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Drug Abuse and Sex a Twist: A Contributing Factor for HIV/STIs Infections among University Students

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Abstract

Background: Having multiple sexual partners is an important risk factor in acquiring HIV infection. Those who use drugs have tendency of having multiple sexual partners. Drug abuse and risky sexual behavior which appears to be significantly and consistently related to increase in number of partners for all race/gender groups was studied.

Objective: To determine the prevalence of drug use among Namibian University students aged 19-25 and examine the association between drug use and having multiple sexual partners.

Materials and methods: Data was collected using self-completed questionnaires for quantitative cross-sectional survey among students in classes selected through simple random sampling in each stratum (University Campus). Relationship between independent variables (Age, Gender, Drug use (including Alcohol) and HIV/STI Risk perception) and dependent variable (multiple sexual partners) was measured using multivariate model of logistic regression analysis.

Results: Alcohol was the most commonly use substance among the students with 29.7% (99/333) of them having used alcohol one or more days within the last 30 days. Strong and significant positive association was found between having multiple sexual partners the use of alcohol one or more days in the last 30 days among the students which was age and sex dependent.

Conclusion: More emphasis should be laid on the importance of control of substance of abuse like alcohol during sexual reproductive counselling process, particularly when dealing with young people. This will abate the rate of HIV/STIs infection among the youth.

Keywords: Alcohol; HIV/STIs risk; Multiple partners; Youth; Students

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Introduction

Sexual health of young people contributes majorly to their general state of health and more importantly the health of the society. This depends on the ability of young people to delay gratification in turn pregnancy or prevent unwanted pregnancy as well as HIV/STIs. This ability depends on the level of contraceptive use among the young people and has a direct impact on young people health and wellbeing. However, many factors, including socio-economic and demographic factors, have been documented to affect

sexual health of young people, the effect which could be a direct influence on their sexual behaviour or indirect influence through contraceptive use [1-3].

A study conducted by Heffron et al. [4] in nearly 4,000 HIV sero-discordant couples in seven African countries are suggestive of the fact that there is an increased risk of HIV acquisition/transmission among women using injectable hormonal contraceptives, and their partners. However, these results have been disputed by other studies conducted elsewhere [4,5]. There is a school of

thought suggesting that the observed association between contraceptive use and increased risk of HIV infection is due to some confounding factors like having multiple sexual partners [6,7]. This is further compounded by the fact that high risk sexual behaviour tend to correlate other factors such as alcohol abuse, use of illicit drugs, marital status etc [1-3]. Another prospective cohort study conducted in Durban, South Africa on 2,236 HIV sero-negative women who were screened in a biochemical intervention trial implicated usage of hormonal contraceptives particularly injectable in increased risk of HIV and other STI acquisition [8]. After adjusting for demographic characteristics (marital status and housing type), risky sexual behaviour (alcohol consumption, condom use, previous treatment for a sexual transmitted infection and multiple sexual partners) and baseline STIs (trichomonas vaginosis, Bacterial Vaginosis, Human Papilloma Virus and chlamydia and/or gonorrhoea) in a similar study in South Africa, hormonal contraceptive use was found not associated with increased of HIV acquisition [5].

Those who use alcohol have tendency of having multiple sexual partners, alcohol misuse was described as the only risky behaviour that appears to be significantly and consistently related to an increase in the number of sexual partners for all race/gender groups [1,2]. In other studies, alcohol misuse was considered a risky behaviour in relations to the risk of acquiring HIV/STI infections not due to its direct effect on the number of sexual partners but due to its effect on risky sexual behaviour like unprotected sex [9]. It was found that alcohol misuse might influence the number of sexual partners in counting by including one stand sexual partners but has little or no influence on the number of concurrent sexual partners, which is known to increase the risk of HIV/STI infections [9,10].

In Namibia, like most African countries, about half of women use contraceptives and injectable hormonal contraceptives is the predominant method, with other methods such as condom use being low [3,11]. The level of alcohol consumptions in Namibia is relatively high especially among the youth, with 53.5% of youth aged 13-30 using alcohol, 28.4% of youths use alcohol at least once a week and 6.8% of youths use alcohol daily, 11% of girls and 18% of boys within 13-16 year olds also use alcohol regularly [12]. With the existing high prevalence of HIV among Namibian young women (age 15-24) being 5.8% as compared to 2.3% in young men (age 15-24) [13-14]. Exploring drug use amongst university students (19-25 years) who are considered to be a highly sexually active group became necessary, to verify whether drug use is associated with multiple sexual partners (concurrent) will perhaps, inform better programmes in addressing HIV/STI prevalence especially among youths in the country.

Materials and Methods

Study design

Quantitative methodology was used in the conduct of this study, the research was a cross-sectional survey, with an aim to determine contraceptive use among Namibian University students' and establish the association between contraceptive

use and the likelihood of having multiple sexual partners. The dependent variable (dVs) was having multiple sexual partners; while independent variables (idVs) were contraceptive use and method of contraception.

Sample size, frame and population

The population studied consists of undergraduate students in three campuses of the only University in Namibia (University of Namibia (UNAM)) in Oshana Region, Northern part of Namibia.

Four hundred and twenty two subjects (422) respondents were contacted for the study. The sample size was calculated using confidence level=95%, and the prevalence of contraceptive use among sexually active young women in Namibia which is 52% from earlier records. Sample size was calculated using Aday and Cornelius [15] and considered 10% attrition. Stratified and simple random sampling was used by dividing the sample size into strata based on the campuses in Oshana Region. A contact session with the lecturers and students was arranged to give the details of the study. Then, each student in the randomly selected classes was given a combined participant information sheet (written consent inclusive) and questionnaires. Those who consented to participate in the study answered the questionnaires while others returned theirs. Ethical approval was obtained from the University of Liverpool Research Ethics Committee and the Biomedical Research Ethics Committee (BREC) in the Ministry of Health and Social Services, Namibia.

Participants

The inclusion criteria for participation were 19-25 years old students of the University of Namibia campuses in Oshana Region. Students above 25 year or below 19 year of age were excluded from the study. Most students at the University fall within the age group of 19-25 years. It was expected that good percentage of students in this age group will be sexually active.

Procedures

The data collection tool (questionnaires) was adapted from the ACHA-NCHA questionnaires on sexual behaviour, perceptions, and contraception with alpha scores for sex-related behaviors=.67 [16]. A pilot study was carried out on 12 students of University of Namibia, Oshana Region and slight adjustments was made on alternatives/possible answers based on the need during analysis prior to data collection. Data was collected over 3 weeks from October 29 to November 16, 2012.

Statistical analysis

IBM-SPSS (Statistical Package for Social Science) version 20 was used for the analysis. Descriptive statistics and cross tabulations were calculated to display the socio-demographic distribution of the participants and characterize sexual behaviour.

Results

The study showed that 68.8% of the respondents had sexual partner within the last 12 months, consisting of 25 (16.9%) males and 123 (83.1%) females of which 68 (47.2%) are within 19-

21 years of age and 76 (52.8%) are within 22-25 years of age. Those with two or more sexual in the last 12 months was higher males than the females. About 65 (44.8%) of those with single partner believed they are not at risk, while 23 (35.4%) of those with multiple partners believed that they are at risk of HIV/STIs infection as shown in **Table 1**. The use of drugs such as cigarettes, alcohol and marijuana among the students are reported on **Table 2**, among the three substances, the use of alcohol was found to be more than marijuana and cigarettes and 99 (29.7%) had use alcohol one or more days within the last 12 months. Followed by the use of cigarettes and marijuana used was the least.

Table 1 shows a descriptive statistics on how HIV/STIs Risk perception, Age and Gender relate to the tendency of having multiple sexual partners among Namibian University Students generated using IBM-SPSS (Statistical Package for Social Science) version 20 shows that the tendency of having multiple sexual partners increase with decrease in Students' age, being a male student and feeling of being at HIV/STIs risk or unsure of the risk.

Table 2 shows a descriptive statistics on Drug use (Including alcohol) among Namibian University Students generated using IBM-SPSS(Statistical Package for Social Science) version 20 shows that Alcohol was the most commonly use substance among the students with 29.7% (99/333) of them having used alcohol 1 or more days within the last 30 day (**Supplementary Table 1**). Three percents (8/328) and 2.4% (8/325) of the participants have used cigarettes and marijuana respectively within the last 30 days, while less than 2% of the participants have used either smokeless tobacco or cocaine or amphetamine within the last 30 days and none of the participants reported the use of cigar and rohypnol.

Discussion

There are many factors that could influence the decision of young people whether to use contraceptives or not in attempt

to prevent HIV/STIs or unwanted pregnancy. Significant factors that influence contraceptive use among young people can be categorized to three: firstly, socio-demographic factors, followed by socio-economic factors and others. Both factors have positive influence on contraceptive use [17-19]. Other factors that may influence contraceptives use include alcohol use, risk perception/assessment of partners, social acceptability - social stigma attached to buying and carrying condoms (not applicable to Namibia and Swaziland, but prominent in Nigeria, Kenya, Senegal and Burkina Faso in a qualitative study conducted in the six African countries among young people), HIV sero negative, not having had an STI in the past 12 months, number of partners in the past 12 months, having talked to last partner about condoms use, not having had early sex (below 15 years of age), provider recommendation, absence of side effects and method effectiveness in preventing pregnancy [17-24]. The fact that some of the respondents are unsure of their HIV/STI risk status and were linked to increase numbers of partners, might indicate that having multiple sexual partners make the students to be either unsure or at risk of HIV/STI. Although, it could not be ascertain whether the decision to be involved with this risky behaviour of having multiple partners was taking following alcohol intake but there was a strong association between multiple sexual partners and alcohol intake among the young people within 19-25 years of age. Additionally, there was a strong and significant positive association between having multiple sexual partners and younger age group (19-21 years). This may not be unconnected to the fact that they are in their prime sexual age and it was more among the male students than the female students.

The use of alcohol one or more days in the last 30 days and those who perceived they are at risk of STI/HIV infection. While the association was strong and significantly negative with those who reported they or their partners have used different birth control method for most recent act of vaginal intercourse. This finding

Table 1 HIV/STIs Risk Perception, Age and Gender in relation to multiple sexual partners.

No of Partners	Age Group (%)		Gender (%)		HIV/STIs Risk Perception (%)		
	19-21	22-25	Male	Female	At risk	Not at risk	Unsure
01	68 (47.2)	76 (52.8)	25 (16.9)	123 (83.1)	26 (17.9)	65 (44.8)	54 (37.2)
02 or more	41 (63.1)	24 (36.9)	41 (63.1)	25 (36.9)	23 (35.4)	19 (29.2)	23 (35.4)
Total	109 (52.1)	100 (47.9)	66 (30.8)	148 (69.2)	49 (23.3)	84 (40.0)	77 (36.7)

Table 2 Drug use (Including alcohol) among Namibian University Students.

Drug	n	%
Cigarettes (N=328)		
Never used	308	93.9
Have used, not in last 30 days	12	3.7
Used 1 or more days	8	2.6
Alcohol (N=333)		
Never used	194	58.3
Have used, not in last 30 days	40	12.0
Used 1 or more days	99	29.7
Marijuana (N=325)		
Never used	311	95.7
Have used, not in last 30 days	6	1.8
Used 1 or more days	8	2.4

is in tandem with the reports of Richter et al. [1] and, which in separate studies show that the mean number of total sexual partners for a male Namibian youth (aged 15-24) is 4.6 while it is 2 for young women, and this increases with age. Though, our finding in this study is in keeping with theirs but differ, in that the tendency of having multiple sexual partners decreases with age in this study [25].

The level of alcohol consumptions in Namibia is relatively high especially among the youth. According to the report of Barth and Hubbard [12], about 53.5% of youth (aged 13–30) using alcohol, 28.4% of youths use alcohol at least once a week and 6.8% of youths use alcohol daily, 11% of girls and 18% of boys within 13-16 year olds also use alcohol regularly. Our study shows that alcohol use was significantly on the lead among drug use within the students and this findings corroborates the fact that there is a significant level of alcohol use among young people in Namibia, which might have a direct effect on risky sexual behavior and in turn predisposes them to HIV/STIs and this could be a substantial contributory factor in HIV/STI acquisition among young people in Namibia. Those who use alcohol have tendency of having multiple sexual partners, Alcohol was described as the only risky behaviour that appears to be significantly and consistently related to an increase in the number of sexual partners for all race/gender groups [1,2]. The finding in this study was in keeping with these findings with a significant and positive association between alcohol use and having multiple sexual partners. Alcohol use maintained significant association with multiple sexual partners after adjusting for the potential confounders. It is evident that young people will benefit from the discussions on substance abuse like alcohol during sexual reproductive counselling with emphasis on safe sexual behavior and dual contraceptive use to abate HIV/STIs infection rate among the youth. We hereby suggest that substance (alcohol) abuse should be included in the subject of discussion during reproductive counseling with young people.

Conclusion

The analysis of this study establishes the fact that alcohol use

is the most common drug use among the students. Alcohol use among other drug use was found to have a strong and significant positive association with having multiple sexual partners. Another factor with positive association with multiple sexual partners was age, it was noticeable among younger age group of 19-21 years and largest among male students.

Recommendation and limitation of study

This study was limited to the University students in Northern campuses of UNAM. Therefore, education, an important factor influencing sexual behavior and contraceptive use was not included in this study since all the respondents were within the same level of education. The finding of this study is limited to the young people with education level above secondary school. Wider population could be covered with similar study, which will give a generalized result. Also, similar study can be conducted in the Southern campuses of University of Namibia, where white and mixed Namibian are likely to be better represented. Studying the level of Utilization of available Adolescent Friendly Health Services can also give an idea of the accessibility of reproductive services to the young people in the Namibia. Qualitative study will give an in-depth understanding of the relationship between drug abuse and multiple sexual partners. This type of study will be answering questions on causality by explaining 'why' and 'how' the relationship was established. The roles of alcohol use and male gender in this association can be better understood through the qualitative study.

Conflict of Interests

The authors do not have a direct financial relationship with the commercial identity mentioned in this paper.

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