
HAYKA

HIV AND STI RISK FACTORS AMONG GEORGIAN YOUTH

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Despite decades of effort to raise awareness, more than a million sexually transmitted infections (STIs), including HIV, are transmitted every day worldwide. Annually, about 340 million incident cases of curable STIs are transmitted among people aged 15–49 years, and half of all incident STIs in the World occur among young adults aged 15–24 years [3,10,19,20]. Although the cultural, psychological, social and economic contributors to STI transmission among young people are well described, there remain new avenues for research which elucidates the specific factors which make young adults so vulnerable. For instance, the relative immaturity of a young person's specific immune system may be underappreciated [12], and traditional values in developing cultures may complicate outreach to this demographic.

While social media helps to bridge cultural and temporal distances between people, the nuances of actual human interactions continue to play an important role with respect to access to information and protection, and even in the relationship dynamics which influence ability to negotiate for protection. For instance, developing nations with conservative cultures tend to have less sexual education in schools, contributing to higher risk sexual behaviors, such as multiple partners and inconsistent condom use. Moreover, young females in these cultures may be at particular risk due to the relative dominance of males in society, making it more difficult for females to refuse sex or request adequate protection from a partner, thereby increasing their risk for STI/HIV infection [14,15,18].

A few studies conducted in developing countries suggest that sexual abuse or commercial sex work among young people is related to poverty, political conflicts, homelessness and displacement [1]. Studies have also identified the important role of family influence on youth risk behaviors through various mechanisms, including ingrained conventional norms and attitudes, self-regulation and education from parents about sexuality [5,7,17]. Finally, substance abuse, such as alcohol and marijuana, has been linked to the risky sexual behavior, such as an increased likelihood of intercourse and a reduced likelihood of using precautions [4,6,11,13,16]. In addition to being at higher risk for transmission, youth are also likely to encounter barriers to testing and treatment, such as lack of insurance, money, transportation, confidentiality concerns and, importantly, lack of knowledge and awareness about STIs [3,8,9].

Designing effective interventions which address these risk factors, such as cultural norms and economic disparities in access to care, requires current data and specific local knowledge. However, epidemiologic studies of STI transmission among Georgian youth are sparse. This study gathers specific information about the level of STI/HIV knowledge among Georgian youth, identifies HIV/STI risk behaviors, estimates their attitudes toward HIV/STIs and quantifies associations between socio-demographic factors and risk practices with knowledge

about HIV/STIs. Using these findings, we propose recommendations for policymakers regarding planning HIV/STI prevention programs and interventions targeting Georgian youth.

Material and methods. A cross-sectional survey was conducted, among 411 students (18–25 years old) who were recruited from private and public universities and vocational-technical training schools in three large Georgian cities: Tbilisi (the capital city), Batumi (Western Georgia) and Rustavi (Eastern Georgia).

The sampling frame was based on lists of universities, and professional or vocational-technical schools (VTS) obtained from the Ministry of Education and Science of Georgia. Random selection was performed to identify eligible students stratified by gender in each of the randomly selected schools, universities, and VTSs. From these lists of eligible students, we used simple random sampling to select study subjects for recruitment. Study subjects were invited in person to participate in the study using specially designed informational leaflets.

Before enrollment, each study participant was provided with the information about the purpose, methods, procedures, risks and benefits of the study. The study protocol was reviewed and approved by the Institutional Review Board of Health Research Union and the State University of New York, Downstate Medical Center.

The self-administered questionnaire developed for the study was used to obtain information about the knowledge, attitudes and behaviors of youth regarding HIV and STIs in Georgia. The questionnaire was piloted prior to administration in the same target group. Randomly selected students were invited to participate in the survey at their institution; the time of administration varied by institution. Students were approached by the study coordinator directly during recruitment to avoid any impression that the school's management has a direct interest in the implementation of the project. Students were completing the questionnaire in university-provided spaces. All students were informed of the voluntary and anonymous nature of the study prior to their participation. Students who were randomly selected to participate received a self-administered survey, envelope and an information sheet about the study. Upon completion, the students returned the anonymous survey using the sealed envelope.

Data was compiled and cleaned prior to analysis. Descriptive statistics and bivariate analyses were performed with SPSS (IBM), version 23.0.

Results and discussion. Out of 423 students approached, 411 agreed to participate (refusal rate 2.8%). Among study participants 139 were males and 272 females, with mean age 20.4±1.5 years (range 18–25 years). Most of them had never been married (89.2%). Almost half of the students (49.9%) always lived at the current place of residence and more than half 58.3% lived with their parents. Most (92.9%) study participants did not evaluate their economic situation as poor (Table 1).

Table 1. Sociodemographic features of the study participants

Demographic Characteristics	Frequency	Percentage
Gender		
Male	139	33.8
Female	272	66.2
Age (years)		
18-20	231	56.2
20-25	180	43.8
Marital Status		
Never Married	363	89.2
Married	32	7.9
Divorced/Separated	12	2.9
Socio-Economic Status		
Low	29	7.1
Not Low	379	92.9

Table 2. Tobacco, Alcohol, Drug Use of the Study Respondents

	Frequency	Percentage
Ever Smoked a Cigarette	242	58.9
Ever Drink an Alcohol	395	96.6
Past Month Drinking frequency		
Never	152	37.7
Once or more a month	252	62.3
Ever Tried Drugs		
Marijuana	94	23.4
Sedatives and Tranquilizers	81	20.1
Hashish	43	10.7
LSD	25	6.2
BIO	24	6
Ecstasy	23	5.8
Amphetamine/methamphetamine pills	18	4.5
Cocaine	10	2.5
Homemade amphetamine/methamphetamine	7	1.8
Codeine	6	1.5
Subutex	6	1.5
Inhalants	7	1.7
Heroin	4	1
Drug Injection Ever	3	0.7

More than half of all respondents (58.9%) had ever smoked tobacco. The mean age at inception of smoking was 15.5±3.5 years and mean age of onset for daily smoking was 16.8±2.7 years. Nearly all participants (96.6%) had ever consumed an alcoholic drink (97.1% of males and 96.3% of females) and 62.3% reported drinking once or more in the past month.

Marijuana and tranquilizers (without a doctor's prescription) were the top two most consumed drugs. Only 3 respondents,

all of whom were male, reported ever injecting drugs, and any drug use tended to be more prevalent among male compared to female respondents. (Table 2.)

Study participants were more knowledgeable about HIV/AIDS than about other STIs, though they still lacked some information about HIV/AIDS transmission routes (for example, 67.7% of respondents think that HIV can be spread by mosquitoes) (Table 3).

Table 3. HIV/AIDS and STI Related Knowledge of the Study Participants

	Frequency	Percentage
Heard about HIV infection	363	90.3
Heard about AIDS	391	97.5
Know, that there is a difference between HIV and AIDS	97	24.6
Correctly answered on questions about HIV transmission		
Eating or drinking from the same plates and cups	239	60.1
Shaking hands/ hugging/ Kissing/ living in the same house	310	77.9
Washing, changing clothes for someone who has HIV/AIDS	294	73.9
Having sexual contact	343	86.4
Sharing needles while injecting drugs	339	85.4
Breastfeeding	148	37.5
From mother to child during pregnancy or delivery	143	36
Through blood transfusion or infected blood products	323	81.4
By mosquitoes	128	32.3
By sharing one toilet	232	58.6
By using tools used by other people during manicure, pedicure, tattoo	294	74.1
Infections correctly named as sexually transmitted		
Gonorrhea	61	16.3
Syphilis	185	49.1
Chlamydia	72	19.1
Trichomoniasis	72	19
Human Papilloma Virus (HPV)	51	18.5
Correctly answered on questions about STI Symptoms		
Abdominal Pain	78	20.6
Discharge from penis/vagina	224	58.3
Itching in genital area	228	59.7
Burning or pain upon urination	197	51.6
Pain/Pelvic pain during sex	163	42.9
Genital ulcers or open sores	153	40.1
Cough	125	32.8
Sneezing	123	34.1

Sources of information about HIV/AIDS were school (33.9%), mass media (32.8%), Internet (15.4%), parents (6.4%), friends (5.9%), other (5.6%).

Only 10.1% of study participants had ever received HIV testing services, and only 50.1% reported being willing to test or re-test. Very few (1.0%) identified fear of discrimination as a barrier to testing; 2% noted concerns about confidentiality. Attitudes toward HIV-infected persons were quite positive, however, 8.3% still believe that HIV-infected people should be isolated. Also, noteworthy, about 1 in 5 (22.7%) respondents reported a belief that STI-infected persons should not seek treatment and 36.3% believe that STI-infected persons are not infectious.

Overall, 46% of respondents (90.1% males and 20.9% females) reported ever having sexual intercourse. The mean age

of sexual debut was 16.5±2.9 years. Male respondents most frequently named a random partner (31.5%) or sex worker (39.6%) as their first sexual partner, while female respondents identified their spouse (37.5%) or boyfriend (52.1%) as their first sexual partner. Most participants (92.7% (92.3% males and 93.6% females)) who reported their sexual debut reported having sex during the past 12 months. All study participants who reported having more than 5 sex partners in the past 12 months were males, and the share of occasional sex partners reported over the preceding 12 months was higher among males than females. Out of 150 respondents 15 (7 males and 8 females) reported ever having sex with a same sex partner; the mean age at first same sex intercourse was 17.7±2.7 years. Sexual behavior patterns are shown in Table 4.

Table 4. Sexual Behavior Pattern of Study Participants by Gender

	Male	Female
	N (%)	N (%)
Ever had sex	118 (90.1)	48 (20.9)
First sexual intercourse person		
Spouse	1 (0.9)	18 (37.5)
Boyfriend	2 (1.8)	25 (52.1)
Girlfriend	13 (11.7)	1 (2.1)
Random partner	35 (31.5)	1 (2.1)
Sex worker	44 (39.6)	none
Other	16 (14.5)	3 (6.2)
Have had sex past 12 months	108 (92.3)	44 (93.6)
Past 12-month sex partners number of either sex		
≤5	76 (73.8)	43 (100)
>5	27 (26.2)	none
Had an occasional sex partner over the preceding 12 months	52 (51.0)	8 (19.5)
Ever had sex with same sex partner	7 (6.5)	8 (18.6)
Past 12 months condom use frequency during anal sex with the same sex partner		
Always or almost always	2 (40.0)	NA
Rarely	3 (60.0)	NA
Condom used during last anal sex with the same sex partner	2 (33.3)	NA

In bivariate analyses, risk behaviors varied by male vs female respondent. Men were less likely to have a current permanent sex partner (44.5% vs 79.2% respectively, PR=0.2; 95% CI:0.1-0.5) and were more likely to have an occasional sex partner in the previous 12 months than women (51% vs 19%, respectively, PR=4.3; 95% CI:1.8-10.2).

Socio-economic status was significantly associated with ever having sex. Respondents with low socio-economic status were less likely to have sex in the past 12 months (6% vs 94%, respectively, PR=0.2; 95% CI:0.04-0.82) compared to respondents with a higher socioeconomic status.

A history of HIV testing was associated with reported intravenous home-made amphetamines/methamphetamines use (7.9% vs 1.2%, respectively, PR=7.3; 95% CI:1.6-33.8) and ever having a same sex partner (24% vs 5.9%, respectively, PR=5.0; 95% CI:1.5-16.5). Respondents who ever tried intravenous home-made amphetamines/methamphetamines or reported having a same sex partner were more likely to report testing for HIV compared to respondents who have never tried these substances or never had a same sex partner.

This study of Georgian youth identified some consistent themes, some discrepancies between modern Georgian youth culture and traditional values, as well as disparities between the Georgian experience and that of developed nations. Consistent with other studies, we found that almost half of respondents were sexually experienced and the mean age of sexual debut was about 16 years of age. While we also found that the vast majority of respondents have used alcohol, we did not find that this behavior correlated with high risk sexual behaviors. Also, in contrast with the preponderance of research, drug use did not correlate with sexual behaviors. However, we did find a positive association between drug use and HIV testing history among a

small group of respondents, suggesting that those who use drugs may appreciate the risk and seek testing to evaluate the presence of HIV infection.

Most of the study participants had heard about HIV/AIDS, although misconceptions about HIV transmission remained evident. Although parents were not frequently named as a source of information on HIV/AIDS, consistent with other studies, more than half of our respondents still lived with their parents. Because conversations with parents about HIV/AIDS may still be fairly sensitive in this culture, public health messages may be more effectively conveyed via mass media, schools and the Internet; sources which were cited in our study as primary means of gathering information about STIs.

This study underscores the relatively low awareness of STIs in Georgian youth, and that important misconceptions persist. Opportunities to influence transmission were also noted, such as outreach to males, who were more likely to engage in high-risk sexual behaviors than females, such as first sexual intercourse encounter with a sex worker or random partner. These gender differences increase the vulnerability of young Georgian men, and their subsequent intimate partners. Thus, public health interventions must be tailored to address cultural norms which heighten the risks associated with being a young Georgian male, or his partner.

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SUMMARY

HIV AND STI RISK FACTORS AMONG GEORGIAN YOUTH

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Designing effective interventions for youth to address STI/HIV risk factors requires local context knowledge. This study gathers information about STI/HIV knowledge among Georgian youth, identifies STI/HIV risk behaviors and quantifies associations between socio-demographic factors and risk practices with HIV/STIs knowledge. Cross-sectional survey was conducted among 411 students using self-administered questionnaire. Bivariate analysis was conducted and prevalence ratios with 95% confidence intervals were computed. Study participants were more knowledgeable about HIV/AIDS than other STIs, though still lacked information about HIV/AIDS transmission routes. Only 10.1% had ever received HIV testing. Men were less likely to have current permanent sex partner (44.5% vs 79.2%; PR=0.2; 95% CI:0.1-0.5) and more likely to have occasional sex partner past 12 months than women (51% vs 19%; PR=4.3; 95% CI:1.8-10.2). Study describes relatively low awareness of STIs in Georgian youth and revealed possibilities to influence STI transmission through designing gender-tailored public health interventions.

Keywords: Sexually transmitted infections, HIV/STI risk factors, youth, risk-behaviors, knowledge, KAP.

РЕЗЮМЕ

ФАКТОРЫ РИСКА ВИРУСА ИММУНОДЕФИЦИТА ЧЕЛОВЕКА И ИНФЕКЦИЙ, ПЕРЕДАВАЕМЫХ ПОЛОВЫМ ПУТЕМ, СРЕДИ ГРУЗИНСКОЙ МОЛОДЕЖИ

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Разработка эффективных мер по устранению факторов риска передаваемых половым путем инфекций и вируса иммунодефицита человека (ИППП/ВИЧ) для молодежи требует знания местного контекста. Исследована информация об

ИППП/ВИЧ среди грузинской молодежи, выявлено рискованное поведение, связанное с ИППП/ВИЧ, количественно определены связи между социально-демографическими факторами и рискованной практикой и знаниями о ВИЧ/ИППП. Проведен перекрестный опрос 411 студентов посредством заполняемой самостоятельно анкеты и бивариантный анализ; рассчитаны коэффициенты распространенности с 95% доверительным интервалом (ДИ). Участники исследования осведомлены о ВИЧ/СПИД более, чем о других ИППП, однако не обладают достаточной информацией о путях пере-

дачи ВИЧ/СПИД. Только 10,1% опрошенных когда-либо проходили тестирование на ВИЧ. За последние 12 месяцев мужчины реже имели постоянного сексуального партнера (44,5% против 79,2%; PR=0.2; 95% ДИ: 0.1-0.5), чаще имели случайного сексуального партнера, чем женщины (51% против 19%; PR=4.3; 95% ДИ: 1.8-10.2). Низкая осведомленность о ИППП среди грузинской молодежи ставит перед необходимостью разработки мероприятий по осведомленности и снижению распространения инфекций с учетом гендерных факторов.

რეზიუმე

ადამიანის იმუნოდეფიციტის ვირუსის და სქესობრივი გზით გადამდები ინფექციების რისკ-ფაქტორები ქართველ ახალგაზრდებში

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ახალგაზრდებისთვის ეფექტური ზომების შემუშავება ადამიანის იმუნოდეფიციტის ვირუსისა (აივ) და სქესობრივი გზით გადამდები ინფექციების (სგვი) რისკ-ფაქტორების შემცირების მიზნით აუცილებელია ადგილობრივი კონტექსტის ცოდნას.

კვლევის მიზანს წარმოადგენდა ქართველ ახალგაზრდობაში ინფორმაციის შეგროვება სგვი/აივ-ზე არსებული ცოდნის შესახებ, სგვი/აივ-თან დაკავშირებული სარისკო ქცევის გამოვლენა და სოციალ-დემოგრაფიულ ფაქტორებს, სარისკო პრაქტიკასა და აივ/სგვი-ზე ცოდნას შორის კავშირების განსაზღვრა.

ჯვარედინ-სექციური კვლევა ჩატარდა 411 სტუდენტს შორის თვითშეესებადი კითხვარის მეშვეობით. ჩატარებული იყო ბივარიაციული ანალიზი და გამოთვლილია პრევალენტობის თანაფარდობა

95% სარწმუნოების ინტერვალით (CI). კვლევის მონაწილეები უფრო მეტად იყვნენ გათვითცნობიერებულნი აივ/შიდს-ის, ვიდრე სხვა სქესობრივი გზით გადამდები ინფექციების შესახებ, თუმცა არ გააჩნდათ საკმარისი ინფორმაცია აივ/შიდს-ის გადაცემის გზებზე. მხოლოდ 10,1% გავლილი ჰქონდა ოდესმე ტესტირება აივ-ზე. ბოლო 12 თვის მანძილზე მამაკაცებს, ქალებთან შედარებით, უფრო იშვიათად ჰყავდათ მუდმივი (44.5%-ს 79.2%-თან შედარებით; PR=0.2; 95% CI: 0.1-0.5) და უფრო ხშირად კი შემთხვევითი სქესობრივი პარტნიორი (51% - 19%-თან შედარებით; PR= 4.3; 95% CI: 1.8-10.2).

ქართველ ახალგაზრდებში სგვი-ის გაერცვლება და ამ ინფექციების შესახებ არსებული დაბალი ცოდნა დღის წესრიგში აყენებს ღონისძიებების შემუშავების აუცილებლობას.