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Full Length Research Paper

Prevalence, distribution and behavioural determinants of coital activity among High School students in Namibia: A cross-sectional study

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Although HIV transmission among Namibian in-school adolescents is mainly heterosexual, previous data on sexual activity are not disaggregated, making it difficult to target interventions. This study conducted a disaggregated analysis of coital activity and explored various factors associated with coital activity among Namibian High School students. A cross-sectional survey was carried out in 18 schools located in six education regions. Data were collected from 829 students through a structured questionnaire. Pearson χ^2 analysis was used to determine the distribution of coital activity for students from different regions, rural-urban areas, ethnic groups, and gender. Factors associated with coital activity were established by the use of odds ratios and multivariate logistic regression analysis. Overall, 50.2% of the students never had sex before and 29.2% were sexually active. Pearson χ^2 analysis showed that coital activity was significantly high among students in the Caprivi region, urban areas, Lozi, Herero and Damara-Nama ethnic groups, and male gender. Multivariate logistic regression showed that the only significant factors positively associated with coital activity were Herero ethnicity, male gender, testing for HIV, thinking one could not get HIV if they were faithful to a single sexual partner, having a boyfriend of girlfriend, and drinking beer. These disaggregated results will help design targeted HIV/AIDS preventive programmes for High School students in Namibia. This can be done by targeting messages that reduce students' coital activity by way of altering personal, peer, and social behaviours.

Key words: Prevalence, distribution, determinants, coital activity, students.

INTRODUCTION

Namibia has a generalized HIV/AIDS epidemic with a national HIV prevalence rate of 17.8% among those aged 15 to 49 years (GRN, 2008). In young people, HIV prevalence rates were: 5.1% in 15 to 19 year olds, 14.0% in 20 to 24 year olds, and 23.8% in 25 to 29 year olds. Overall, the prevalence of HIV among those of High School age 15 to 24 years was 10.3% (Katuta, 2011). Females in Namibia were infected quite young, with approximately 10.0% of pregnant adolescents aged 15 to 19 years already infected with HIV/AIDS (GRN, 2008).

Geographically, HIV prevalence rates were higher in the north-eastern part of the country than in the south. In urban areas, HIV prevalence was 4.4% among 15 to 19 year olds, and 14.5% among 20 to 24 year olds (GRN, 2008). In rural areas, HIV prevalence was 5.8% among 15 to 19 year olds, and 13.5% among 20 to 24 year olds (GRN, 2008).

In Namibia, the HIV/AIDS epidemic is predominantly due to heterosexual transmission (De la Torre et al., 2009). Using secondary data from the Global School Health Survey (GSHS) of 2004, Chinsembu et al. (2008) reported on the prevalence and social correlates of sexual activity among Namibian in-school adolescents. But the GSHS data were limited because they did not differentiate students from different administrative regions and ethnic groups. The GSHS also lumped data for

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rural-urban and primary- secondary school students together. Although there is co-occurrence of health risk behaviours among adolescents, the distribution of specific drivers of the HIV/AIDS epidemic is important for designing targeted preventive measures.

Therefore, the current study was premised on the understanding that the disaggregation of data on coital activity for High School students from different education regions, rural-urban areas, and ethnic groups can help inform the design of targeted HIV/AIDS interventions for this high risk sector of the Namibian population. Against this understanding, the aims of the current study were to: (a) Determine the prevalence and distribution of coital activity of High School students from different regions, rural-urban areas, and ethnic groups in Namibia; and (b) Establish whether selected personal (testing for HIV/AIDS, invincibility to HIV/AIDS), peer (boyfriend-girlfriend relationships), and social (beer drinking, cigarette smoking) behaviours were associated with coital activity among Namibian High School students.

MATERIALS AND METHODS

Study area and population

Namibia is a semi-arid country with a population of 2.1 million people scattered over an area of 823,145 km^2 (GRN, 2008). It is therefore the second most sparsely populated country in the world. Situated in South-western Africa, Namibia has thirteen administrative regions (GRN, 2008). About 50.0% of the Namibian population belongs to the Ovambo ethnic group and 9.0% to the Kavango ethnic group (UNDP, 2000). Other ethnic groups are: Herero (7.0%), Damara (7.0%), Nama (5.0%), Lozi (4.0%), San (3.0%), Baster (2.0%), and Tswana (0.5%) (UNDP, 2000). People of different ethnic groups have various socio-cultural and sexual practices that underlie the transmission of HIV/AIDS (Zwang and Garenne, 2008).

Ethical approval

Ethical permission to conduct the research was obtained from the Senate Post-graduate Studies Committee of the University of Namibia. Permission to collect data in schools was obtained from the Permanent Secretary of the Ministry of Education in Windhoek. In the regions, permission to visit the schools was obtained from the Regional Directors of Education. At the schools, prior informed consent was obtained from the students, and students that were unwilling to participate in the study were kindly requested to leave the classroom.

Study and sampling designs

A randomised cross-sectional survey design was used in this study. A three-stage cluster sampling design was utilised. The primary sample included six educational regions of Namibia: Caprivi, Kavango, Ohangwena, Omusati, Oshikoto, and Khomas. The regions were purposefully selected because of their high prevalence of HIV/AIDS (> 15.0%). Eighteen randomly selected High Schools formed the secondary sample units. The list of High Schools is withheld due to ethical reasons of confidentiality. Within the schools, data were collected from 829 Life Science and Biology students (the tertiary sampling units). The demographic characteristics of the students are shown in Table 1.

Data collection

Data were collected between October and November, 2009. In order to reduce intimidation of students, teachers were requested to leave the classroom immediately after the researchers were introduced to the students. After obtaining their verbal consent, students were requested to complete a questionnaire without personal identifiers. The questionnaire elicited dichotomous responses (yes/no) to the following statements and questions:

1. I have never had sexual intercourse before
2. During the past 12 months, have you had sexual intercourse?
3. Do you have a boyfriend or girlfriend?
4. Do you drink beer or any other alcoholic drink?
5. Do you smoke cigarettes?
6. You cannot get HIV if you stick to one sexual partner
7. I have been tested for HIV

Data analysis

Data were coded and entered for analysis into the Statistical Package for the Social Sciences (SPSS) software version 18 (SPSS, 2010). Frequencies and percentage frequencies were computed for the seven variables. Missing values were not used during calculations of percentage frequencies. To reveal differences across independent variables such as education regions, rural-urban areas, ethnic groups, and gender, cross-tabulations and Pearson χ^2 statistics were performed on the percentage frequencies. To analyse for the factors associated with coital activity in the previous 12 months, odds ratios and multivariate logistic regression analyses of explanatory factors associated with sexual intercourse in the previous 12 months were performed. Criteria used to select variables to the multivariate regression analyses were based on various literature sources (Chinsembu et al., 2008) and prior information obtained during discussions with key informants.

RESULTS

The frequencies and percentage frequencies of students that stated “yes” to the outcome variables are shown in Table 2. The mean age of the students was 16.96 ± 0.057 years. The students’ median age was 17 years and the range was 13 to 27 years. Students’ mean ages in years significantly varied according to regions (ANOVA F value = 8.21, $p < 0.000$): Khomas, 16.42; Oshikoto, 16.84; Kavango, 16.85; Ohangwena, 17.06; Omusati, 17.13; and Caprivi, 17.64. Overall, 50.2% of the students never had sex before and 29.2% had sex in the 12 months prior to the survey. In addition, significantly more Grade 11 students (32.3%, n = 163) than Grade 9 students (20.8%, n = 58) had sexual intercourse in the 12 months preceding the survey (Pearson χ^2 value = 14.71, df = 1, $p < 0.001$). This result was also affirmed by nominal regression analysis which showed that older students had higher frequencies of coital activity ($p < 0.000$).

An assessment of the outcome variables across the

Table 1. Demographic characteristics of the 829 students that participated in the study.

Variables	Respondents [N (%)]
Education regions	
Caprivi	103 (12.4)
Kavango	140 (16.9)
Khomas	166 (20.0)
Ohangwena	108 (13.0)
Omusati	208 (25.1)
Oshikoto	104 (12.5)
Location of the school	
Rural	420 (50.7)
Urban	409 (49.3)
Gender	
Male	365 (44.1)
Female	462 (55.9)
Ethnic groups	
Damara-Nama	30 (3.6)
Herero	29 (3.5)
Kavango	123 (14.8)
Lozi	114 (13.8)
Ovambo	514 (62.0)
Others	19 (2.3)
Students' grades	
Grade 9	301 (36.4)
Grade 11	527 (63.6)

Table 2. Counts and percentage frequencies of students that reported "yes" to the outcome variables in the study.

Outcome variable	Frequency count	Percentage frequency
I have never had sexual intercourse before	404	50.2
During the past 12 months, have you had sexual intercourse?	233	29.2
Do you have a boyfriend or girlfriend?	449	55.7
Do you drink beer or any other alcoholic drink?	264	32.4
Do you smoke cigarettes?	35	4.3
You cannot get HIV if you stick to one sexual partner	374	46.8
I have been tested for HIV	254	31.1

different education regions, rural-urban areas, ethnic groups, and gender is presented in Tables 3 to 6, respectively. Table 3 shows that the highest statistically significant percentage frequency of students that never had sex was from the Oshikoto region (61.0%) while the lowest percentage frequency of students that never had sex was from the Caprivi region (32.4%).

Again, the highest statistically significant percentage frequency of students that reported that they had sexual intercourse in the 12 months prior to the study was from the Caprivi region (49.5%) while the lowest was from the Omusati region (21.2%). Incidentally, the mean ages of students from the Caprivi and Omusati regions were statistically similar, at 17.64 and 17.13 years, respectively. Drinking of beer or alcohol was statistically more frequent among Oshikoto region (46.6%) than Caprivi region (16.2%) students. Table 4 shows that urban areas had a significantly smaller proportion of

Table 3. Assessment of outcome variables among students in different education regions.

Risk factor assessment question or statement	Frequency of students that reported "Yes" (% frequency)						Pearson chi-square value (*p*-value)
	Region						
	Caprivi	Kavango	Khomas	Ohangwena	Omusati	Oshikoto	
I have never had sexual intercourse before	33 (32.4)	60 (44.4)	82 (52.20	56 (52.3)	112 (55.2)	61 (61.0)	21.9 ($p < 0.001$)
During the past 12 months, have you had sexual intercourse?	50 (49.5)	40 (29.0)	41 (27.2)	35 (32.7)	43 (21.2)	24 (24.5)	28.4 ($p < 0.000$)
Do you have a boyfriend or girlfriend?	69 (67.6)	72 (52.9)	90 (56.6)	55 (51.4)	108 (54.0)	55 (53.9)	7.5 ($p > 0.184$)
Do you drink beer or any other alcoholic drink?	16 (16.2)	28 (20.0)	62 (39.0)	41 (38.3)	69 (33.5)	48 (46.6)	36.2 ($p < 0.000$)
Do you smoke cigarettes?	6 (6.0)	7 (5.0)	8 (5.1)	4 (3.7)	5 (2.5)	5 (4.9)	2.9 ($p > 0.709$)
You cannot get HIV if you stick to one sexual partner	54 (52.9)	63 (46.3)	81 (53.3)	40 (38.1)	99 (49.0)	37 (35.9)	12.62 ($p < 0.027$)
I have been tested for HIV	30 (29.4)	24 (17.4)	34 (20.7)	36 (33.6)	83 (40.3)	47 (46.5)	40.17 ($p < 0.000$)

Within columns, counts may give different percentages due to missing values.

students that never had sexual intercourse. On the other hand, urban areas had a significantly lower percentage of students that never had sex before, a significantly higher proportion of students that had sex in the preceding 12 months, and a significantly lower percentage of students that drank beer or alcohol (Table 4).

The sexual activity of students was influenced by their ethnicity. Table 5 shows that the lowest percentage frequency of students that never had sex were from the Lozi ethnic group (32.1%) while the highest statistically significant percentage frequency of students that never had sex were Damara-Nama (60.7%). Further, there were highly significant ethnic differences in the proportions of students that reported having had sex in the 12 months preceding the survey: 47.3% (Lozi), 40.7% (Herero), 37.9% (Damara-Nama), 28.9% (Kavango), and 23.7% (Ovambo). However, significantly more Damara-Nama students drink beer or alcohol, compared to 13.9 and 17.3% of Kavango and Lozi students, respectively. Chi-square statistics showed that significantly more males than females were engaged in sexual intercourse, beer or alcohol drinking, and smoking cigarettes (Table 6).

A significantly high percentage frequency of Damara-Nama students (71.4%) had boyfriends or girlfriends (Table 5). Significantly high proportions of students from the Khomas, Caprivi, Omusati, and Kavango regions thought they could not get infected with HIV if they were faithful to one sexual partner (Table 3). Urban areas also had a significantly higher percentage frequency of students that thought one could not get infected with HIV if they were faithful to one sexual partner (Table 4). In addition, a significantly higher percentage frequency of Grade 9 (56.7%, n = 164) than Grade 11 (41.2%, n = 210) students thought one could not get HIV if they were faithful to one sexual partner (Pearson χ^2 value = 17.96, df = 1, $p < 0.000$).

On average, only 31.1% of the students were tested for HIV/AIDS. The highest significant percentage frequency of students that had tested for HIV/AIDS were from the Oshikoto region (46.5%) and the lowest was from the Kavango region (17.4%) (Table 3). A significantly higher proportion of rural than urban students had ever tested for HIV/AIDS (Table 4). HIV testing was also significantly low among students from the Kavango ethnic group (Table 5). The uptake of HIV testing was also significantly higher among girls than boys (Table 6), and higher among Grade 11 (35.8%, n = 185) than Grade 9 (23.0%, n = 69) students (Pearson χ^2 value = 14.48, df = 1, $p < 0.000$).

Table 7 shows the odds ratios of several factors associated with sexual intercourse. However, multivariate logistic regression analysis showed that the only significant variables that were positively associated with sexual intercourse were male gender, Herero ethnicity, testing for HIV, thinking one could not get HIV if they were faithful to one sexual partner, having a boyfriend or girlfriend, and drinking beer or alcohol (Table 8).

DISCUSSION

Premarital sexual abstinence has been advanced as a risk-reduction measure for HIV/AIDS. Corollary, heterosexual intercourse was a major risk determinant for HIV/AIDS among the youths

Table 4. Assessment of outcome variables among students in rural and urban areas.

Risk factor assessment question or statement	Yes frequencies (% frequency)		Pearson chi-square value (*p*-value)
	Rural (n = 420)	Urban (n = 409)	
I have never had sexual intercourse before	229 (55.9)	175 (44.4)	10.50 ($p < 0.001$)
During the past 12 months, have you had sexual intercourse?	102 (25.0)	131 (33.6)	7.1 ($p < 0.008$)
Do you have a boyfriend or girlfriend?	218 (53.3)	231 (58.2)	1.90 ($p > 0.163$)
Do you drink beer or any other alcoholic drink?	158 (38.0)	106 (26.6)	11.9 ($p < 0.001$)
Do you smoke cigarettes?	14 (3.4)	21 (5.3)	1.76 ($p > 0.184$)
You cannot get HIV if you stick to one sexual partner	176 (42.9)	198 (50.8)	4.94 ($p < 0.026$)
I have been tested for HIV	166 (40.1)	88 (21.8)	32.03 ($p < 0.000$)

Within columns, counts may give different percentages due to missing values.

in Namibia (UNICEF, 2006). Our results showed that nearly half of the students in Namibian High Schools have had sexual intercourse before and 29.2% had coitus in the 12 months preceding the survey. Earlier studies found that 33.1% of in-school adolescents were sexually active (Chinsembu et al., 2008; GSHS, 2004). Rudatsikira et al. (2007) reported an overall, 14.9% prevalence of sexual intercourse (in 12 months) among school-going adolescents in the coastal region of Kenya.

The proportions were much lower in Burkina Faso and Ghana where only 7 to 12% of adolescents had ever experienced sexual intercourse (Bankole et al., 2007). In Scottish secondary schools, 42.0% of girls and 33.0% of boys reported experience of sexual intercourse (Henderson et al., 2008). The Namibian students were therefore several-times more sexually active than their counterparts from Kenya, Burkina Faso, and Ghana. Interestingly, such high levels of sexual activity among Namibian High School students raised the question of whether school HIV/AIDS prevention programmes that relied on abstinence were effective in protecting students from HIV/AIDS and unwanted pregnancies.

In this study, students from the Caprivi region consistently reported the highest levels of coital activity. Thus, evidence from this study was unequivocal that students from the Caprivi region were the most sexually active. Of all the ethnic groups that participated in this study, the Lozi (most inhabitants of the Caprivi region) also had the lowest significant proportion of students that never had sexual intercourse before (32.4%). Although previous studies implicated *mulaleka*, a cultural practice that initialized girls into sex (McFadden and Khaxas, 2007), other factors may have contributed to the significantly high sexual activities that characterized *Caprivian* students. These factors include intergenera-tional sex, transactional sex, and an international border that connects Caprivi region to Angola, Botswana, Zambia, and Zimbabwe (Chinsembu and Hedimbi, 2010). The international border is a major route for merchants, truckers, migrant workers, and foreign University students that may have elicited the sexual services of High School students in the Caprivi region. The Lozi ethnic group also had significantly low proportions of students that never had sex. These results seemed to suggest that ethnic and cultural norms may have contributed to the high sexual activity of students from the Lozi ethnic group. The results of this study also mirrored those of the GSHS which found that most students that had sex prior to the survey were in the north-east (includes Caprivi region) health directorate (GSHS, 2004).

For students that were Damara-Nama, 60.7% never had sex while only 37.9% had sex in the previous 12 months. This evidence was also supported by data from the Namibia School-Based Student Health Survey which found that 19.7% of students (the lowest in the whole survey) that had sex were from the South Health Directorate (GSHS, 2004). The South Health Directorate was mostly inhabited by people from the Damara-Nama ethnic group. Again, ethnic background seemed to have contributed to the significantly high frequencies of Damara-Nama students that never had sex, and to the significantly low frequencies of Damara-Nama students that had sex in the 12 months prior to this study. Lawoyin and Kanthula (2010) stated that drivers of the epidemic in Namibia included factors that were tied directly or indirectly to established cultural and societal norms that contributed to unhealthy attitudes and behaviours.

Male students were twice more sexually active than female students. More males than females had sexual intercourse in the 12 months prior to this study. Notions of masculinity may have encouraged male students to engage in higher levels of sexual activity (Brown et al., 2005). Urban areas had a significantly lesser percentage frequency of students that never had sexual intercourse before. In addition, more urban students had sexual intercourse in the 12 months prior to this study.

However, the finding that statistically higher percentage frequencies of students in rural than urban areas drunk beer or alcohol suggested that drinking beer or alcohol was more significantly associated with high sexual activity in rural students. Such a suggestion may have been supported by the observation of numerous *Shebeens* and *Cuca-shops* that sold beer in rural Northern Namibia. Alcohol consumption was very high

Table 5. Assessment of outcome variables among students in different ethnic groups.

Risk factor assessment question or statement	Frequency of students that reported "yes" (% frequency)					Pearson Chi-square value (*p*-value)
	Ethnic group					
	Damara-Nama	Herero	Kavango	Lozi	Ovambo	
I have never had sexual intercourse before	17 (60.7)	12 (44.4)	52 (44.1)	36 (32.1)	281 (56.2)	27.80 ($p < 0.000$)
During the past 12 months, have you had sexual intercourse?	11 (37.9)	11 (40.7)	35 (28.9)	53 (47.3)	117 (23.7)	28.30 ($p < 0.000$)
Do you have a boyfriend or girlfriend?	20 (71.4)	18 (64.3)	58 (48.3)	78 (69.6)	263 (52.7)	17.30 ($p < 0.004$
Do you drink beer or any other alcoholic drink?	15 (51.7)	10 (34.5)	17 (13.9)	19 (17.3)	196 (38.7)	45.10 ($p < 0.000$)
Do you smoke cigarettes?	3 (10.3)	0 (0)	4 (3.3)	7 (6.3)	19 (3.8)	7.50 ($p > 0.184$)
You cannot get HIV if you stick to one sexual partner	14 (51.9)	9 (33.3)	59 (50.0)	57 (50.4)	227 (45.6)	3.63 ($p > 0.604$)
I have been tested for HIV	8 (26.7)	6 (21.4)	20 (16.4)	33 (29.2)	183 (36.1)	20.58 ($p < 0.001$)

Within columns, counts may give different percentages due to missing values.

among the inhabitants of Omusati and Ohangwena regions (De la Torre et al., 2009). Lawoyin and Kanthula (2010) found that 15.0% of Namibian Ovambo youths aged 15 to 30 years reported alcohol use during their previous coital encounter, while 8.0% reported alcohol use every time they wanted to have coitus. The GSHS (2004) also found that the use of alcohol or drugs before sexual intercourse was high in *Ovamboland*.

Excessive consumption of alcohol was associated with high-risk sexual behaviour in Namibia (UNDP, 1999) and Botswana (Weiser et al., 2006). It was not known whether beer-drinking was a prelude to sexual activity among students in this study. It was observed that bars and *Shebeens* were the places where new sexual partners were readily found and hence were the hotspots for HIV infection; thus *Shebeens* served as hubs that connected sexual networks (De la Torre., 2009). But Zimba (1995) found that 50.0% of High School students believed that alcohol facilitated communication with peers of the opposite sex. Kalichman et al. (2007) stated that it was not possible to delineate whether students used alcohol as part of sexual activity, or whether they get drunk intentionally in order to be disinhibited, or whether sex was often available where alcohol was sold.

We established that the odds of sexual intercourse in the 12 months prior to the survey were higher for students that had been tested for HIV. It was not clear why testing negative or positive for HIV/AIDS increased students' chances of sexual intercourse. However, it was reasoned that a negative HIV test result may have most likely incentivized students to frequently engage into sexual intercourse with one seemingly faithful partner. In an unlikely event, testing positive for HIV/AIDS may have induced cognitive dissonance (Mwale, 2008) and a psychological state of 'fatalism' to such an extent that such students increased their coital encounters, probably to maliciously spread the virus. Further research was needed to decipher these linkages. Nonetheless, the results of this study underlined the point that Voluntary Counselling and Testing (VCT) for HIV was at the crossroads of AIDS prevention and transmission among High School students in Namibia.

Given the high prevalence of HIV/AIDS among young people in Namibia, VCT can play a pivotal role in the public health response to the HIV/AIDS epidemic because it is a vital point of entry to HIV/AIDS services including antiretroviral therapy (Sherr et al., 2007). In developed countries with epidemics in core groups, high quality VCT was shown to substantially reduce the incidence of HIV/AIDS transmission (Sherr et al., 2007). In resource poor settings, including many sub-Saharan African countries with generalized epidemics, VCT is becoming increasingly available, but studies show conflicting results with regards to the role of VCT in reducing HIV/AIDS risky behaviours (Weinhardt et al., 1999; Kawichai et al., 2004).

The results of this study also showed that having a boyfriend or a girlfriend increased the likelihood of sexual intercourse by a factor of seven, while drinking beer or alcohol, and smoking cigarettes, increased the chances of engaging in coital activity by nearly two and four magnitudes, respectively. Students that were involved in boyfriend - girlfriend relationships, beer-drinking, and cigarette-smoking may have

Table 6. Assessment of outcome variables among male and female students.

Risk factor assessment question or statement	Frequency of students that reported "Yes" (% frequency)		Pearson chi-square value (*p*-value)
	Gender		
	Male (n = 365)	Female (n = 462)	
I have never had sexual intercourse before	110 (31.1)	292 (65.2)	92.01 ($p < 0.000$)
During the past 12 months, have you had sexual intercourse?	143 (40.5)	90 (20.3)	38.7 ($p < 0.000$)
Do you have a girlfriend or boyfriend?	212 (59.7)	236 (52.6)	4.10 ($p < 0.042$)
Do you drink beer or any other alcoholic drink?	132 (36.9)	132 (29.1)	5.52 ($p < 0.019$)
Do you smoke cigarettes?	23 (6.5)	12 (2.7)	6.90 ($p < 0.009$)
You cannot get HIV if you stick to one sexual partner	167 (47.2)	206 (46.4)	0.05 ($p > 0.827$)
I have been tested for HIV	96 (26.7)	158 (34.6)	5.98 ($p < 0.014$)

Within columns, counts may give different percentages due to missing values.

Table 7. Odds ratios for dichotomous variables associated with sexual intercourse in the 12 months prior to the survey.

Variable	Percent frequency of students that had sex	
	Pearson χ^2 value	Odds ratios (95% C.I.)
Gender		
Male	38.70 ($p < 0.000$)	2.67 (1.95, 3.66)
Female		1.00
Grade		
Grade 11	7.60 ($p < 0.006$)	1.17 (1.05, 1.30)
Grade 9		1.00
Rural/Urban		
Urban	7.10 ($p < 0.008$)	1.23 (1.06, 1.42)
Rural		1.00
I have been tested for HIV		
Yes	4.75 ($p < 0.029$)	1.43 (1.04, 2.00)
No		1.00
You cannot get HIV if you stick to one sexual partner		
Yes	4.20 ($p < 0.039$)	1.38 (1.02, 1.89)
No		1.00
Do you have a boyfriend or girlfriend?		
Yes	111.12 ($p < 0.000$)	7.29 (4.87, 10.89)
No		1.00
Do you drink beer or any other alcoholic drink?		
Yes	12.46 ($p < 0.000$)	1.77 (1.29, 2.43)
No		1.00
Do you smoke cigarettes?		
Yes	15.17 ($p < 0.000$)	3.70 (1.84, 7.48)
No		1.00

Table 8. Multivariate logistical regression analysis of factors associated with sexual intercourse in the 12 months prior to the survey.

Variable	Odds ratios (95% CI)	*p*-value
Ethnic groups		
Herero	2.97 (1.03, 8.57)	0.044
Vambo	1.00	
Gender		
Male	2.81 (1.92, 4.10)	0.000
Female	1.00	
I have been tested for HIV		
Yes	1.50 (0.99, 2.26)	0.050
No	1.00	
You cannot get HIV if I stick to one sexual partner		
Yes	1.56 (1.07, 2.27)	0.002
No	1.00	
Do you have a boyfriend or girlfriend?		
Yes	6.63 (4.24, 10.36)	0.000
No	1.00	
Do you drink beer or other alcoholic drinks?		
Yes	0.62 (0.41, 0.94)	0.024
No	1.00	

more frequently engaged in sexual intercourse because of peer-pressure.

Increasing the number of boyfriends or girlfriends also increased sexual activity. It has been reported that social networking with friends increases the likelihood of coital encounters (Siziya et al., 2008). Under the influence of alcohol (intoxication), greater risk-taking behaviours were more likely to occur. Inhibitions are lowered and cognitive processing is impaired, so students are less likely to resist coital behaviour.

Moreover, the results showed that the odds of coital activity in the 12 months prior to the survey were higher for students that thought one could not get HIV if they were faithful to one sexual partner. These results were supported by evidence that invincibility to HIV/AIDS is a commonly held view among students (Duncan et al., 2002). Such illusions of invincibility were founded in youthful optimism often devoid of the realistic risks associated with sex (Duncan et al., 2002). Invincibility reduces self-efficacy and correct decision-making pertinent to HIV/AIDS preventive behavior (Duncan et al., 2002). It can also lead to misconceptions that one cannot become infected with HIV/AIDS if they were faithful to one sexual partner.

Limitations of the results

One of the challenges to studying coital behaviour is the validity of the data which may have been influenced by respondents' recall and social desirability biases. Such biases and the failure to recall the exact number of times that they engaged in coital activity may have posed limitations on the accuracy of the results of this study. The design of the study was cross-sectional, and although some associations between variables were logical, cross-sectional designs limit causal inferences. Since data on sexual activity were recalled over a 12-month period, they may not have been representative of students' current or recent sexual behaviours. Comparisons across ethnic groups may have been biased by the small sample sizes of students that were Damara-Nama and Herero.

CONCLUSION AND RECOMMENDATIONS

We have estimated the prevalence and distribution of coital activity and factors associated with coital activity among Namibian High School students from various education regions, rural and urban areas, ethnic groups, and gender. Determinants of coital activity included Herero ethnicity, male gender, VCT for HIV/AIDS, thinking one could not get infected with HIV/AIDS if they were faithful to one sexual partner, having girlfriends or boyfriends, and beer or alcohol drinking.

Despite the limitations of the results, our study will help inform the design of HIV/AIDS preventive programmes

for High School students in Namibia. This can be done by targeting behaviour change messages that turn students away from heterosexual activity by way of reducing the levels of boyfriends or girlfriends, beer or alcohol drinking, and cigarette smoking.

Students that undergo HIV testing should also be counseled about the potential risks that accompany heterosexual intercourse after testing negative or positive for HIV/AIDS. In addition, students should be made aware that they are not invincible from HIV/AIDS even if they were in seemingly faithful regular sexual relationships. The Ministry of Education, together with parents and other stakeholders, should operationalize interventions to limit behaviours that increase coital activity among students. This will help reduce the risk of heterosexual transmission of HIV/AIDS.

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