

SEXUAL BEHAVIORS OF ALCOHOL DRINKERS AND NON-DRINKERS AMONG ADOLESCENTS AND YOUNG ADULTS IN NHA TRANG, VIETNAM

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Abstract. A cross-sectional quantitative survey was conducted during August to November 2005 with 880 youths (16-24 years-old), including 412 males and 468 females in Nha Trang city, Vietnam. It aimed to examine the association between alcohol use and sexual behaviors by gender difference. The data revealed that the majority of respondents (65.9%) had consumed alcohol, 25.8% had sexual touching with boy/girl friends, and 10.1% of respondents had engaged in sexual experiences including vaginal sex, anal sex, and/or oral sex. Young men were significantly more likely to drink than young women were ($p < 0.001$), and alcohol use was significantly associated with engagement in sexual experiences ($p < 0.001$). There was a strong significant difference between sexual touching and alcohol drinking among males ($p < 0.001$) and females ($p < 0.001$). Forty percent of young men who did not use condom in last sex and 45% of young men who had multiple sex partners were drinkers compared to 4.8% and 1.6% of non-drinkers, respectively. These significant findings will be baseline data for integrating and adapting into intervention programs for alcohol and HIV among Vietnamese youth.

INTRODUCTION

There are several explanatory perspectives concerning alcohol consumption and risk-taking behaviors. These include that alcohol has a direct effect on mood and behavior, alcohol consumption can serve as an excuse for 'socially proscribed behavior', and alcohol affects cognitive processing. Expectations concerning alcohol use have been shown to affect the amount of alcohol consumed, with individuals who express positive expectations being more likely to drink heavily,

and potentially more likely to engage in risky behaviors. Alcohol consumption may also decrease expectations about the negative consequences of engaging in risky behaviors (Froome *et al*, 1997).

Abdullah *et al* (2002) conducted research among male and female clients at two sexually transmitted disease clinics in Hong Kong. Those who were diagnosed with an STD were more likely to be male, never married, smokers, alcohol users, and to have engaged in casual sex or sex while traveling. In addition, those who reported that they had engaged in casual sex were more likely to have used alcohol. Among other regional studies (World Health Organization, 2001), studies of university students in the Republic of Korea showed that frequency of alcohol consumption was positively associated with number of sexual

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partners; and in Nepal, young men who consume alcohol were almost four times as likely to engage in casual sex as young men who do not drink alcohol. In Thailand, a study (Celentano *et al*, 1993) of over 2,400 military recruits (ages 19 to 23 years), showed that socio-economic status, early first intercourse, and substance use (including alcohol) were all associated with visits to commercial sex workers. At two sexually transmitted disease clinics in the Mekong Delta, Vietnam, a study was conducted among 804 males. While all of the men had at sometime visited a commercial sex worker, factors associated with a visit in the past three years included being single, under 20 years old, having the first sexual intercourse with a commercial sex worker, not having a current girlfriend, and using alcohol before sex. Among university students in Ha Noi and Ho Chi Minh City, 62% of females and 70% of males felt that alcohol "facilitates" casual sex (World Health Organization, 2001).

Over the past several years, increasing evidence has suggested that alcohol use is a predictor of unsafe sexual behaviors, including inconsistent condom use and multiple partners, as well as increased risk among men of sexual relations with commercial sex workers. Among these studies is a small body of research from Southeast Asia, including Vietnam (Celentano *et al*, 1993; Thuy *et al*, 1999; Abdullah *et al*, 2002). At this time, however, there is very little information regarding alcohol consumption patterns and contexts in Vietnam, particularly concerning adolescents and young adults. The concomitant risks of exposure to HIV and other STDs, unwanted pregnancy, and the multiple health problems associated with alcohol abuse suggest a real need to integrate efforts to address these issues. There is clearly a need for more research on alcohol consumption in Vietnam, particularly in relation to the socio-cultural contexts of drinking for young men and young women,

and sexual risk behaviors.

Therefore, this study was designed to examine the relationship between alcohol use and sexual behaviors among adolescents and young adults. Specifically, the study aimed to explore the prevalence of alcohol use and sexual behaviors of the study sample; and the association between alcohol use and sexual behaviors, by gender difference.

MATERIALS AND METHODS

Development of survey instrument

The survey instrument was based on the Vietnamese-Youth Health Risk Behavior Instrument (V-YHRBI) and adapted existing scales that contain several subscales, including participation in sexual risk behaviors, condom access, alcohol use, and sexual-risk protective behaviors (including abstinence and condom use).

Measurements

Demographic factors were age, religion, education, and socio-economic status. Lifestyle factors were measured by technology/internet use, employment, expenses, and recreation. Alcohol use, measured by yes/no options, consisted of question about whether they had ever drunk alcohol. Sexual behaviors were described as: sexual touching, sexual experiences, multiple sex partners, condom use, and abstinences in this study.

Pilot survey

A pilot of the survey instrument was conducted to assess both statistical validity and reliability of the instrument. The survey was administered to 60 youth (5 females and 5 males per commune), aged 16-24 years, living in the six study communes. A test-retest strategy was utilized to assess reliability, and the youth repeated the questionnaire after three weeks.

Consent procedures

The protocol and survey instrument were

submitted to the Institutional Review Board of the University of Maryland Baltimore's School of Medicine and the ethical review committee of the Khanh Hoa Provincial Health Services. A written consent/assent form in Vietnamese was used. Consent/assent was obtained from the interviewee immediately prior to the interview.

Study design and population

A cross-sectional survey was conducted among 880 participants, including 412 males and 468 females, from August to November 2005. The research population included currently unmarried adolescents, between the ages of 16 and 24, who residing in the six-selected commune research sites (three central city communes and three semi-rural communes). They were identified from the census data of Nha Trang City, Vietnam.

Study site

Nha Trang is the provincial capital of Khanh Hoa Province, which is located in South Central Coastal Vietnam. Khanh Hoa Province is bordered to the east by the South China Sea and to the west by a rural mountainous region. The 1999 provincial population was 1,031,000. There were 132 communes in the province, including 26 in Nha Trang, and the population of this city was 327,500.

Sample recruitment

These data were stratified by gender, and survey participants were randomly selected. Only one resident per household was eligible to participate. Once a respondent was selected, a community assistant/recruiter went to that house, to confirm that the individual was still living in the household and unmarried, and invited him/her to participate in the survey. The respondents were given an invitation to participate in the survey, and a date was scheduled for an interviewer to come to the house.

Data collection

The survey was administered one-on-one at the participant's house or at a local public location (eg, commune health centers). Private

rooms or spaces were available to conduct the interviews at the public locations. Due to the sensitive nature of some of the questions, young men were interviewed by men and young women by women. The interviewer read through the instrument, and the interviewee marked his/her response on a second copy of the instrument, to ensure confidentiality.

Data analysis

Data was double entered to into the SPSS data-entry program, version 4.0, and SPSS version 11.5 was used to analyze the data. Demographics, lifestyles, and sexual behavior data were described using frequencies. Prior to inferential statistical analysis, variables were created for respondents' total scores on each variable to assess gender differences between male/female drinkers and nondrinkers. Pearson's chi-square, Yates' corrected, Fisher's exact, and *t*-test were used for data analysis.

RESULTS

Demographics

The respondents included 46.8% men and 53.2% women. The mean age of the sample was 20.1 years (SD = 2.624): 44% were between the ages of 16 and 19 years, and 56% were between the ages of 20 and 24 years. Approximately 46% of the respondents reported that they were currently in school at the time of the survey, including about 48% who were in high school. Among those respondents who were not currently in school (44.9%), 36% had finished high school and 35% secondary school, respectively.

Lifestyles

The result showed 45.2% of respondents were working, with 6.0% of youth who were both in school and working. A total of 14.8% were neither in school nor working. There were 59.9% of youth who had used the internet, including 45.5% who used email and 35.2% who used the internet 2-3 times a week. The

bicycle was most commonly personal possession reported among the participants, followed by motorbike, computer, and cell phone. Among employed youth, the mean monthly income was 736,729 vnd (\approx US\$46). The average for expenses was 250,179 vnd (\approx US\$16). The respondents reported that, within the previous month, they spent most time at cafés, followed by park/beach, restaurant, karaoke, and drinking house.

Gender relations and sexual behaviors

Approximately 54% of youth reported having had a boy/girl friend (Table 1), the average number of boy/girl friends was 2.2 (range: 1-25). Of those, 67.2% currently had a boy/girl friend. The average age of the current boy/girl friend was 22.4 years (14-37) and the average duration of the relationship was 19 months. A total of 9.5% of youth reported sexual intercourse (vaginal sex). Of those, 57.1% have had sex in the past 6 months, and 4.8% were either themselves, or their partners, pregnant. Twelve youths (1.4%) responded as having had anal sex. Of these, 50.0% used a condom. Seventeen youths (1.9%) had ever had oral sex. Of these, only 20.0% used a condom. More than 10.0% responded, "any sex"; youth who had engaged in either oral, anal, or vaginal sex. This study showed that the average number of sex partners was 1.6 (range: 1-5), and the average age of the most recent sex partner was 27.6 (16-35 years-old). Of those reporting "any sex," only 39.1% stated that they had asked their most recent sex partner what was the number of his/her previous sex partners, and only 32.2% reported having asked whether his/her most recent sex partner had always used a condom. About half (48.9%) of youth reported that they used a condom during the last sexual encounter.

Association between demographic, lifestyle factors, sexual behaviors and alcohol use

The study found that 65.9% youth had drunk alcohol and 34.1% did not drink alco-

hol (Table 2). There was a significant difference between gender and alcohol use ($p < 0.001$). There was also a strong association between age group and alcohol use ($p < 0.001$). There were more working youths who were drinkers than non-drinkers ($p = 0.012$). Average monthly income and average expenses of respondents showed a significant difference with alcohol use ($p < 0.001$). The average monthly income and average expenses were higher among drinkers than non-drinkers. More drinkers used the internet than non-drinkers did ($p = 0.034$). Concerning youth and recreation, a significantly greater proportion of drinkers reported drinking as compared to non-drinkers at the places for example, café ($p < 0.001$), restaurant ($p = 0.001$), park/beach ($p = 0.032$), karaoke ($p < 0.001$), billiards-hall ($p < 0.001$) and drinking house ($p < 0.001$). Sexual touching was significantly associated with alcohol use ($p < 0.001$). There was a strong association between alcohol use and engaging in sexual behaviors ($p < 0.001$). Vaginal sex showed a strongly significant difference with alcohol use ($p < 0.001$). More than 83% and 88% of those engaging in anal and oral sex, respectively, also reported drinking.

Sexual behaviors by gender among drinkers and non-drinkers

There were more youth who had ever had a boy/girl friend among drinkers compared with non-drinkers, in both males and females ($p < 0.001$). Similarly, sexual touching showed a significant difference with alcohol use, in both males and females ($p < 0.05$). The results indicated that male youth who drank were twenty-times more likely to touch their girl friends than male non-drinkers were, while female youth were two times more likely to touch their boy friends than female non-drinkers were. The study results showed there was a significant difference between been touch and alcohol use in both male and female ($p < 0.001$).

Table 1
Number and percentage of gender relations and sexual risk behaviors (n=880).

Characteristics	Frequency	Percentage
Gender relations		
Ever had a boy/girl friend	473/880	53.8
Number boy/girl friends [average: 2.2 (1-25)]		
Age of boy/girl friend [average: 22.4 (14-37)]		
Longest relations (average: 19 months)		
Stayed out all night with boy/girlfriend	43/880	4.9
Kiss your boy/girl friends	371/878	42.3
Sexual touching		
Touch your boy/girl friend body	186/880	21.1
Been touch by boy/girl friend body	185/880	21.0
Any touch	226/880	25.7
Sexual experiences		
Ever had sex	84/880	9.5
Ever had sex 6 months	48/84	57.1
Pregnant, you or partner	4/84	4.8
Ever had anal sex	12/879	1.4
Most recent anal sex, used a condom	6/12	50.0
Ever had oral sex	17/878	1.9
Most recent oral sex, used a condom	3/15	20.0
Any sex	89/880	10.1
Number people ever had sex [average: 1.6 (1-5)]		
Age most recent sex partner [average: 27.6 (16-35)]		
Ask most recent sex partner number previous sex partners	34/87	39.1
Ask most recent sex partner if always used condom	28/87	32.2
Use birth control pill last time had sex	19/85	22.4
Use condom last time had sex	41/84	48.8
Use emergency pill last time had sex	15/84	17.9
Use withdrawal last time had sex	19/85	22.4
Use other contraceptive method last time had sex	4/85	4.7
Safe sex- Condom use		
Could get condom if wanted to	521/876	59.5
Could put on condom correctly	489/871	56.1
Could convince sex partner to use condom	621/877	70.8
Could ask for condom at pharmacy	366/878	41.7
Could ask for condom at commune health center	471/869	54.2
Could carry or keep condom	323/860	37.6
Could refuse sex if partner will not use condom	629/873	72.1
Could ask partner about previous sexual relationships	462/866	53.3
Safe sex-Abstinences		
Can be in serious relationship and not have sex	689/877	78.8
Can convince partner to wait	710/877	81.0
Can stop self from engaging in sex	685/876	78.2
Can control own body and avoid engaging in sex	729/878	83.0

Table 2
Association between demographics, lifestyle factors, sexual behaviors and alcohol drinking.

Variables	Alcohol drinkers (580)	Alcohol non-drinkers (300)	p-value by X ² -test
Demographic			
Gender	580 (65.9%)	300 (34.1%)	0.000
Male	322 (36.6%)	90 (10.2%)	
Female	258 (29.3%)	210 (23.9%)	
Age group			0.000
16-19	209 (23.8%)	178 (20.2%)	
20-24	371 (42.2%)	122 (13.9%)	
Education			0.980
In school	256 (29.1%)	150 (17.0%)	
Out school	324 (36.8%)	150 (17.0%)	
Working	279 (31.7%)	118 (13.4%)	0.012
Average income/month	777,000 vnd	640,000 vnd	0.002
Lifestyles			
Average expenses	280,000 vnd	188,000 vnd	0.000
Internet use	360 (41.0%)	165 (18.8%)	0.034
Recreation			
Go to café	75.8%	44.4%	0.000
Movies	4.3%	4.1%	0.851
Discotheque	8.5%	0.3%	0.000
Karaoke	30.1%	14.2%	0.000
Restaurant	57.2%	44.9%	0.001
Billiards-Hall	21.8%	9.5%	0.000
Café-Bar	7.8%	2.0%	0.001
Drinking house	28.5%	3.7%	0.000
Park/Beach	65.4%	58.0%	0.032
Sexual touching			
Touched	164 (18.7%)	22 (2.5%)	0.000
Been touch	159 (18.1%)	26 (3.0%)	0.000
Any touch	198 (22.6%)	28 (3.2%)	0.000
Sexual experiences			
Vaginal sex	75 (12.9%)	9 (3.0%)	0.000
Anal sex	10 (1.7%)	2 (0.7%)	0.238 ^c
Oral sex	15 (2.6%)	2 (10.7%)	0.068 ^c
Any sex	80 (13.9%)	9 (3.0%)	0.000
Sexual risk behaviors			
Not use condom last time had sex	37(44.0%)	6 (7.1%)	0.326
Multiple-sex partners	30 (34.9%)	1 (1.2%)	0.147 ^c

^cFisher's exact test

Regarding sexual behaviors, there was a significant difference between sexual intercourse (vaginal sex) and alcohol use in both males ($p = 0.001$) and females ($p < 0.05$). The

study results indicated that male youth who drank were fifty times more likely than non-drinkers to have sexual intercourse, while female youth who drank were three times more

Table 3
Gender differences in sexual behaviors among drinkers and non-drinkers

Sexual behaviors	Male (412)			Female (468)		
	Drinkers	Non-drinkers	p-value	Drinkers	Non-drinkers	p-value
Gender relations						
Ever had boy/girlfriend	202 (49.0%)	18 (4.4%)	0.000 ^a	164 (35.1%)	89 (19.1%)	0.000 ^a
Kiss	180 (43.7%)	14 (3.4%)	0.000 ^a	118 (25.3%)	50 (12.7%)	0.000 ^a
Sexual touching						
Touch	123 (30.3%)	5 (1.2%)	0.000 ^a	41 (8.8%)	17 (3.7%)	0.011 ^a
Been touch	103 (25.1%)	6 (1.5%)	0.000 ^a	56 (12.0%)	20 (2.3%)	0.000 ^a
Any touch	138 (33.7%)	6 (1.5%)	0.000 ^a	60 (12.9%)	22 (4.7%)	0.000 ^a
Sexual experiences						
Vaginal sex	58 (14.1%)	4 (1.0%)	0.001 ^b	17 (3.6%)	5 (1.1%)	0.032 ^a
Anal sex	6 (1.5%)	1 (0.2%)	1.000 ^c	4 (1.6%)	1 (0.2%)	0.386 ^c
Oral sex	11 (2.7%)	2 (0.5%)	0.742 ^c	4 (1.6%)	0 (0.0%)	0.131 ^c
Any sex	62 (15.1%)	4 (1.0%)	0.000 ^b	18 (39.0%)	5 (1.1%)	0.022
Sexual risk behaviors						
Not use condom last time had sex	25 (39.7%)	3 (4.8%)	0.314 ^c	12 (57.1%)	3 (14.3%)	0.061 ^c
Multiple-sex partners	29 (45.3%)	1 (1.6%)	0.616 ^c	1 (5.9%)	0 (0.0%)	1.000 ^c
Sexual risk protective behaviors						
Safe sex - Condom use	4.89 (2.20)	4.07 (2.63)	0.003 ^d	4.22 (2.83)	4.21 (2.92)	0.970 ^d
Safe sex - Abstinence	3.1 (1.3)	3.2 (1.2)	0.487 ^d	3.3 (1.4)	3.1 (1.5)	0.112 ^d

^aPearson's chi-square test; ^bYates corrected; ^cFisher's exact test; ^dCompare mean by *t*-test

likely than female non-drinkers to have sexual intercourse. There were no significant differences between anal sex as well as oral sex, and alcohol use among male and female respondents. However, the results indicated that both male and female youth who drank were more likely to have had anal sex as well as oral sex compared with non-drinkers.

Nearly 40% of male youth who drank, compared with 4.8% of non-drinkers, did not use a condom during their most recent sex. Forty-five percent of youth who drank, compared to 1.6% of non-drinkers, had two or more sex partners. Regards to safe sex, there was a significant difference in the mean score of condom use and alcohol use by male only ($p < 0.005$), while abstinence was not true significant difference in their mean score and alcohol use in both male and female.

DISCUSSION

Results from this study indicated that the majority of respondents (65.9%) had consumed alcohol. Drinking is a common practice in Vietnam where alcohol is used to celebrate events, as part of socializing, to facilitate business, and sometimes to drown sorrows, but also often used to have fun and enhance a good time. Therefore, the culture and social context for alcohol use is acceptance, perhaps unintentionally facilitating alcohol use among young people. Although under the law it is illegal to sell alcohol to young people below the age of sixteen, this law is rarely enforced.

Our study findings suggested that males more commonly drank than females did, and the 20-24 year-old age group consumed three

times that of the 16-19 year-old age group. Alcohol is consumed in a variety of social settings and occasions, although universally men are significantly more likely to drink alcohol than women are. In these settings, large quantities of alcohol may be consumed in competitive drinking, whereby individuals will challenge one another to drink *tram phan tram* ("100%") of their beverage in one go. Another indication of the social acceptability of drinking is the well-known Vietnamese saying, *Nam vo tuu nhu ky vo phong* ("a man without alcohol is like a flag without wind"). Such sayings reinforce drinking as an acceptable, even expected, part of life for young men. Although traditionally women's alcohol use is considered unacceptable (this is more likely in country areas where older women drink), observation suggests that it is becoming increasingly more acceptable for women to drink.

In our study, 10.1% of respondents had any sexual activity. Of those, 57.1% had sex within the previous six months. Young men were significantly more likely to drink than young women and alcohol use was significantly associated with engaging in sexual behaviors. There was a strong significant relationship between sexual touching (touched, been touch) and alcohol drinking in both men and women. Other research supports these findings. Also in Vietnam, the research of Kaljee *et al* (2004) demonstrated that there was a strong association between alcohol use and sexual behaviors among rural adolescents. Castilla *et al* (1999) found a relationship between alcohol consumption and sexual risk behavior among young adults. Lauchli *et al* (1996) also found that there was a relationship between sexual encounters and alcohol use among young adults.

Our results found that the 40% of youth who drank did not use a condom during their last sexual encounter as compared with to 4.8% of non-drinkers. This could explain why young people who drink are more likely to be

sexually active and to have unsafe and unprotected sex. Similarly, 45% of youth who drank had multiple sex partners compared to 1.6% of non-drinkers. Rwenge (2000) found similar evidence of young men having more sexual partners than young women in Bamenda Cameroon.

This study had several limitations. Its cross-sectional design did not allow us to evaluate the causality of the reported association. The study population was limited to Nha Trang City so this could not be considered representative of the entire Vietnamese adolescent and young adults population. Another limitation was that some questions about sexual experiences may have been too sensitive, and recall bias may have affected the reporting of sexual experience within the previous six months.

In conclusion, these data indicate that the young men were significantly more likely to drink than young women were. The 20-24-year-old age group and youth who worked reported more drinking. Nearly 10.0% of respondents had ever had sex, and of those, 40% of young men did not use a condom during their last sexual encounter. Alcohol use was significantly associated with engagement in sexual behaviors. There was also a strong significant difference between sexual touching and alcohol drinking in both males and females. These study findings will be baseline data for integrating and adapting into the gender-specific intervention programs for alcohol and HIV control in Vietnam.

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REFERENCES

- Abdullah AS, Fielding R, Hedley AJ, Luk YK. Risk factors for sexually transmitted diseases and casual sex among Chinese patients attending sexually transmitted disease clinics in Hong Kong. *Sex Transm Dis* 2002; 29: 360-5.
- Castilla J, Barrio G, Belza MJ, Fuente L. Drug and alcohol consumption and sexual risk behavior among young adults: results from national survey. *Drug Alcohol Depend* 1999; 56: 47-53.
- Celentano DD, Nelson KE, Suprasert S, *et al.* Behavioral and sociodemographic risks for frequent visits to commercial sex workers among northern Thai men. *AIDS* 1993; 7: 1647-52.
- Fromme K, Katz E, D'Amico E. Effects of alcohol intoxication on the perceived consequences of risk taking. *Exp Clin Psychopharmacol* 1997; 5: 14-23.
- Kaljee L, Genberg BL, Minh TT, Tho LH, Thoa LTK, Stanton B. Alcohol use and HIV risk behaviors among rural adolescents in Khanh Hoa Province, Vietnam. *Heath Educ Res* 2005; 20: 71-80.
- Lauchli S, Heusser R, Tschopp A, Gutzwiller F. Safer sex behavior and alcohol consumption. *Ann Epidemiol* 1996; 6: 357-64.
- Rwenge M. Sexual risk behaviors among young people in Bamenda, Cameroon. *Int Fam Plann Perspect* 2000; 26: 118-30.
- Thuy NT, Lindan CP, Phong TH, *et al.* Predictors of visits to commercial sex workers by male attendees at sexually transmitted disease clinics in southern Vietnam. *AIDS* 1999; 13: 719-25.
- World Health Organization. Sexual relations among young people in developing countries: evidence from WHO case studies 2001. [Cited 2006 Oct 25]. Available from URL: http://www.who.int/reproductivehealth/publications/RHR_01_8/sexual_relations_among_young_people_developing_countries.pdf