

A Study of Alcohol Use and High Risk Sexual Behaviour in Persons Attending Voluntary Counselling and Testing Centre for HIV Test

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Abstract: *Background:* In India an estimated 0.3% of adults aged 15-19 years are infected with HIV. While alcohol use is strongly associated with HIV infection in India, a few population based studies have characterized the association of alcohol use with specific high risk sexual behavior. *Objective:* to prospectively study the association between alcohol use and high risk sexual behavior. *Methodology:* This is a prospective single blind comparative study. Study population consists of subjects attending voluntary counseling and testing centre which is under the control of department of microbiology. Convenient sample was taken up for the study, collected over a period of 6 months. Sociodemographic profile of the study subjects was collected initially and the following instruments were used in the collection of data. 1) AUDIT (alcohol use disorder identification test). 2) SAKAPiDU (South Asia Knowledge, Attitude and Practice in Drug Users base assessment instrument). Analysis of the data was done using SPSS version 16. *Results:* majority of the study population were males (78.8%) and almost 90% of them are in the sexually active age group of 15-45 years. Nearly 78% of the study subjects consumed alcohol either with or without other substance use. Around 58% of the study subjects were having an AUDIT score of more than 8. About 42.7% of study subjects had taken alcohol before sex and they also that their partners consumed alcohol before having sex with them. Only 10% of study subjects used condom when they were under influence of alcohol before sex. Subjects who consume alcohol were having multiple sex partners. As the audit score increases, the frequency of subjects having multiple sex partners was also increased. *Conclusion:* This study throws light on including drug abuse / intoxications, as one of the major risk factors for the individuals to practice unsafe sex methods.

Keywords: alcohol, high risk sexual behavior, HIV, Audit score

1. Introduction

Since the human immunodeficiency virus (HIV) was found in Chennai in 1986, India has had an AIDS epidemic. Estimated number of people living with HIV/AIDS, 2006 is 2.4 Million and HIV prevalence in adults (15 yrs and above) is 0.3%. Female and male sex workers, men who have sex with men, and injection-drug users have the highest rates of infection — surveys typically find a prevalence of 10 to 20%.

Alcohol intake has been connected with risky sexual behavior. An absence or a reduction in alcohol use is associated with a decrease in high risk sexual behaviors and sexually transmitted diseases. The observed association between alcohol use and sexual risk taking during specific encounters suggest a direct influence of alcohol on such behavior.

Substance use has also been found to be associated with unprotected sex and difficulty in maintaining initiated behavioral changes. One of the possible explanations for the association between alcohol and high-risk sexual behavior is that drinking heavily may be a part of a larger spectrum of high-risk behaviors. The higher prevalence of high-risk sexual behavior among those who are heavy drinkers has also been reported.

In view of the strong associations of alcohol use and high-risk sexual behavior, this study was undertaken to assess the relationship between alcohol abuse and sexual risk taking among a convenient sample of subjects voluntarily coming

to VCTC in SVRRGG Hospital which is run by department of microbiology.

2. Methodology

Study Design: Prospective Single Blind Comparative Study.

Study Population: Study population consists of subjects attending Voluntary Counseling and Testing Centre which is under the control of Department of Microbiology, S.V. Medical College, Tirupati.

Subjects attending VCTC come from various sources like referrals from SVRRGG Hospital, persons who voluntarily attend and those who are brought by Non Governmental Organizations. Prior to initiation of study, permission was obtained from APSACS and the study protocol was approved by institutional ethics committee. Convenient sample was taken up for the study, collected over a period of 6 months and the sample size was 349. All the subjects taken up for the study fulfilled the following criteria:

2.1 Inclusion criteria:

1. Male and female subjects of age 15-65 years.
2. Subjects willing to give written informed consent.
3. Who voluntarily attend VCTC for HIV test.

2.2 Exclusion criteria

1. Subjects who have serious medical co-morbidities like Epilepsy, uncontrolled Hypertension and uncontrolled Diabetes mellitus.
2. Subjects not willing to give written informed consent.

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The persons who fulfilled the above mentioned criteria were taken up for the study.

2.3 Method of Data Collection

Socio-demographic profile of the study subjects was collected initially and the following instruments were used in the collection of data:

1. Alcohol Use Disorder Identification Test (AUDIT).
 2. South Asia Knowledge, Attitude and Practice in Drug Users (SAKAPiDU) Base Assessment instrument.
- Analysis of the Data: Data collected was coded and the analysis of data was done using SPSS version 16.

The following statistical procedures were done.

1. Frequencies
2. Descriptive statistics like mean and standard deviation.
3. Chi-square test and
4. Binary logistic regression.

3. Results

I. Socio-demographic profile of the study subjects:

The age group of the study subjects included in the present study was 15-65 years, with mean age being 33.51 ± 9.45 years, of which majority were males (78.8%). More than 90.0% of the study subjects were in the sexually active age group of 15-45 years.

Severity of substance use (AUDIT score) among study subjects:

In the present study AUDIT was used to grade the degree of hazardous drinking. Around 58.0% of study subjects were having an AUDIT score of more than 8 which indicates presence of alcohol use problems in these subjects. Nearly 25.0% of the study subjects scored more than 16 on AUDIT. Male subjects outnumbered the female subjects in all the three categories of AUDIT scores, especially so in the categories of 8-15 and >16 respectively.

Relationship between alcohol consumption and high risk sexual behaviour:

About 42.7% of study subjects had taken alcohol before sex. 26.6% of the study subjects revealed that their partners consumed alcohol before having sex with them. Among these partners who found to consume alcohol before having sex with the study subjects, majority were happened to be female commercial sex workers. Nearly in 17.0% of cases, both the partners were found to consume alcohol before having sex. Similar study was done by **Chandra PS et al (2003)** to study an association between alcohol use and high risk sexual behaviour, with an emphasis on sensation seeking dimension of personality and an association between alcohol use and high risk sexual behaviour was observed in this study. From their study **Mc Donald TK et al (2000)** confirmed that alcohol intake was associated with high risk sexual behaviour. This provides a comprehensive account of the effects of alcohol than does inhibition stressing on alcohol myopia model (**Steele CM and Josephs RA**).

Relationship between alcohol consumption and Condom use:

Only 10.0% (10.3%) of study subjects used condom when they were under the influence of alcohol before sex. **Labrie JW et al. (2006)** studied the role of alcohol expectancies for condom use in mediating the alcohol and the risky sex relationship in 563 college students and concluded that alcohol negatively impacts one's ability to use condoms.

Relationship between alcohol use and Number of Sexual partners:

In the present study 61.5% of the study subjects who did not consume alcohol were confined to single sexual partner. Nearly 57% (56.8%) of the study subjects who consume alcohol were having multiple sex partners (2-5) where as only 28.2% of the subjects who do not consume alcohol were involved in sex with the same. The difference regarding having sex with multiple partners between the two groups was found to be statistically significant ($p < 0.05$).

Relationship between AUDIT score and Number of Sexual partners:

Regarding the relationship between AUDIT score and number of sexual partners, 46.9% of the study subjects who fall in the AUDIT score of range 1-7 were found to have multiple sexual partners where as it was 52.9% among the subjects who had an AUDIT score of >8. This shows that as the AUDIT score increases, the frequency of subjects having multiple sex partners was also increased and the difference in the frequency of subjects of the two groups (AUDIT score <8 and >8) was found to be statistically significant ($p < 0.05$).

Maisto SA et al. (2002) in their study showed that higher doses of alcohol were associated with greater motivation to engage in risky sexual behaviour. **Simbayi LC et al. (2004)** in their study in South Africa found that alcohol use in sexual context was associated with greater number of sex partners, higher rates of unprotected intercourse and condom failures.

Relationship between Alcohol use, AUDIT score and Type of Sexual partners:

It was also found in this study that the subjects who consumed alcohol and who scored high on AUDIT scores (>8) were noticed to have different types of sexual partners (a combination of partners), compared to other group (subjects who did not consume alcohol and who scored less on AUDIT score <8). Nearly 50.0% of the subjects who never consumed alcohol were having sex with either commercial sex partner or a combination of partners while more than 95.0% (96.7%) among the alcohol consuming subjects were having sex with either commercial sex partner or a combination of partners. Among different types of sexual partners, commercial sex workers were the dominant group. The association between the alcohol consumption and having sex with different types of partners was found to be statistically significant ($p < 0.05$).

Regarding the relation between AUDIT score and type of sexual partners, 70.7% of the study subjects with an AUDIT score of <8 were having sex with different types of partners where as nearly 97.0% of the subjects with an AUDIT score of >8 were found to be involved in sex with different types

of partners, among whom commercial sex workers were the major group. There was a huge difference between the subjects of the two groups (AUDIT score <8 and >8) regarding confinement to a single (regular) sexual partner (27.2% Vs 2.9%) and the relation between severity of alcohol intake and having sex with different types of partners was found to be statistically significant (P<0.05). In their study among the female commercial sex workers and their customers in Philippines, **Chi Chiao et al. (2006)** found significant differences regarding prevalence of STD between those who used to consume alcohol before sex and who do not.

Relationship between AUDIT score and anal sex:

In the present study among the subjects who have AUDIT scores of >8, 12.0% revealed that they used to participate in anal sex while 2.7% of subjects with an AUDIT score of <8 reported the same and the difference between these two groups regarding the prevalence of anal sex practice was

found to be statistically significant (p<0.05). **Parsons JT et al. (2004)** in their study on gay/bi-sexual men found that alcohol is responsible for stigmatized sexual practices.

Table 1: Distribution of study subjects based on Drug consumption with Sex

Drug Consumption with Sex	No.of Subjects	Percentage
Yes	149	42.7
No	200	57.3
Total	349	100

Table 2: Distribution of study subjects based on Condom usage when Intoxicated with Drugs

Condom Use	No.of Subjects	Percentage
Yes	36	10.3
No	292	83.7
Not applicable	21	6.0
Total	349	100

Table 3: Distribution of study subjects based on Relationship between Alcohol use and No.of Sexual Partners

Alcohol use	Number of Study Subjects							Statistical Significance
	Did not have sex	No.of Sex Partners in the last one year						
		One	2-5	6-10	11-15	>16	Total	
Does not consume alcohol	2	48	22	4	0	2	78	$\chi^2 = 111.1$ df = 1 P < 0.05: S
No alcohol intake in the last 1vr	0	14	48	6	1	2	71	
Intake of alcohol in the last 1vr	2	6	64	20	5	10	107	
Intake of alcohol in the last 30 days	1	1	42	28	4	17	93	
Total	5	69	176	58	10	31	349	

Table 4: Distribution of Study subjects based on Relationship between AUDIT Score and Type of Sex Partners

AUDIT Score	No.of Study Subjects					Statistical Significance
	Type of Sexual Partners					
	Commercial Sex Partners	Regular Partners	Combination	Not Applicable	Total	
1-7	33	40	71	3	147	$\chi^2 = 48.8$ df = 1 P > 0.05; NS
8-15	19	3	94	0	116	
>16	13	3	70	0	86	
Total	65	46	235	3	349	

Table 5: Distribution of Study subjects based on Alcohol use and Frequency of Condom use

Alcohol Use	No.of Study Subjects					Statistical Significance
	Frequency of Condom Use					
	Always	Occasional	Never	Not Applicable	Total	
Does not consume alcohol	1	51	25	1	78	$\chi^2 = 0.123$ df = 1 P > 0.05; NS
No alcohol intake in the last 1vr	4	57	10	0	71	
Intake of alcohol in the last 1vr	0	89	18	0	107	
Intake of alcohol in the last 30 days	5	65	23	0	93	
Total	10	262	76	1	349	

Table 6: Distribution of Study subjects based on AUDIT Score and Condom use

AUDIT Score	No.of Study Subjects			Statistical Significance
	Condom Use			
	Yes	No	Total	
1-7	40	107	147	$\chi^2 = 13.67$ df = 2 P < 0.05; S
8-15	46	70	116	
>16	16	70	86	
Total	101	247	349	

Table 7: Distribution of Study subjects based on Relationship between AUDIT Score and Anal sex

AUDIT Score	No.of Study Subjects			Statistical Significance
	Anal Sex			
	Yes	No	Total	
1-7	4	145	149	$\chi^2 = 11.09$ df = 2 P < 0.05; S
8-15	12	104	116	
>16	12	72	84	
Total	28	321	349	

4. Summary and Conclusions

The data from various components of this study point towards several key issues. It was noted that in this part of the country these are the following findings:

- Alcohol is the major drug of abuse.
- The number of persons requiring treatment is large.
- Alcohol abuse is seen in both rural and urban Andhra Pradesh.
- A significant number of females take alcohol during sex along with their partners.
- A large number of study subjects who abuse alcohol engage in unsafe sexual practices.
- Multiple high risk behaviors were reported in those with alcohol abuse.

This study throws light on including drug abuse / intoxications, as one of the major risk factors for the individuals to practice unsafe sex methods. The same may be incorporated and stressed in the IEC activities taken up by the ASHA volunteers.

5. Strengths of the Study

1. The primary investigator was unaware of serological status (Single blind)
2. Standard instruments were used.
3. First study done of its kind in people seeking serological testing for HIV.
4. The big sample (N=349) which improved the statistical power of the study.
5. Study served the purpose of creating awareness about substance abuse in the study population.

6. Limitations of the Study

1. This is a convenient sample and extrapolations of those findings are difficult.
2. Subjects who gave informed consent were only taken into study which had added bias to the study population.
3. Subjects would respond to the questions by yes or no answers to all the questions, no structured interview was conducted, which could have gathered more information.
4. As the sample is drawn from a voluntary counseling and testing centre, does not necessarily reflect, the general population.

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