 1: 6 months since recruitment and baseline interview or 2 months since transferring from control to the experimental group. Not applicable for the group without intervention.

*** Follow-up 2: 4 months since recruitment and baseline interview for the control group and 4 months since transferring from control to the experimental group (8 months since enrollment into study) for the experimental group.

**** Chi-square test or Fisher's exact test (in case of cells with expected frequencies less than 5).

Multivariate analysis of outcomes comparing control (N=140 at baseline) and experimental (N=81 at baseline) groups, binary logistic regression for each outcome

Outcomes	Baseline		Follow-up 2	
	Adjusted Odds Ratio*	95% Confidence Interval	Adjusted Odds Ratio	95% Confidence Interval
Proportion of participants who correctly identify preventive measures against sexual transmission of HIV and know how HIV is transmitted (<i>among all participants surveyed</i>)	1.22	[0.65-2.28]	12.95	[6.06-27.66]
Proportion of participants covered with preventive services (knowledge of VCT sites & receiving condoms in the past 12 months) (<i>among all participants surveyed</i>)	1.12	[0.57-2.18]	24.34	[9.39-63.10]
Proportion of participants who reported being tested for HIV in the last 12 months and knew the result (<i>among all participants surveyed</i>)	1.46	[0.67-3.17]	9.65	[4.72-19.74]
Proportion of participants who reported condomless vaginal or anal sex during the last 30 days (<i>among participants who reported vaginal or anal sex during the last 30 days</i>)	1.81	[0.79-4.16]	0.19	[0.08-0.43]
Proportion of participants who reported condomless vaginal or anal sex during the last 6 months (<i>among participants who reported vaginal or anal sex during the last 6 months</i>)	1.45	[0.66-3.16]	0.33	[0.16-0.72]
Proportion of participants who have positive attitudes about using condoms (<i>among all participants surveyed</i>)	0.25	[0.03-2.10]	4.63	[1.28-16.77]

* Odds ratio for each outcome is adjusted by sex and age (as continuous variable, years).

Conclusion

Given the fidelity, feasibility, effectiveness of the Street SMART intervention, it could be recommended for the implementation in Ukraine. Future implementation of this intervention in Ukraine should target youth who initially practice drug usage and have sexual practices. This will yield the strongest impact of the intervention. Future efforts to implement the intervention, need to ensure fidelity to the protocol to produce effective results.