

## HIV RISK BEHAVIOR AND RISK-RELATED CHARACTERISTICS OF YOUNG RUSSIAN MEN WHO EXCHANGE SEX FOR MONEY OR VALUABLES FROM OTHER MEN

Jeffrey A. Kelly, Yuri A. Amirkhanian, Timothy L. McAuliffe,  
Roman V. Dyatlov, Juliana Granskaya, Olga I. Borodkina,  
Alexander A. Kukharsky, and Andrei P. Kozlov

One of the world's newest HIV epidemics is emerging now in Russia and other countries of Central and Eastern Europe. We report on the HIV risk characteristics of young Russian men who exchange sex for money or valuables, a group that constitutes almost one-fourth of men surveyed recently in gay-identified venues in St. Petersburg. Among 96 MSM who have sex for economic gain, most reported multiple male and female partners, 45% had unprotected anal intercourse with their male partners in the past three months, and many not only received but also gave money or valuables themselves to their male partners. Relative to men who did not give sex for economic gain ( $n = 326$ ), those who did were younger ( $n = .0001$ ), less well-educated ( $p = .0001$ ), and more often unemployed ( $p = .02$ ). They also were less knowledgeable concerning even basic HIV risk reduction steps ( $p = .02$ ) and held many misconceptions about safer sex. Men who exchanged sex for economic gain had more male ( $p = .001$ ) and female partners ( $p = .01$ ) in the past three months than men who did not, and one-third had been treated for STDs. In the context of Russia's rapid cultural and social changes, economic turmoil, and gay communities not yet experienced in AIDS, HIV prevention programs must be tailored to risk patterns and dynamics different than those found in the gay communities of many western countries.

---

Jeffrey A. Kelly, Yuri A. Amirkhanian, and Timothy L. McAuliffe are with the Center for AIDS Intervention Research (CAIR), Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin, Milwaukee. Yuri A. Amirkhanian, and Olga I. Borodkina are with the Faculty of Sociology, St. Petersburg State University, Russia. Roman V. Dyatlov, and Andrei P. Kozlov are with the Biomedical Center, St. Petersburg, Russia. Juliana Granskaya is with the Faculty of Psychology, St. Petersburg State University, Russia. Alexander A. Kukharsky is with the St. Petersburg, Russia Gay and Lesbian Human Rights Center, "Krilija."

This research was supported by grant 200-99-026 from the World AIDS Foundation/Institut Pasteur, grant D43-TW01028 from the Fogarty International Center of the National Institutes of Health, and Center grant P30-MH52776 from the National Institute of Mental Health.

Address correspondence to Jeffrey A. Kelly, Ph.D., Center for AIDS Intervention Research (CAIR), Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin, 2071 North Summit Avenue, Milwaukee, WI 53202. E-mail: kdemming@mcw.edu

There is now evidence that a large scale HIV epidemic will soon emerge in Russia and in other countries of Central and Eastern Europe. During the first decade of AIDS—when HIV incidence was quickly rising in western countries, Africa, and parts of Asia—HIV rates in the former Soviet Union were very low, generally less than 200 cases per year (UNAIDS, 1998). Approximately five years after the breakup of the Soviet Union, the picture of Russian HIV epidemiology began to dramatically change. Since 1996, there has been a doubling each year in the number of new HIV infections recorded by Russian health authorities, with 70,000 cases officially reported by late-2000 (Russian Federal Centre for Prevention of AIDS, 2000). However, officially reported cases constitute only a small fraction of the true number (Pokrovski, 2001; Russian Federal Centre for Prevention of AIDS, 2000). International surveillance agencies believe that up to 700,000 Russians had contracted HIV by the end of 2000 and that the number of cases could quickly double again (United States Intelligence Council, 2000). HIV incidence in Russia and nearby countries is among the highest in the world (UNAIDS, 1999).

Within Russia as a whole, the majority of officially recorded HIV infections to date have been among injection drug users (Kozlov, 2000). Of sexually transmitted cases, approximately half have been among men who have sex with men (MSM) (Kozlov, 2000). However, it is likely that HIV will soon become predominantly a sexually transmitted disease epidemic in Russia. One reason for this is the sharp increase in rates of non-HIV STDs in the country. In 1987, syphilis rates in Russia were 4.2 per 100,000 population; there are now 263 cases per 100,000 (Borisenko, Tichonova, & Renko, 1999), and similar sharp increases have been observed over the past decade in rates of gonorrhea, chlamydia, and trichomonas (Tichonova et al., 1997; World Health Organization, 1998). The rise in STD incidence has been disproportionately concentrated among the young, where 90- to 99-fold increases in STD rates have occurred since the late-1980's (Borisenko et al., 1999; Tichonova et al., 1997; WHO, 1998). These large increases in STD rates provide evidence of changes in sexual risk practices of young people in Russia and, especially in the case of syphilis, create a background of STD prevalence that will biologically facilitate HIV transmission (Wasserheit, 1992). Also, and in contrast to patterns in western countries where many IDUs are older, Russian drug injectors are very young. Approximately one-third of IDUs in St. Petersburg, Russia's second largest city, are teenagers (Ostrovski, 1999). Taken together, these factors suggest that young and sexually active IDUs will quickly transmit HIV infection to their sexual partners, that HIV infection will become established as a prevalent STD in Russia, and that it will rapidly spread in association with both heterosexual and homosexual transmission behaviors.

A variety of social, economic, and cultural factors are also contributing to the development of Russia's emerging HIV epidemic (Kalichman et al., 2000). Social transformations including less authoritarian government controls, liberalization of values related to sexuality, increased western contact and values, and the emergence of democracy constitute major changes in post-Soviet Russia. However, the country has also experienced severe economic upheavals including the collapse of its banking system and currency, as well as massive difficulties in moving from a state-controlled to a marketplace economy. These have resulted in widescale unemployment, poverty, and limited resources for providing public health and social services (Amirkhanian, Kelly & Issayev, 2001; Kalichman et al., 2000). Under such circum-

stances, social and structural factors can influence individuals' health behavior and adversely affect their vulnerability to behavioral linked disease.

In this context of multiple enabling factors, a large-scale Russian HIV epidemic appears imminent. At the same time, the epidemic is still in its early stage, and there is a window of opportunity to undertake prevention activities that could avert a large number of infections. In early-stage epidemics, priority is needed for groups most likely to contract HIV infection and transmit infections to others, and targeted HIV prevention efforts can be very effective (Centers for Disease Control and Prevention, 1999). While there are a number of high-priority, AIDS-vulnerable populations in Russia, one especially relevant to HIV primary prevention is commercial sex workers (CSWs). Female CSWs and their male clients have often been targeted in heterosexual HIV prevention efforts in many areas of the world (Rojanapithayakorn & Hannenberg, 1996; Bhave et al., 1995; Parker, Easton, & Klein, 2000). Less-frequently studied are men who engage in commercial sex. There have been some reports showing frequent HIV risk behaviors and documenting high HIV seroprevalence among male CSWs in the United States (Elifson, Boles, & Sweat, 1992; Miller, Klatz, & Eckhold, 1998) and in other countries (Cortes et al., 1989; Ford, Wirawan, Fajans, & Thorpe, 1995; Kunawararwak et al., 1995; van den Hoek et al., 1988), but few have examined these issues among MSM in Russia or elsewhere in Eastern Europe.

In a recent study, we carried out a large scale community survey of HIV risk characteristics of men attending gay-identified venues in St. Petersburg (Amirkhania, Kelly, Kukharsky et al., 2001). This was the first contemporary study to use representative community sampling procedures to assess the HIV risk characteristics of Russian MSM, and its results showed very high prevalence of risky sexual behavior in this population. Part of the survey elicited information about whether respondents had given men sex in order to gain money or valuables. Almost one-fourth of men in the sample reported that they had done so, confirming earlier observations that these patterns are common among young Russian MSM (Borokhov, Issayev, & Stolyarov, 1990; Issayev, 1993).

Men may trade sex with other men for economic gain for a variety of reasons. One is when prostitution represents an individual's primary means of livelihood. However, and especially relevant given Russia's economic conditions, commercial sex may constitute an effort to supplement income, to gain otherwise-unavailable benefits or status, or to justify one's same-sex behavior because it can be defined as serving an economic purpose. Regardless of the motivations involved, MSM who trade sex for money or valuables—if they frequently engage in unprotected practices—are at high risk for contracting HIV infection and for transmitting HIV to others.

Given the absence of prior research with this population in Russia, we sought to examine more closely the HIV risk behavior practices of MSM who have sex for economic gain. In addition to determining the risk behavior practices of these men, we also sought to characterize their STD treatment history, HIV risk-related knowledge, condom use attitudes, behavior change intentions, perceptions concerning whether safer sex is a well-accepted peer group norm, and psychological fatalism. These characteristics were assessed because they constitute theoretically-based constructs related to high-risk behavior (Catania, Kegeles, & Coates, 1990; Fishbein & Ajzen, 1975; Fisher & Fisher, 1992; Kelly, 1995), and because they can provide in-

formation needed to guide the development of HIV prevention interventions for this population.

## METHODS

### SETTING AND PARTICIPANTS

St. Petersburg has approximately 5 million residents and is located in the country's northwest region. Before the era of social liberalization, gay men had few opportunities for open public and community socialization. Gay identified nightclubs were not allowed to operate in the Soviet era, and legal gay venues appeared in St. Petersburg only during the past decade. The largest of these are bars. Working with the leadership of a gay community nongovernmental organization (NGO), we identified all five of the city's gay clubs where MSM could be accessed in large numbers. A risk behavior survey was administered to men present in these venues in June, 2000. A survey sampling frame was created by determining each club's nights of peak attendance, conducting surveys on two nights in each club, and thereby creating a 10-event sampling schedule. Most survey events occurred on weekends when club attendance was highest. Each survey night started at approximately 11:00 PM and continued for 3 hours, until about 2:00 AM.

### DATA COLLECTION PROCEDURES

The study protocol was approved by the Institutional Research Boards of the Medical College of Wisconsin and St. Petersburg State University. Four-member field data collection teams were composed of two NGO members and two university students or faculty. Before the first data collection day, all fieldwork team members participated in a training session led by study supervisors. The team members were taught how to approach men entering the clubs and how to explain study purposes. Thus, the session established survey protocols that standardized data collection methods across all settings and sampling periods.

Men, 18 and older, entering clubs were asked to participate in the study. Field team members' personal approaches requesting survey completion were reinforced by posters and announcements in the clubs. As an incentive for completing surveys, participants received a coffee mug, a t-shirt with study logo, or a condom and lubricant kit. Each man was also asked whether he had completed the survey before. To avoid the risk of repeated survey completion by the same person, questionnaires from participants who said they had completed the survey before were marked and later discarded by data entry personnel.

Before completing the survey, participants read a cover sheet that described the study's purpose, identified the institutions conducting the study, and emphasized the anonymity of responses. Participants signed an informed consent that was kept apart from the survey. To reinforce the anonymous nature of the survey, participants themselves put their completed questionnaires in an envelope, sealed the envelopes, and placed them inside large boxes. Field team members observed the rooms where participants completed surveys, providing assistance when needed. The measure was printed in Russian. It was translated and back translated between English and Russian in order to ensure linguistic appropriateness. The survey required less than 20 minutes for most persons to complete. Across all survey events, over 80% of all men approached completed the written questionnaire.

*Demographic Characteristics.* Participants were asked their age, whether they were now in school, whether they now worked, and type of employment.

*Commercial Sex Bought or Sold.* To measure sex used for commercial purposes, respondents were asked whether they had given a man sex in exchange for money or valuables or, in a separate question, whether they ever paid a man for sex.

*Sexual Risk Behavior.* Thirteen questions measured respondents' personal sexual behavior. Participants reported their total number of lifetime male and female partners. The survey asked whether the respondent was currently in a sexual relationship with another man.

Additional questions asked the respondent to describe details about his sexual activity during the past three months. For this time period, he also reported his number of male and female partners. Respondents then indicated the number of times and the number of men with whom they had anal intercourse during the same time period. Participants who reported anal intercourse with men during the past three months used an 11-point scale (from 0% to 100%) to indicate the percentage of time condoms were used. Participants were also asked whether a condom was used during their most recent anal intercourse occasion.

*AIDS Risk Behavior Knowledge.* Using response options of "yes," "no," or "I don't know," participants were asked about the accuracy of seven statements that assessed practical knowledge about HIV transmission risk behavior and risk reduction steps. Some items on the knowledge scale and all other scales were reverse-keyed to control for acquiescent response set bias. Responses were scored to show the number of items correctly answered.

*STD Treatment History and HIV Serostatus Knowledge.* Participants were asked whether or not they had been treated for any kind of STD.

*Risk Reduction Behavior Change Intentions.* Using response options of "yes," "I don't know," or "no," participants indicated their level of agreement with five statements describing strength of safer sex behavior intentions (Sample items: "I will tell my next sexual partner to use a condom" and "I will refuse a sexual partner's pressure to have unsafe sex"). Scale scores could range from 5 (weakest behavior change intentions) to 15 (strongest intentions).

*Condom and Safer Sex Attitudes.* Participants completed a 7-item scale measuring attitudes toward the use of condoms and toward safer sex. Respondents used three options ("yes," "somewhat," or "no") to indicate their agreement with attitudes expressed in seven statements (Sample items: "Using condoms can be very pleasurable" and "Condoms show a lack of trust between partners"). Scale scores could range from 7 to 21, with higher scores reflecting more positive attitudes.

*Condom and Safer Sex Perceived Norms.* Using three-point response options, participants responded to five statements asking about the extent to which safer sex practices were a well-accepted norm among peers and sexual partners (Sample items: "Safer sex is accepted by my friends," and "My friends talk about safer sex more

than they practice it”). Scores could range from 5 to 15. Higher scores reflected stronger perceived safer sex norms.

*Fatalism.* Five statements measured fatalistic beliefs toward the future with respect to relationships and happiness (Sample items: “I am afraid of getting older,” and “I will have happy and good love relationships in the future”). Participants responded “yes,” “somewhat,” or “no” to each item. Scores could range from 5 to 15, with higher scores reflecting greater fatalism.

*Personal Contact with People with HIV/AIDS.* Each respondent was asked whether he personally knew anyone with HIV/AIDS.

*Condom Access, Experience, and Importance.* Participants were asked to indicate whether or not they have enough money to buy condoms, whether they regularly buy condoms, and whether they always have them when needed. Respondents were also asked whether or not they know how to use condoms well, whether they know how to choose the correct condoms and lubricants, and whether condoms are important to them.

Cronbach alphas were calculated for each multi-item scale. The internal consistency coefficients ranged from .52 to .72. While modest, these coefficients are in the range expected for short, field-administered scales of five to seven items. When individuals omitted a single item from a scale, the median for that item was inserted. Fewer than 3% of participants omitted any single item and less than 6% omitted one or more items of a scale

## STATISTICAL ANALYSIS

Descriptive analyses were performed to calculate frequencies, means, medians, and interquartile ranges (IQRs) for the variables in order to describe behavioral risk characteristics of the men. To explore factors related to sale of sex, univariate analyses were first performed to compare men who reported exchanging sex to gain money or valuables and those who did not. *T*-tests were used to compare the means of groups on continuous variables which met assumptions for normality of distribution, while the Mann-Whitney U-test was used to compare the group medians on non-normally distributed variables (number of past sexual partners and number of persons known with HIV/AIDS). Chi-square tests were used for univariate group comparisons on dichotomous variables.

Following the univariate comparisons, multiple logistic regression analysis was used to determine predictors of whether or not respondents had sold sex to gain money or valuables. This analysis identified factors independently associated with patterns of selling sex.

## RESULTS

A total of 434 survey respondents reported that they had male sexual partners in their lives, and this group constitutes the MSM sample. Of these respondents, 12 did not answer the question concerning exchanging sex for money or valuables and they were excluded from analysis. Of the 422 remaining respondents, 96 (or 22.7%) said that they had given sex to gain money or valuables and 326 (77.3%) had not. Men in the sample who were employed worked chiefly in culture and science (28%), busi-

ness and administration (22%), public service (22%), and construction and industry (9%). Approximately 19% were unemployed. Men who reported a history of exchanging sex for money or valuables had a mean age of 23.8 years ( $SD = 6.5$ ). With respect to educational level, 6% had not completed high school, 24% had graduated from high school, 19% had completed a technical (vocational training) school, 32% had some university education, and 19% had graduated from a university.

### HIV RISK BEHAVIOR AND RISK KNOWLEDGE

Table 1 summarizes the HIV risk characteristics of men who reported exchanging sex for economic gain. As the table shows, these men reported a mean of 74 lifetime male partners (median = 12.0, IQR = 33) and had a mean of 4.1 male partners in the past three months (median = 3.0, IQR = 4). A very large proportion of the men reported bisexual behavior. In their lifetimes, 87% of these MSM had female partners (mean = 12.7 lifetime female partners, median = 3.0, IQR = 13), and 47% also had female partners in the past three months (mean = 1.9, median = 0, IQR = 3.0). Approximately 45% of men who exchanged sex for economic gain reported that they had engaged in unprotected anal intercourse in the past three months, and one-third did not use a condom on their most recent act of anal intercourse. These men reported that, on average, they did not use a condom in about 30% of their anal intercourse acts over the past three months.

There were significant gaps in knowledge about HIV risk and risk reduction steps among men who exchange sex for valuables or money. For individual items, the percentage of men who incorrectly responded or said they did not know the correct answer were: "Washing carefully after sex helps to protect you from HIV" (56% of respondents answered incorrectly answered "True"); "It is a bad idea to lubricate condoms with oils or Vaseline" (53% incorrectly answered "False"); "If a person tells you he is HIV-negative, you don't have to follow safer sex" (50% incorrectly answered "True"); "You can usually tell from a person's appearance if he is HIV positive" (38% incorrectly said "True"); "Mutual masturbation is very safe" (37% incorrectly answered "False"); "Anal sex without a condom carries greater risk than oral sex without a condom" (33% incorrectly said "False"); and "Anal intercourse without a condom creates great risk for getting HIV (19% incorrectly answered "False").

### UNIVARIATE COMPARISONS OF MEN WHO HAVE OR HAVE NOT EXCHANGED SEX FOR MONEY OR VALUABLES

Table 1 also shows mean, median, or percentage differences between men who report or do not report a history of exchanging sex for economic gain. As the table shows, men who received money or valuables for sex had a significantly greater number of male partners in the past three months ( $p = .001$ ), female partners in the past three months ( $p = .01$ ), and number of lifetime female partners ( $p = .05$ ) than men who were not engaged in commercial sex. A higher percentage of sex exchangers had female partners in the past three months ( $p = .03$ ), and tended to have a greater number of lifetime male partners than nonexchangers ( $p = .09$ ).

With respect to AIDS-related psychosocial characteristics, men who took money or valuables for sex were younger ( $p = .0001$ ) had less education ( $p = .0001$ ), and were less likely to be employed ( $p = .02$ ) than those who did not. Men who exchanged sex for money or valuables scored lower than men who did not in their HIV

Table 1. Univariate Tests for Group Differences Between Men Who Do or Do Not Exchange Sex for Money or Valuables

Variable	Men Who Exchange Sex			Men Who Do Not Exchange Sex			Statistic	p =
	Mean (SD)	Median (IQR)	Percentage	Mean (SD)	Median (IQR)	Percentage		
<b>Demographic Characteristics</b>								
Age	23.8 (6.5)			27.3 (7.7)			$t = 4.47$	.0001
Number of persons known with HIV/AIDS	1.5 (3.3)	0.0 (2.0)		0.9 (2.5)	0.0 (1.0)		$U = 12,884$	.03
Currently employed			71			82	$\chi^2 = 5.70$	.02
Currently in school			39			35	$\chi^2 = 0.54$	n.s.
Educational level completed:							$\chi^2 = 25.20$	.0001
Not completed high school			6			2		
Graduated high school			24			9		
Technical (vocational) school			19			23		
Some university			32			23		
Completed university			19			44		
Currently in primary relationship with a man			32			35	$\chi^2 = 0.33$	n.s.
<b>Sexual Behaviors</b>								
Number of male partners, lifetime	74.2 (284.8)	12.0 (33.0)		60.6 (295.4)	10.0 (20.0)		$U = 7,787$	.09
Number of male partners, 3 months	4.1 (6.0)	3.0 (13.0)		3.1 (5.2)	1.0 (2.0)		$U = 10,770$	.001
Number of female partners, lifetime	12.7 (21.3)	3.0 (13.0)		8.0 (18.2)	3.0 (6.0)		$U = 9,433$	.05
Number of female partners, 3 months	1.9 (3.7)	0.0 (3.0)		1.0 (2.3)	0.0 (1.0)		$U = 12,271$	.01
Percentage of men reporting female partners, lifetime			87			82	$\chi^2 = 1.40$	n.s.

Percentage of men reporting female partners, 3 months	47		35	$\chi^2 = 5.00$	.03
Percentage of anal intercourse occasions in the past 3 months when condoms were used	70		90	$z = 0.11$	n.s.
Percentage of men reporting any unprotected anal intercourse, past 3 months	45		39	$\chi^2 = 1.34$	n.s.
Percentage of men reporting no condom use at last anal intercourse	34		38	$\chi^2 = 0.43$	n.s.
<b>Scale Scores</b>					
AIDS risk behavior knowledge score	4.2 (1.5)	4.6 (1.4)		$t = 2.42$	.02
Risk reduction behavioral intentions score	11.8 (2.0)	12.3 (1.9)		$t = 1.88$	.06
Condom and safer sex attitudes score	16.6 (2.7)	16.4 (2.7)		$t = 0.71$	n.s.
Condom and safer sex perceived norms score	11.5 (2.4)	11.7 (2.4)		$t = .67$	n.s.
Fatalism score	7.4 (2.0)	7.1 (1.9)		$t = 1.53$	n.s.
<b>Other Risk Indicators</b>					
Percentage of men who reported: Giving another man money or valuables to gain sex	28		18	$\chi^2 = 4.53$	.03
Past treatment for STDs	33		31	$\chi^2 = 0.85$	n.s.
Not having enough money to buy condoms	18		10	$\chi^2 = 4.74$	.03
Knowing how to use condoms very well	94		98	$\chi^2 = 3.28$	.07
Buying and having condoms available when needed	78		74	$\chi^2 = 0.75$	n.s.
Don't like to use condoms	21		26	$\chi^2 = 1.03$	n.s.
Knowing the right condoms and lubricants to use	89		90	$\chi^2 = 0.29$	n.s.

risk behavior knowledge ( $p = .02$ ) and tended to have weaker HIV risk reduction behavioral intentions ( $p = .06$ ) than nonexchangers. The groups did not significantly differ in most HIV risk behavior indicators and in condom access, availability, and importance. However, men who exchanged sex for money or valuables were more likely to indicate that they did not have enough money to buy condoms ( $p = .03$ ) and tended to report lower ability to use condoms very well ( $p = .07$ ). Interestingly, 28% of men who sold sex also reported paying another man for sex, while only 18% of men who did not sell sex bought it from another man. Thus, those men who said they had been given money or valuables in exchange for sex were also more likely to also report having given money or valuables to other men to gain sex with them ( $p = .03$ ).

### MULTIVARIATE PREDICTORS OF EXCHANGING SEX FOR MONEY OR VALUABLES

To determine their independent associations, a multiple logistic regression analysis was performed to model whether or not participants had exchanged sex for money or valuables. Demographic characteristics, scale scores, relationship status, and number of persons known with HIV/AIDS were used as predictors. Because the variables for education level and currently being in school were highly correlated, and to reduce the model's number of predictor variables, only current school status was included.

Table 2 presents results of this analysis. As the table shows, independent associations were found between not being in school ( $p = .05$ ), being of younger age ( $p = .001$ ), and having lower AIDS risk behavior knowledge ( $p = .05$ ) with exchanging sex for economic gain. Greater number of persons with HIV/AIDS known was positively associated ( $p = .01$ ) with accepting money or valuables for sex. The model correctly

**Table 2. Logistic Regression Model to Predict Whether Participants Exchanged Sex for Money or Valuables (Yes)**

Variables	Coefficient <sup>1</sup> (SE)	Exp (B)	Wald's Chi-Sq	Significance ( $p =$ )
<b>Demographics</b>				
Age (years)	-0.085 (0.025)	0.92	11.58	.001
Study now (1 = yes, 0 = no)	-0.594 (0.306)	0.55	3.77	.05
Work now (1 = yes, 0 = no)	-0.121 (0.290)	0.89	0.17	.68
<b>Scales</b>				
HIV risk behavior knowledge score	-0.174 (0.088)	0.84	3.90	.05
Fatalism score	0.106 (0.066)	1.11	2.53	.11
Condom and safer sex perceived norms score	0.007 (0.060)	1.01	0.01	.90
Condom use and safer sex attitudes score	0.055 (0.056)	1.05	0.98	.32
Risk reduction behavioral intentions score	-0.099 (0.073)	0.90	1.84	.17
Exclusive boyfriend relationship (1 = yes, 0 = no)	-0.316 (0.274)	0.73	1.33	.25
Number of persons known with HIV/AIDS	0.099 (0.042)	1.10	5.61	.02

<sup>1</sup>Model significance (Chi-Square = 38.3,  $df = 10$ ,  $p = .0001$ ); Model Goodness-of-Fit (Hosmer-Lemeshow Chi Square = 8.86,  $df = 8$ ,  $p = .35$ ); Correctly predicts 76% of cases, Number of cases used in the analysis = 387.

predicted the sex exchange status of 76% of participants (Hosmer-Lemeshow model lack of fit,  $\chi^2 = 8.86$ ,  $df = 8$ ,  $p = .35$ )

## DISCUSSION

Russia is experiencing difficult economic times. Unemployment, underemployment, and circumstances in which persons work but may not be paid are now common. Superimposed on this tumultuous economic picture is the emergence of a previously hidden gay community still inexperienced in dealing with the threat of AIDS, along with social changes reflecting increased personal freedoms and liberalized attitudes among young people concerning sex. In a society undergoing rapid social transformation and economic upheaval, the lifting of former state controls over even private behaviors, and limited avenues for social and economic advancement, patterns of using sex for personal gain are not unexpected.

In this study, and sampling in large gay nightclubs which are relatively traditional and mainstream venues for accessing MSM, nearly one-fourth of all men surveyed reported that they had provided sex to other men in order to gain money or valuables. Patterns of giving sex for tangible gain were very common. However, it is noteworthy that almost one-third of men who said they traded sex to get money or valuables from another man also said they had given other men money or valuables in order to gain sex with them. This suggests a phenomenon that may be different than traditional prostitution, possibly a pattern in which sex is both sold and bought—often by the same person—for economic purposes related to financial gain, lifestyle benefits, or status gain. Our survey did not distinguish traditional prostitution from different and more subtle activities such as providing sex in exchange for living accommodations, valuable gifts, or other types of benefits. However, the fact that respondents themselves self-defined and labeled their behavior as involving the exchange of sex for economic gain from another man indicates that these activities were purposeful and intentional.

Previous research has shown that male prostitutes often do not identify themselves as gay (Kunawararak et al., 1995). In this sample, a high proportion of MSM were bisexual (Kelly et al., in press). Men who exchanged sex for money or valuables from other men had not only a larger number of male partners in their lifetimes and in the past three months, but also a greater number of female partners in both of these time frames. Most had both multiple male and female sexual partners even in the short past three-month time period. This also suggests a diverse, complex pattern of sexuality different than that usually found in western country gay community samples. Its dynamics require additional study, especially with respect to the cultural tailoring of HIV prevention approaches.

Not surprisingly, men who exchanged sex for economic gain were younger, less well-educated, and more often unemployed than their counterparts. Quite striking was their limited knowledge concerning HIV risk practices and basic risk reduction steps. Large proportions of these men incorrectly attributed the risks associated with unprotected anal intercourse, oral sex, and mutual masturbation, and many held serious misconceptions about strategies to reduce risk. Although most men indicated that they believed their knowledge about condoms and lubricants was high, a majority incorrectly identified oil and Vaseline as appropriate lubricants for latex condoms. Such findings demonstrate the need for even basic HIV risk reduction education.

For young persons with limited education, employment, and income, selling sex for economic gain is a pattern not unexpected given Russia's economic problems. However, more than just this, liberalization in sexual values that has appeared since the mid-1980's may have created norms which make prostitution more acceptable in the eyes of some young people.

While men who exchange sex for money or valuables did not significantly differ from those who do not exchange sex on risk indicators such as percentage of condom use, their greater numbers of male and female partners and other risk-related characteristics identified here underscore the importance of HIV prevention for this high-risk community segment. In addition, levels of risk behaviors which were not significantly different between groups were usually very high in both groups. This more generally highlights the importance of increased attention to HIV prevention for MSM in Russia (Amirkhanian, Kelly, Kukharsky et al., 2001; Kozlov, 2000).

This study, like most HIV behavioral research, relied on participants' self-reports about their behavior practices. Anonymous survey methods decrease the likelihood of self-presentation bias, and sexual behavior measures similar in content and time frame to those used here have been shown reliable and valid in past research (Coates et al., 1988; Kauth, St. Lawrence & Kelly, 1992). Our questionnaire items assessing exchange of sex for money or valuables did not inquire about whether these patterns were presently occurring or had happened in the past. Because we sought to gain high participation rates of men surveyed in community venues to maximize external validity and generalizability, we did not obtain detailed data on the types of sexual practices that occurred with different types of partners. We do not know, for example, whether men who exchanged sex for economic gain engaged in unprotected insertive or receptive anal intercourse with those specific partners. Because we surveyed only men in gay clubs who reported being 18 years or older, the findings may not generalize to different groups such as younger men and those who do not attend gay-identified clubs.

Finally, research sometimes uncovers unusual phenomena that require more exploration using different methods. The nature and dynamics of sex-for-money relationships common among Russian MSM; patterns of frequent, multiple same-sex and other-sex partnerships among these men; and the role of social, cultural, relationship, and economic factors as influences on these patterns are all questions emerging from this study. Qualitative, studies may all prove useful for better understanding such phenomena and can lead to the development of HIV prevention programs appropriate for Russia.

## REFERENCES

- Amirkhanian, Y. A., Kelly, J. A., & Issayev, D. D. (2001). AIDS knowledge, attitudes, and behavior in Russia: Results of a population-based, random-digit telephone survey in St. Petersburg. *International Journal of STD & AIDS, 12*, 50-57.
- Amirkhanian, Y. A., Kelly, J. A., Kukharsky, A. A., Borodkina, O. I., Granskaya, J. V., Dyatlov, R. V., McAuliffe, T. L., & Kozlov, A. P. (2001). HIV risk behavior in a community sample of Russian men who have sex with men: A new emerging epidemic in Eastern Europe. *AIDS, 15*, 407-412.
- Bhave, G. L., Lindan, C. P., Hudes, E., Desai, S., Waglc, U., Tripathi, S. P., & Mandel, J. S. (1995). Impact of an intervention on HIV, sexually transmitted diseases, and condom use among sex workers in Bombay, India. *AIDS, 9*, (Supplement 1), S21-S30.
- Borisenko, K. K., Tichonova, L. I., & Renko, A. M. (1999). Syphilis and other sexually transmitted infections in the Russian Federation. *International Journal of STD & AIDS, 10*, 665-668.
- Borokhov, A. D., Issayev, D. D., & Stolyarov, A. V. (1990). Socio-psychological factors of

- homosexual behavior of prisoners. *Sociological Research*, 6, 93–97.
- Catania, J. A., Kegeles, S. M., & Coates, T. J. (1990). Towards an understanding of risk behavior: An AIDS risk reduction model (ARRM). *Health Education Quarterly* 11, 53–72.
- Centers for Disease Control and Prevention (1999). Compendium of HIV prevention interventions with evidence of effectiveness. Atlanta: CDC.
- Coates, R. A., Calzavara, L. M., Soskolne, C. L., Read, S. E., Fanning, M. M., Shepherd, F. A., Klein, M. H., & Johnson, K. (1988). Validity of sexual histories in a prospective study of male sexual contacts of men with AIDS or an AIDS-related condition. *American Journal of Epidemiology*, 12, 719–728.
- Cortes, E., Detels, R., Aboulaflia, D., Li, X. L., Moudgil, T., Alam, M., Bonecker, C., Gonzaga, A., Oysfuso, L., & Tondo, M. (1989). HIV-1, and HIV-2, and HTLV-1 infection in high-risk groups in Brazil. *New England Journal of Medicine* 321, 830–832.
- Elifson, K. W., Boles, J., & Sweat, M. (1992). Risk factors associated with HIV infection among male prostitutes. *American Journal of Public Health*, 83, 79–83.
- Fishbein, M., & Ajzen, I. (1975). *Belief attitude intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fisher, J. A., & Fisher, W. A. (1996). Changing AIDS risk behavior. *Psychological Bulletin* 111, 455–474.
- Ford, K., Wirawan, D. N., Fajans, P., & Thorpe, L. (1995). AIDS knowledge, risk behaviors, factors related to condom use among male commercial sex workers and male tourist clients in Bali, Indonesia. *AIDS* 9, 751–759.
- Issayev, D. D. (1993). Survey of the sexual behavior of gay men in Russia. *International Lesbian and Gay Association Bulletin*, 1, 12.
- Kalichman, S. C., Kelly, J. A., Sikkema, K. J., Kozlov, A. P., Shaboltas, A. V., & Granskaya, J. V. (2000). The emerging AIDS crisis in Russia: Review of enabling factors and prevention needs. *International Journal of STD/AIDS* 11, 71–75.
- Kauth, M. R., St. Lawrence, J. S., & Kelly, J. A. (1992). Reliability of retrospective assessment of sexual HIV risk behavior: A comparison of biweekly, 3-month, and 12-month self-reports. *AIDS Education and Prevention*, 3, 207–214.
- Kelly, J. A. (1995). *Changing HIV risk behavior: Practical strategies*. New York: Guilford Press.
- Kelly, J. A., Amirkhanian, Y. A., McAuliffe, T. L., Granskaya, J. V., Borodkina, O. I., Dyatlov, R. V., Kukharsky, A. A., & Kozlov, A. P. (in press). HIV risk characteristics and prevention needs in a community sample of bisexual men in St. Petersburg, Russia. *AIDS Care*.
- Kozlov, A. P. (2000). HIV in Russia, Belorussia, and Ukraine. *Russian Journal of HIV/AIDS and Related Problems*, 4, 11–14.
- Kunawararak, P., Beyrer, C., Natpratan, C., Feng, W., Celentano, D. D., de Boer, M., Nelson, K. E., & Khamboonruang, C. (1995). The epidemiology of HIV and syphilis among male commercial sex workers in northern Thailand. *AIDS* 9, 517–521.
- Miller, R. L., Klotz, D., & Eckhold, H. M. (1998). HIV prevention with male prostitutes and patrons of hustler bars: Replication of an HIV preventive intervention. *American Journal of Community Psychology*, 26, 97–131.
- Ostrovski, D. (March, 1999). *Programme of HIV/AIDS prevention for drug addicts in St. Petersburg, Russia*. Paper presented to the International Conference on Harm Reduction, Geneva, Switzerland.
- Parker, R. G., Easton, D., & Klein, C. H. (2000). Structural barriers and facilitators in HIV prevention: A review of international research. *AIDS*, 14, (Supplement 1): S22–S32.
- Pokrovski, V. (January, 2001). Report of the Russian Federal Centre for the Prevention of AIDS. Moscow: Russian Federal Centre on AIDS.
- Rojanapithayakorn, W. & Hannenberg, R. (1996). The 100% condom program in Thailand. *AIDS*, 10, 1–7.
- Russian Federal Centre for Prevention of AIDS (November, 2000). Moscow: Russian Federal Centre on AIDS.
- Tichonova, L., Borisenko, K. K., Ward, H., McLeus, A., Gromyko, A., & Renko, A. (1997). Epidemics of syphilis in the Russian Federation: Trends, origins, priorities for control. *Lancet*, 350, 210–213.
- UNAIDS (1998). *HIV infection in Eastern Europe*. Report of UNAIDS/World Health Organization Joint Program on AIDS. Geneva, Switzerland.
- UNAIDS (1999). *AIDS epidemic update: December, 1999*. Geneva, Switzerland: UNAIDS/World Health Organization Joint Programme on AIDS.
- United States Intelligence Council (2000). *The global infectious disease threat and its im-*

- plications for the United States*. Washington, DC: United States Department of State.
- van den Hoek, J. A., Coutinho, R. A., van Haastrecht, H. J., van Zadelhoff, A. W., & Goudsmit, J. (1988). Prevalence and risk factors of HIV infection among drug users and drug-using prostitutes in Amsterdam. *AIDS*, 2, 55-60.
- Wasserheit, J. (1992). Epidemiologic synergy: Interrelationships between human immunodeficiency virus infection and other sexually transmitted diseases. *Sexually Transmitted Diseases*, 19, 61-77.
- World Health Organization (1998). *Epidemiological fact sheet on HIV/AIDS and sexually transmitted diseases in the Russian Federation*. 1998. Geneva, Switzerland: WHO.