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Risk Factor of HIV Infection Among Young Agein *Voluntary Counseling Testing* (VCT) Clinics of Yogyakarta

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ABSTRACT

Introduction: HIV/AIDS is a health problem in the world. The Highest HIV/ AIDS cases in Indonesia were reported in young age groups, including in Province of Yogyakarta (DIY). Knowing the determinant and risk factors of HIVis necessary to determine effective prevention programs, especially in young agewhich one of the vulnerable populations, either because of individual and family characteristics, media influence, peer pressure, substance use and risky behavior.
Objectives: To know the relationship between risk factors for HIV infection amongyoung age in VCT clinic of Yogyakarta.
Methods: This study used a cross-sectional design and the population was young clients at VCT clinics of Yogyakarta. Samples were obtained from VCT clinics of Griya LenteraPKBI Yogyakarta and Edelweis Clinics of Dr Sardjito Hospital. Variable risk factors were obtained byquestionnaire and interviews than HIV test results was obtained from VCT clinics.
Results: Of the 62 respondents, 74.2% were female, age average were 24,4 years old, 41.9% level education were junior high school, 82.3% had migration, 62.9% received less monitoring from families, 61.3% ever use the TV / HP for pornography, 56.5% getting high sexual pressure from peers, 62.9% had been smoking and alcohol consumption, 98.4% had ever sexual intercourse, 95.2% had sexual intercourse in the last 6 months, 93.5% risky sexual intercourse, 32.3% HIV positive and 55% through heterosexual.
Conclusion: HIV infection among young people in VCT Clinic of Yogyakarta, by bivariate analysis correlated with gender, residency status, education level, relationship with parents, TV / mobile and internet used to watch pornography. However, according to multivariate analysis, HIV infection correlated with education level at senior high school and college, residing with their parents/ family and in the last 6 months are still using alcohol and illicit drugs. It is recommended to enhance more comprehensive prevention for young people in accordance with the factors associated with HIV risk behaviour.

Keywords: HIV infection, young age, individual characteristics, family, peers, media usage, substance use, risky behavior.

INTISARI

Pendahuluan: HIV/AIDS merupakan masalah kesehatan dunia. Kasus HIV/ AIDS tertinggi di Indonesia dilaporkan pada kelompok umur muda, termasuk di Propinsi Daerah Istimewa Yogyakarta (DIY). Mengetahui faktor penentu dan faktor risiko pada pasien HIV. Pemahaman tentang faktor penentu dan faktor risiko dari HIV diperlukan untuk menentukan program pencegahan yang efektif, terutama pada kelompok usia muda sebagai satu dari kelompok yang rentan, baik karena karakteristik individual dan keluarga, pengaruh media, tekanan kelompok pergaulan, dan perilaku bermasalah.

Tujuan: Untuk mengetahui hubungan antara faktor risiko infeksi HIV di antara kelompok usia muda pada klinik VCT di Yogyakarta.

Metode: Penelitian ini menggunakan rancangan potong lintang dengan populasi berupa klien muda di klinik VCT dari Griya LenteraPKBI Yogyakarta dan klinik Edelweis dari Rumah Sakit Dr Sardjito. Faktor risiko diperoleh melalui kuesioner dan wawancara sedangkan hasil tes HIV diperoleh dari klinik VCT.

Hasil: Dari 62 responden, 74.2% wanita, rerata umur 24,4 tahun, 41.9% memiliki tingkat pendidikan Sekolah Menengah Pertama (SMP), 82.3% mengalami pindahan, 62.9% kurang terpantau oleh keluarganya, 61.3% pernah menggunakan TV/HP untuk pornografi, 56.5% mendapat tekanan seksual yang tinggi dari kelompok sebaya, 62.9% mengkonsumsi alkohol dan merokok, 98.4% pernah berhubungan seksual, 95.2% pernah berhubungan seksual dalam 6 bulan terakhir, 93.5% berhubungan seksual yang berisiko, 32.3% positif mengidap HIV dan 55% melalui heteroseksual.

Simpulan: Infeksi HIV di antara orang muda di Klinik VCT Yogyakarta , berdasarkan analisis bivariat, berkorelasi dengan jenis kelamin, status tempat tinggal, level pendidikan, hubungan dengan orang tua, pemakaian TV/telepon seluler dan internet untuk melihat pornografi. Namun, menurut analisis multivariat, infeksi HIV berkorelasi dengan level pendidikan SMA dan perguruan tinggi, tinggal dengan orang tua/keluarga merekadan dalam 6 bulan terakhir masih mengkonsumsi alkohol dan obat terlarang. Dianjurkan untuk meningkatkan pencegahan yang lebih komprehensif untuk orang muda mengikuti faktor-faktor yang berhubungan dengan perilaku yang berisiko terinfeksi HIV

Kata kunci: infeksi HIV, usia muda, karakteristik individual, keluarga, kelompok sebaya, pemakaian media, pemakaian narkoba, perilaku berisiko

INTRODUCTION

Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) is currently the largest health problem in the world. Based on data published by the Joint United Nations Programme on HIV / AIDS (UNAIDS) at the end of 2010, an estimated 34 million people were living with HIV worldwide. The number of people dying of AIDS-related causes fell to 1.8 million and there were 2.7 million new infection in 2010[1].

In Indonesia, since first reported in 1987 until June 2011, were reported 66.693 cases of HIV, 26.483 cases of AIDS and 5.056 people died among it [2]. Most cases of AIDS occurred in the age group 20-29 years (46.4%), recent data showed highest rate in the same age group at 36.4%. In Province of Yogyakarta (DIY), HIV cases wereinfected 1.217 people until June 2011 and AIDS prevalence were reported 18,87 per 100.000 population (higher than the national rate 11,09 per 100,000)[2]. Furthermore, the data of Voluntary Counseling Testing (VCT) from the health departmentofficer of DIY in 2011 showed that 9.7% of newincidencewere among 15-24 years old.

AIDS, caused by viruses, but it also a behavior disease, most infected get it through sexual intercourse (70-80%) and drug abuse (10%)[3]. Among youngpeople, HIV spreads almost exclusively in two ways: unsafe sex (between malesand females, and between males) and sharing injecting drug equipment[4].

It is probable that most of the individuals in their twenties who have AIDS, is contractedHIV during their teenage years[5]. Environmental factors such as social, cultural, economic and political forcesuch as poverty, migration, urbanization, war, civil disturbance caused the vulnerable of adolescents infected by HIV[6,7] rather than information and communication technology that enables them to access the things that drives the desire for deviant behavior[8]. Yogyakarta has a large number of young people, high level of urbanization[9], easy internet accessand an increase in unemployment rate[10] that might cause the young driven to the risky behavior.

Knowing the determinant and risk factors for HIVis necessary to determine effective prevention programs, especially in young people which one of the most vulnerable groups with regard to HIV/AIDS, either because of characteristics of individual and family, media influence, peer pressure, substance use and risky behavior.

The aim of this study is to know the relationship between risk factors for HIV infection among young age in VCT clinic in Yogyakarta.

MATERIALS AND METHODS

Participants and data collection procedures

This research is a cross-sectional survey, conducted from September to October 2012. Population are young VCT clients (18-29 years old) in Yogyakarta, while the sample subject is VCT clients in two locations: Griya Lentera PKBI Yogyakarta and Edelweis Clinics of Dr. Sardjito Hospital. Data collection from Griya Lentera PKBI assisted by counselors who had been trained in filling out the questionnaire, while at the Edelweis clinic of Dr. Sardjito hospital directly conducted by researchers when clients visited the clinic. All the participants were willing to follow the informed consent form.

Parameter Measurements

This study participants filled out questionnaires anonymously and guided its contents by the researcher or team. Variables were asked in the questionnaire include individual and family characteristics, peer pressure, media usage, substance usage, risky behaviors and HIV status.Individual characteristics consisted of age, gender, level of education, status of residence and migration status. Residency status consisted of the kind of house where their lived, categorized as a boarding house, rent, parents and family house. Migration status were asked the history of their movement from one place to another.

Family characteristics include level of relationships with parents and families monitoring to respondent behavior. Relationships with parents consisted of level relationships and a sense of excitement in their interactions with parents. Family monitoring consisted of the informing family about where and with whom their when was far from home

Peer pressureconsisted of the number of their peers who did and invite to risky behavior, both sexual and drug used.Influence of the mediaconsisted offrequency of television or cell phones and internet used to watch movies/porn scenes. Substance usage consisted ofthe history and continuity of substance usage including cigarettes, alcohol and illicit drugs.

Risky behavior consisted ofthe frequency and type of risky behavior that vulnerable to HIV infection. The questions include risky sexual behavior, injecting drug use and other behaviors such as tattoos and blood donor recipient. Risky sexual behavior includes involvement in a sexual commercial (sex worker or customers), ever having anal sex (sex among males), ever diagnosed STDs (sexual transmitted disesases) both respondents and partner, do not always use condom when having sex, number of sexual partners and frequency of sexual intercourse in last 6 months[11–14].

Data Analysis

Data analysis was performed with 3 steps. The first step, we conducted descriptive analysis of each variable. The second step of analysis, we conducted bivariate analysis using appropriate correlation test to determine the relationship between each independent with dependent variable. In the third step of analysis, we conducted multivariate analysis using logistic regression to see the effect of independent variables on the dependent variable simultaneously.

RESULT AND DISCUSSION

Univariate analysis

Table 1   Individual and Family Characteristic among Young Client at VCT clinic of Yogyakarta in 2012

Variable	n (%)	Variable	n (%)
Age (mean)	24,4	Education	
Sex		Primary	13 (21)
Male	16 (25,8)	Junior High School	26 (41,9)
Female	46 (74,2)	Senior High School	16 (25,8)
Residency Status		Diploma	3 (4,8)
Board/ Dormitory	38 (61,3)	Graduate/ Post	4 (6,5)
Rent house	9 (14,5)	Relationship with Parent	
Family House	3 (4,8)	Less	16 (25,8)
Parent house	12 (19,4)	Good	46 (74,2)
Migration		Family Monitoring	
Ever	51 (82,3)	Less	39 (62,9)
Never	11 (17,7)	Good	23 (37,1)

Of the 62 respondent, average age was 24.4 years, 74.2% were female, most junior high school (41.9%), residing in board/ dormitory(61.3 %) and ever migration (82.3%). Of the 62 respondents, 46 (74.2%) of respondents have good relationship with her parents, but claimed to have received less monitoring from his family (62.9%).

Table 2.   Peer Pressure, Usage of Media and Substance Use among Young Client at VCT clinic of Yogyakarta in 2012

Variable	n (%)	Variable	n (%)
Peer Pressure		Smoking Continued	
(in sexual intercourse)		(in last 30 days)	
High	35 (56,5)	Has Used	31 (79,5)
Low	27 (43,5)	Sometime	5 (12,8)
Peer Pressure		Hasn't use	3 (7,7)
(in illicitdrugs used)		Alcohol consumption	
High	8 (12,9)	Ever	39 (62,9)
Low	54 (87,1)	never	24 (37,1)
TV/ HP for Pornography		Continuity of alcohol	
Often	5 (8,1)	(in last 6 month)	
Rarely	33 (53,2)	Has Used	20 (51,3)
Never	24 (38,7)	Sometime	8 (20,5)
Internet for Pornography		Hasn't use	11 (28,2)
Often	2 (3,2)	Illicit drug used	
Rarely	16 (25,8)	Ever	9 (14,5)
Never	44 (71)	Never	53 (85,5)
Cigarette		Continuity of IDUs	
Ever	39 (62,9)	(in last 6 month)	
Never	23 (37,1)	Has Used	4 (44,4)
		Hasn't use	5 (55,6)

About peer pressure, 56.5% respondents had high pressure related-sexual and 12.9% for drug use. Most respondents were rarely (53.2%) using the television/ cell phone media and only 29% had used internet to watch porn scenes. Of 62 respondent, 39 respondents (62.9%) had smoked and 79.5% of them had continued in the past 30 days. The majority (62.9%) of respondents had used alcohol and 71.8% of them still using it in last 6 months. Only 9 respondents (14.5%) ever used illicit drugs and 4 respondents (44.4%) were still using it in last 6 months.

Of the 62 respondents, 58 respondents having risk sexual intercourse (93.5%). Injecting drug use were only done by 4 respondents (6.5%), 1 of them do by syringe sharing. Other risk factors, only 12 respondents (19.4%) had having tattoos and 3 respondents (4.8%) had ever been blood donor recipients.

Table 3. Risk behavior and HIV status amongYoung Client at VCT clinic of Yogyakarta in 2012

Variable	n (%)	Variable	n (%)
Sexual Intercourse		**HIV status**	
Risky	58 (93,5)	Positive	20 (32,3)
Not risky	4 (6,5)	Negative	42 (67,7)
IDUs		**Transmision type**	
Used	4 (6,5)	Bisexual	3 (15)
Not used	58 (93,5)	Homosexual (MSM)	5 (25)
Other risk		Heterosexual	11 (55)
Tattoo	12 (19,4)	IDUs	1 (5)
Be blood recipient	3 (4,8)		

Based on results of HIV antibody test, 20 respondents (32.3%) were HIV-positive and 67.7% negative. Respondents were mostly positive (55%) infected through heterosexual and 25% homosexual (male).

About sexual behavior, 32.8% of respondents had first sexual intercourse at under 16 years, 86.9% had sexual intercourse with the opposite sex, 47.6% do not know the history of sexual transmitted diseases (STD) infection of the sexual partner, 49.2% claimed never infected with STDs and 42.6% did not know the presence of other sexual partner of partner. Sexual intercourse in the last 6 months had been done by 59 (95.2%) respondents, 42 (71.2%) having more than two sexual partners, 76.3% had sexual intercourse more than 12 times and 55.9% sometimes using condom when having sex.

Table 4. Sexual behavior among Young Client at VCT clinic of Yogyakarta in 2012

Variable	n (%)	Variable	n (%)
First sexual intercourse		**Sex. intercourse**	
Before or 16 years	20 (32,8)	(in last 6 month)	
After 16 years	41 (67,2)	Has Had	59 (95,2)
Type of Sex. Intercourse		Hasn't Had	3 (4,8)
Homosex	5 (8,2)	**Number of Sexual partner**	
Bisex	3 (4,9)	1	14 (23,7)
Heterosex	53 (86,9)	2	3 (5,1)
STDs History of Partner		More than 2	42 (71,2)
Ever	7 (11,5)	**Frequency of sexual**	
Don't know	27 (44,3)	**intercourse**	
Never	27 (44,3)	Less than 6	6 (10,2)
STDs History of respondent		6 – 12	8 (13,6)
Ever	12 (19,7)	More than 12	45 (76,3)
Don't know	19 (31,1)	**Condom used**	
Never	30 (49,2)	Always	18 (30,5)
Other sexual partner		Sometime	33 (55,9)
Has Had	17 (27,9)	Never	8 (13,6)
Don't know	25 (41,0)		
Hasn't had	19 (31,1)		

Bivariate analysis

Age in this study showed no significantly correlation (p = 0.487) with HIV status. This is due to the subjects in this study were VCT clients who are mostly at-risk groups that have risk behaviors did not differ at various age levels, as seen in the data of studies showing no difference by age of respondents risky behavior. Other study with different result show that older age had significantly association with HIV infection[11,15]. It can happen because older young age more actively in sexually activity[16].

Gender in this study showed significantly correlation(p = 0.000) with HIV infection. Young women tend to not infected by HIV. This happens because young men was more likely to have risky sex than women[16].The this study similar with case of HIV/AIDS in Indonesia, which also showed the majority of AIDS patients were male (72.3%).

Table 5. Bivariat analysis of individual and family characteristic related with HIV infection among Young Client at VCT clinic of Yogyakarta in 2012

Variable	HIV +	HIV −	p	r
Age	–	–	0,487	0,090
Sex			0,000	0,460
Male	11 (68,8)	5 (31,2)		
Female	9 (19,6)	37 (80,4)		
Residence status			0,000	− 0,496
Board/Dormitory&Rent house	9 (15,1)	38 (80,9)		
Family &Parent house	11 (73,3)	4 (26,7)		
Education			0,000	−0,470
Primary - Junior High School	6 (15,4)	33 (84,6)		
Senior High School – College	14 (60,9)	9 (39,1)		
Migration			0,311	− 0,131
Ever	15 (29,4)	36 (70,6)		
Never	5 (45,5)	6 (54,5)		
Relationship with Parent			0,017	0,303
Less	9 (56,2)	7 (43,8)		
Good	11 (23,9)	35(76,1)		
Family Monitoring			0,174	0,173
Less	15 (38,5)	24 (61,5)		
Good	5 (21,7)	18 (78,3)		

Residency status of respondents showed significantly correlation($p = 0.000$) with HIV infection. Respondent who reside in board or dormitory or rent house tend to not infected by HIV. Young age who living in board or dormitory or not living with parent or family, tend to have good relationship with their parents. Its way for them to get messages and advice to avoid risky behaviors. Different with other similar research that showed HIV infection among young age was related to not living with their parents[13]. In addition, survey result showed that parent communicaton and monitoring may play an important role in reaching youth early with preventon messages[17]. Related to these findings, the parents and families need to always maintain communication and supervision of young age, especially related attitudes and behaviors that may increase the risk of contracting HIV.

Education level of respondents showed significantly correlation($p = 0.006$) with HIV infection. Primary – Junior high school leveleducation tend to not infected by HIV. Other similar research showed different result, as low education level was one of the predictors of HIV infection in women[13]and young men with low levels of education-related HIV risk behaviors[18]. In this research,higher education (SMA-PT) had tend to get higher peer pressure, more frequently in media us to access pornography, had a history of smoking and alcohol use and riskier sexual behavior than lower education level. Its increased respondents to behave at risk of contracting HIV.

Migration status in this study showed no significantcorrelation ($p=0.311$) withHIV infection.It happaned because most of respondents (82.3%) have ever migration so that it was not comparable to other variable. Nevertheless, the data showed that

respondents who had migrated tend to have risky sexual behavior, although not associated with HIV infection.Other study had similar result showed that young people who leave school later migrated with his parents to Beijing, had high vulnerability to HIV infection[19].

Data in this study indicate that there wereat least 50% of the respondentsinfected by HIV outside of Yogyakarta. This suggests that Yogyakarta is not potentially location of HIV transmission, however, Yogyakarta were the favourite treatment location because only 7 respondents (35%) coming from Yogyakarta, the othercome from outside Yogyakarta.

Relationships with parents in this study correlated with HIV infection(p = 0.017).Good relationship with parent can be an important means toavoid young peopleby the contagion environment. Good communication with parents causes young would not tend to engage in sexual relationships[20]. Therefore, parents need to keep good relationship with the child and to follow the developments in the dynamics of his life.

Family monitoring in this study showed no significantcorrelation (p = 0.174) with HIV infection.Although, this study found that lacking of monitoring family of young people tend to risky sexual behavior. Other study with similar result showed that youth with high risk behavior tend to be done by those who lack monitoring from caregivers / parents[16,21].

Table 6. Bivariat analysis of Peer pressure and media usage related with HIV infection among Young Client at VCT clinic of Yogyakarta in 2012

Variable	HIV +	HIV −	*p*	r
Peer Pressure (Sexual Intercourse)			0,697	0,049
High	12 (34,3)	23 (65,7)		
Low	8 (29,6)	19 (70,4)		
Peer Pressure (illicitdrugs used)			0,418	0,146
High	4 (50)	4 (50)		
Low	16 (29,6)	38 (70,4)		
TV/ HP for Pornography			0,037	0,265
Often&Rarely	16 (42,1)	22 (57,9)		
Never	4 (16,7)	20 (83,3)		
Internet for Pornography			0,002	0,395
Often&Rarely	11 (61,1)	7 (38,9)		
Never	9 (20,5)	35 (79,5)		

Peer pressure (related-sexual intercourse) in this study showed no significantly correlation (p = 0.697) with HIV status. It happened because peer pressure does not directly influence to HIV infection, but effect on risk behavior. The data of this study indicate higher peer pressure (sexual intercourse) in young men associated (p = 0.013) with risky sexual behavior. It be done because influence of peer pressure are more likely at risk of contracting HIV, because they would take drugs and have multiple sex partners and unsafe sex[22]. A similar result study found that higher proportion of close friends (peers)

who started the sexual intercourse, will improve their chances to emulate, including the number of sexual partners[23].

Peer pressure (related-illicit drug use)showed no correlation (p = 0.250) with HIV status.It happened because peer pressure does not directly influence on HIV infection, but effect on risk behavior. Other similar result study showed that peers were strongly associated with substance used, but not directly related to the use of condoms in sexual intercourse[24]. Peer pressure (related-illicit drugs) was associated with injecting drug use and other risky behaviors (Tattoos donor and recipient). Peers not only can establish the behavior of injecting drug use, but also be powerful predictor of use of non-sterile needles[25]. This happens because peer group can influence and

reinforce norms and values †, shaping social and cultural identity and provide a model of behavior, but in the perspective of health, peer influence can be protective factors and risk factors[26].

Media use, both TV/HP (p = 0.037) and internet (p = 0.002) showed significant correlation with HIV status. Frequency HP and internet related with sexual sensation seeking[8] which would increase desire have sexual intercourse. It would increased the risk to infected by HIV because young people who frequently access to internet and social networks were more widely used to seeking for sexual partners[27] and it has a significantly higher risk of STDs and HIV infection[28] because it can increase their chances to get the infected individuals.

Table 7. Bivariat test of substance used related with HIV infection among Young Client at VCT clinic of Yogyakarta in 2012

Variable	HIV +	HIV −	p	r
Cigarette			0,814	0,030
Ever	13 (33,3)	26 (66,7)		
Never	7 (30,4)	16 (69,6)		
Smoking Continued			0,375	- 0,113
(last 30 days)				
Has Continued	10 (27,8)	26 (72,2)		
Hasn't Continued	10 (38,5)	16 (61,5)		
Alcohol consumption			0,744	- 0,041
Ever	12 (30,8)	27 (69,2)		
never	8 (34,8)	15 (65,2)		
Continuity of alcohol			0,098	-0,210
(in last 6 month)				
Has Continued	6 (21,4)	22 (78,6)		
Hasn't Continued	14 (41,2)	20 (58,8)		
Illicit drug used			0,133	0,205
Ever	5 (55,6)	4 (44,4)		
Never	15 (28,3)	38 (71,7)		
Continuity of drug used			0,095	0,240
(in last 6 month)				
Has Continued	3 (75)	1 (25)		
Hasn't Continued	17 (29,3)	41 (70,7)		

Tobacco use (history, p = 0.814 and continuity, p = 0.375) in this study showed no correlationwith HIV status. Smoking does not directly influence on HIV infection, but effect on risky behaviors. This study showed association between continuity smoked in the past 30 days with history of drug use. Other similar result study showed that smoking was not associated with HIV infection, but related to drug abuse[29]. Related to this, the efforts to stop smoking and drug abuse needs to be done at young people.

Alcohol consumption (history,p = 0.744) and continuity, p = 0.098) in this study showed no correlationwith HIV status. Alcohol consumption does not directly influence on HIV infection, but effect on risky behaviors. This study also showed that history of alcohol consumption (p = 0.002) in young

men associated with not using condom during sexual intercourse in last 6 months. It happened because alcohol can influence on the increase of sexual desire and it may contibuted to HIV risk behavior[30].

Illicit drugs used (history, p = 0.133 and continuity p = 0.095) in this study showed no correalation with HIV status. It happened because illicit drugs used does not directly influence on HIV infection, but on risky behaviors. These results contrast with the results of a national survey of risk behaviors in the United States found that young people who use hazardous materials on a whim or for years, they are more likely to engage in high-risk behaviors such as unprotected sex. Other study showed that one of HIV risk factor in young men, were the use of drugs[18].

Table 8.   Bivariat test of risk behaviorrelated with HIV infection among Young Client at VCT clinic of Yogyakarta in 2012

Variable	HIV +	HIV −	*p*	R
Sexual Intercourse			1,000	0,041
Risky	19 (32,8)	39 (67,2)		
Not risky	1 (25)	3 (75)		
IDUs			1,000	− 0,041
Used	1 (25)	3 (75)		
Not used	19 (32,8)	39 (67,2)		
Other risk			0,349	0,122
Present	6 (42,9)	8 (57,1)		
Not present	14 (15,5)	34 (70,8)		

Risky sexual intercourse (p = 0.748) in this study showed no correlation with HIV infection. Its caused weakness of this study that categorizes risk sex based on many criteria, so that almost all respondents (93.5%) categorized risk in sexual intercourse, while the main risk factors of transmission, the use of condoms is not a major question items, but included

in question of sexual intercorse in the last 6 months.

Injection drug user (IDU) in this study showed no correlation (p = 0.748) with HIV infection. Nevertheless, the one IDU users who share syringes in this study were infected by HIV. This can happen because the HIV virus can be transmitted through shared needles used to inject drugs[31].

Table 9. Bivariat analysis of sexual behavior related with HIV infection among Young Client at VCT clinic of Yogyakarta in 2012

Variable	HIV +	HIV −	*p*	R
First sexual intercourse			0,746	- 0,041
Before or at 16 years	6 (30)	14 (70)		
After 16 years	14 (34,1)	27 (65,9)		
Type of Sex. Intercourse			0,000	0,556
Homosex − bisex	8 (100)	0 (0)		
Heterosex	12 (22,6)	41 (77,4)		
STDs History of Partner			0,674	0,077
Ever	3 (42,9)	4 (57,1)		
Don't know − never	17 (31,5)	37 (68,5)		
STDs History of resp.			0,001	0,445
Ever	9 (75)	3 (25)		
Don't know − Never	11 (22,4)	38 (77,6)		
Other sex. partner of part			0,040	0,325
Has Had	8 (50)	8 (50)		
Don't know	10 (38,5)	16 (61,5)		
Hasn't had	2 (10,5)	17 (89,5)		

Age of first sexual intercourse in this study showed no correlation (p = 0.746) with HIV infection. This is because the age of first sexual intercourse is not directly lead to HIV infection, but if the risky sexual behavior with partner who has been infected. Related to this, the data showed that respondents who have sex the first time before 16 years old, were engage torisky sexual intercourse.Other study showed the similar result that sexual intercourse in younger people carried at risk of contracting STDs, including HIV[32]. Therefore, for young people who have not started sexual activity, delayed sexual intercourse were an important strategy to be applied[32]. Delayed sexual intercourse among young people can be done by high of parental monitoring[32], good communication between parent and child[20] and parents state the disagreement to sexual intercourse in young age[33].

Type of sexual intercourse in this study showed significantly correlation (p = 0.000) with HIV status with tend to same-sex sexual intercourse. It happened because sexual behavior of homosexual groups (of men) may cause anal injury and it can more easilyinfected by HIV. National survey of young risk behaviors in the United States was also getting the same thing, that young people who have sexual relations among men, especially for certain racial groups have high number of new HIV infections[17].

STDs history of sexual partner showed no correlation (p = 0.674) with HIV infection. This can occur due to the weakness of the study that justused questionnaire. Information bias may be occured because ignorance by respondent about STDs of his sexual partnerthat sometimes do not show physical symptoms. These results was contrast to Dorjgochoo et al. (2009) which states that HIV infection at young age were more likely to respondents who had sexual partner with STDs infection history.

Respondents with history of STDs showed significantly correlation (p = 0.001) with HIV infection. Respondents who do not know and have never been infected STDs tend to not infected by HIV. It can be explained that occured STD infection, indicatedthat sexual intercourse be done, were

unsafe or unprotected, this increases the risk contracting by HIV. These risks can occur due to unprotected sexual behavior and genital injuries due to STDs facilitate HIV infection[13].

The presence of other sexual partner of respondent partner in this study showed significantly correlation (p=0.040) with HIV status. This finding is similar with Dorjgochoo et al. (2009) which states that HIV infection in young women one of which relates to the suspicion that a sex partner has another partner. It can be explained that the presence of sexual partner other than the respondent parnert increases the chances of contracting HIV and then can transmit to the respondent.

Table 10. Bivariat analysis of sexual behavior in last 6 month related with HIV infection among Young Client at VCT clinic of Yogyakarta in 2012

Variabel	HIV +	HIV −	p	r
Number of Sexual partner (in last 6month)			0,000	− 0,669
2 or More	6 (13,3)	39 (86,7)		
1	12 (85,7)	2 (14,3)		
Sexual Frequency (in last 6month)	12 (22,6)	41 (77,4)	0,001	− 0,508
6 − 12 and More 12	6 (100)	0 (0)		
Less than 6			0,360	0,119
Condom used (in last 6month)	14 (34,1)	27 (65,9)		
Sometime & Never	4 (22,2)	14 (12,5)		
Always				

Number of sexual partner showed signifcantly correlation (p = 0.000) with HIV infection. Cross tabulation showed that respondent who had 2 or more sexual partner tend to not infected by HIV. This may occur because sexual intercourse that be done were safe, protected or sexual partner not infected by HIV. This finding contrasts with results of study[11]which states that HIV infection at young age relates to the number of their sexual partners. Although other study showed that has a lot of number of sexual partners did not increase the risk of contracting HIV[13], having multiple sexual partners or even having a new partner puts adolescents at risk for STI because of a higher chance of exposure to an infected individual, but also because prevention behavior (e.g.,condom use) changes with new or different partners[32].

Frequency of sexual intercourse in last 6 month showed significantly correlation (p=0.001) with HIV infection. Cross tabulation showed that fewer sexual intercourse tend to infected by HIV. It happened because the limitation of research that could not uncover the truth of respondent answered. Its caused some secret and privacy answered or its wrong answered because could not remembered. This result different with general theory that revealed HIV infected correlation with higher sexual intercourse[31].

Condom used in this study showed no correlation (p = 0.360) with HIV status. It happened because measures of condom used only in sexual intercourse last 6 months and researchers can not confirm the honesty of respondents' answers related to the use of condoms as only using questionnaire.

Multivariate analysis

Logistic regression test showed that HIV infection among young age may be related with: residing, continuity of alcohol use, education level and continuity of drug use. It can be explained that young age with senior high school-college level education, typically getting trust from parents than lower education, so they would get less monitoring. Higher Education level at young age also generally have better skills in using media as they wish, but the frequency of use of media among young age associated with sexual sensations seeking[8], which can increase sex desire and associated also with looking for sexual partners through these media[27]. This increases their exposure to HIV risk behaviors. In addition, continuity of alcohol and drugs consumption will increase their risk for engaging in risky sexual behavior HIV[18,21,34].

Modelof HIV infection among young people that was obtained from this study can not be used to good predict. Although, the probabilities amounted to 68.76%, but its AUC value were not good and getting bad in calibration test results.

The limitations of our cross-sectional study include the temporal ambiguity inherent in assessing causal or predictive inferences from these associations. We may have encountered social response bias in some subjects because highly sensitivesexual behavioral information relied on self-report. Although the questionnaire was administrated with limited interviewed, its not sure to eliminate information bias. Other limitation were small sample size and subjects may not represent the general population becausethey may have come for HIV testing for a variety of reasons.

Based on these results, it is recommended to improve information dissemination on HIV, increasing instruction to the risk group especially homosex community, substance use (cigarettes, alcohol and illicit drugs) control of among young age through facilitating and creation of conducively environment.

CONCLUSION

HIV infection among young people in VCT Clinic of Yogyakarta, by bivariate analysis correlated with gender, residency status, education level, relationship with parents, TV / mobile and internet used to watch pornography. However, according to multivariate analysis, residing with their parents/family, higher education level and in last 6 months are still using alcohol and illicit drugs.

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