

RESEARCH ARTICLE

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Alcohol Consumption and Sexual Risk Behaviour among Jamaican Adolescents

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Abstract

Alcohol consumption has significant health, social and economic implications. Alcohol is the most prevalent psychoactive substance used by Jamaican adolescents. The aim of this study was to determine whether alcohol is associated with sexual risk behaviour among Jamaican adolescents. **Methods:** The data from National Secondary School Survey (NSS) conducted in 2013 was analysed. Descriptive statistics consisting of frequencies, percentages and Pearson's Chi square was done. Multivariate analysis was done using binary logistic regression. **Result:** The mean age of alcohol initiation among the participants was 12.3years [SD: 2.74]. There were significant associations between gender ($X^2= 14.56$; $p= 0.000$), relationship with father/guardian ($X^2: 10.71$; $P= 0.03$), relationship with mother ($X^2= 15.16$; $P= 0.004$) and conversation with parents/ guardians about dangers of drug abuse ($X^2= 8.16$; $P=0.004$). Adolescents who were males (AOR= 0.62, 95% CI= 0.43 - 0.88), in the 8th grade (AOR= 0.51, 95% CI= 0.26 - 0.98) or in the 10th grade (AOR: 0.52, 95% CI: 0.32 - 0.85) were less likely to engage in sexual risk behaviour. Lifetime alcohol consumption, past year alcohol consumption and past month alcohol consumption were not significantly associated with sexual risk behaviour (AOR= 0.35, 95% CI= 0.04 - 3.46; AOR= 1.75, 95% CI= 0.59 - 5.09, AOR= 0.78 95% CI= 0.56 - 1.11 respectively). **Conclusion:** Lifetime, past one year and past one month alcohol consumption among the students were not risk factors for sexual risk behavior (non-condom use) among Jamaican adolescents.

Keywords: Alcohol consumption- sexual risk behaviour- condom use- adolescents- Jamaica

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Introduction

Alcohol is the most prevalent substance used by Jamaican adolescents (Atkinson et al., 2015). It has been associated with economic, health and social consequences (World Health Organization [WHO], 2014). Most of the social consequences are age-related, especially to adolescents and youth, and include academic problems, unprotected sex, violence and possibilities of injury to self or others (Cranford et al., 2006). In Jamaica, the most recent survey on household substance use conducted by the National Council on Drug Abuse (NCDA) revealed that four out of every 10 persons were current users of alcohol, with 75% of the population being lifetime users (Jamaica Information Service [JIS], 2016). The survey assessed the use of alcohol among adolescents between the age of 12 to 17years and 15% were reported as current users of alcohol (JIS, 2016). Prevalence of alcohol use among high school students in Jamaica in 2013 was also found to be high: lifetime (64%), past year use (44%) and

past month use (36.6%) (Atkinson et al., 2015).

Studies have implicated alcohol to be a significant factor in sexual risk behaviours, leading to sexually transmitted infections including HIV (Baliunas et al., 2010; Shuper et al., 2010). Sexual risk behaviours may be in the form of having unprotected sex (non-condom use), having many sexual partners, and engaging in sex for commercial purposes (Vagenas et al., 2013). Alcohol consumption can occur sometimes simultaneously with sexual behaviours due to many reasons including social, cultural, perception of reduced risk and suppression of inhibition (Elkington et al., 2010). This current study focuses on non-condom use aspect of sexual risk behavior.

Studies vary in their findings regarding the association between alcohol use and sexual risk behaviours especially condom use among students. Stueve and O'Donnell (2005) have associated early initiation of alcohol consumption and unprotected sex. However, others have shown no association between alcohol use and unprotected sex (Hensel et al., 2011; Floyd and Latimer, 2010). Adefuye

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et al., (2009) revealed that past 30 days alcohol users were more likely to use condoms during sex. However, Seth et al., (2011) found that past one year alcohol use was associated with non-condom use especially with casual sexual partners. Conversely, findings have shown that social confidence/ boldness, outcome expectations, and conflict surrounding condoms were factors associated with alcohol consumption and condom use (Dermen and Cooper, 2000; Abbey et al., 2007). Significant differences in gender have also been reported in both alcohol consumption and sexual risk behaviours among high school students with males having a higher prevalence of using condom whereas females consume more alcohol than males (CDC, 2016)

Regardless of the type of substances use, studies have shown that adolescents from neglectful parent/ family, or those engaged in conflicts and substance abuse are more likely to engage in sexual risk behaviours, whereas healthy and supportive family relationships with parental monitoring have been shown to reduce risky sexual behaviour among adolescents (Donenberg et al., 2006; Teitelman et al., 2008).

Despite the high prevalence of alcohol use among adolescents in Jamaica, and its potential association with sexual risk behaviour and its consequences, there is paucity of research on the relationship between alcohol use and sexual risk behavior among this sociodemographic group. This study seeks to contribute to filling this gap in knowledge. The aim of this study therefore, was to determine if alcohol was a risk factor for risky sexual behaviour among high school students in Jamaica. These findings may prove useful to policymakers agencies and organizations in planning contextualized intervention programmes to promote sexual health among adolescents.

Materials and Methods

The study involved analysis of a cross-sectional survey data collected from 38 public and private high schools in Jamaica. Data were collected in the National Schools Survey 2013, which was carried out as part of regional and national efforts to better understand and more effectively control substance use in Jamaica, and in the Caribbean. A representative sample of 3,365 students was drawn from 8th, 10th, 11th and 12th grades. Details of the study methods have been reported elsewhere (Atkinson et al., 2015).

Data Analysis

Frequencies and percentages were computed for categorical variables while means and standard deviations were computed for continuous variables. Bivariate analysis was done using Pearson's Chi Square to test for differences in proportions among the participants, with level of significance at $P=0.05$. Binary logistic regression analysis was used for the multivariate analysis, with computation of adjusted odds ratio (AOR) and 95% confidence intervals (95% CI) to determine factors associated with non-condom use with simultaneous adjustment for co-variables. Statistical Package for the Social Sciences (SPSS) version 20 (IBM Inc. Armonk, NY) was used for

the analysis.

Ethical considerations

The National School Survey was approved by the Jamaican Ministry of Health and the Ethics Committee of The University of the West Indies, Mona Campus. Details of the ethical approval process have been reported elsewhere (Atkinson et al., 2015)

Results

Of the 3,365 participants, more than half (57.3%) were girls. The average age of the participants was 14.97 years (Standard Deviation [SD] =1.71). Most participants (97.9%) were from the public schools and majority (33.3%) in the tenth grade (4th form). Majority of their parents had secondary/high school education as their highest educational attainment (41.8%), with majority having "very good" relationships with their mother (61.3%). Majority of the students, 2137 (65.7%) of the students has consumed alcohol at least once in their lifetime (Not shown in Tables).

Significantly lower proportion of the male participants than females (33.2% versus 43.6%) reported that they did not use condom during sex ($X^2= 14.558$, $P= 0.000$) (Table 1). The type of school, grade at school and parental educational status were not significantly associated with condom use during sex. Significant associations existed between adolescents' relationship with their parents and sexual risk behaviour. Significantly lower proportion of participants with "very good" relationships with father (32.5%) ($X^2 = 10.71$, $P= 0.03$), mother (34.1%) ($X^2 =15.16$, $P=0.004$) and those who had conversation with parents about dangers of drug use (33.0%) ($X^2 = 8.16$, $P=0.004$) did not use condoms during sex compared to their counterparts (Table 1).

As shown in Table 2, 37.4% of participants who had ever consumed alcohol (lifetime use), 37.8% of those who used alcohol in the past 12 months (past year), and 35.9% of those who used alcohol in the past 30 days (past month) did not use condom with their partners during sexual intercourse but the association was not significant statistically ($X^2 = 0.14$, $P = 0.905$; $X^2 = 0.14$, $P= 0.713$; $X^2 = 1.3$, $P= 0.255$ respectively) (Table 2).

As results in Table 3 show, male participants were significantly less likely to engage in sexual risk behaviours (non-condom use) compared to females (AOR= 0.62, 95%CI= 0.43 - 0.88). Adolescents in public schools had 0.94 times the odds of not using condoms with their partners during sex compared to those in private schools but this was not statistically significant (AOR= 0.94, 95% CI= 0.34 - 2.57). Adolescents in the 8th grade and those in the 10th grade had 0.51 times and 0.52 times, respectively, the odds of not using condom compared to those in 12th grade. Adolescents who had a "very bad" relationship with their father had 1.40 times the odd of not using condom during sex though not statistically significant (AOR= 1.40, 95% CI= 0.50 - 2.92). Adolescents that had conversation with their parents had lower odds of not using condom during sex with their partner (AOR: 0.85, 95% CI: 0.60 - 1.22).

Table 1. Sexual Risk Behaviour (Condom Use) During Sex by Sociodemographic Characteristics, Relationship with Parents/ Guardians and Discussion about Dangers of Drug Use among Jamaican Adolescents, 2013, N = 3,365

Variable	Condom Use during Sex			X ² (P Value)
	Total n	Yes n (%)	No n (%)	
Gender*				14.56 (0.000)
Male	774	517 (66.8)	257 (33.2)	
Female	537	303(56.4)	234 (43.6)	
Type of school*				0.024 (0.877)
Public	1287	806 (62.6)	481 (37.4)	
Private	36	23 (63.9)	13 (36.1)	
Grade at school*				6.05 (0.109)
8 th grade	241	149 (61.8)	92 (38.2)	
10 th grade	463	306 (66.1)	157 (33.9)	
11 th grade	455	283 (62.2)	172 (37.8)	
12 th grade	164	91 (55.5)	73 (44.5)	
Parents'/guardians' Educational level*				2.37 (0.668)
No formal education	55	32 (58.2)	23 (41.8)	
Primary	90	60 (66.7)	30 (33.3)	
Secondary/high School	565	346 (61.2)	21 (38.8)	
Vocational	195	128 (65.6)	67 (34.4)	
College/university/tertiary	303	187 (61.7)	116 (38.3)	
Relationship with father /guardian*				10.71 (0.03)
Very good	385	260 (67.5)	125 (32.5)	
Good	521	318 (61.0)	203(39.0)	
Bad	179	110 (61.5)	69 (38.5)	
Very bad	118	61 (51.7)	57 (48.3)	
Not applicable	72	43 (59.7)	29 (40.3)	
Relationship with mother /guardian*				15.16 (0.004)
Very good	759	500 (65.9)	259 (34.1)	
Good	394	230 (58.4)	164 (41.6)	
Bad	77	38 (49.4)	39 (50.6)	
Very bad	41	21 (51.2)	20 (48.8)	
Not applicable	12	9 (75.0)	3 (25)	
Conversation with parents/guardian regarding dangers of drug use*				8.16 (0.004)
Yes	587	393(67.0)	194 (33)	
No	727	431 (59.3)	296(40.7)	

*, Some data were missing for the variable

After adjusting for the covariates, life time alcohol consumption was not significantly associated with non-condom use (AOR= 0.35, 95% CI= 0.04- 3.46). Similarly, past 12 months and past 30 days' use of alcohol had no significant association with sexual risk behaviour (AOR= 1.75, 95% CI= 0.59 - 5.09; AOR= 0.78, 95% CI= 0.56- 1.11) (Table 3).

Discussion

The prevalence of sexual risk behavior, defined in this paper as non-condom use, was relatively high among lifetime, past 12 months and past although the associations

were not statistically significant. These findings were in contrast to the findings of Donovan et al., (1995), Woolf et al., (2009), Baliunas et al., (2010) and Shuper et al., (2010), which implicated alcohol as the main cause of sexual risk behavior, and worse still, in transmission of HIV/AIDS. In this study, males were significantly less likely to engage in non-condom use. This is similar to the findings of Centres for Diseases Control and Prevention [CDC] (2016), which suggested that men were less likely to engage in sex without condom compared to female. The possible explanations could be that females are naturally passive and often lack control in sexual relationships (Broaddus and Dickson-Gomez, 2013), and

Table 2. Associations between Alcohol Consumption and Sexual Risk Behaviour (Condom Use) among Jamaican Adolescents, 2013, N = 3,365

Variables	Total n	Condom Use during Sex*		X ² (P Value)
		Yes n (%)	No n (%)	
Life time alcohol consumption*				0.14 (0.905)
Yes	994	622 (62.6)	372 (37.4)	
No	275	171 (62.2)	104 (37.8)	
Alcohol consumption in the past 12 months*				0.14 (0.713)
Yes	756	470 (62.2)	286 (37.8)	
No	241	153 (65.5)	88 (36.5)	
Alcohol Consumption in the past 30 days*				1.3 (0.255)
Yes	465	298 (64.1)	167 (35.9)	
No	331	199 (60.1)	132 (39.9)	

*, Some data were missing for the variable.

Table 3. Factors Associated with Sexual Risk Behaviours (Non-condom Use) among Jamaican Adolescents, 2013

Variables	Non-condom Use during Sex	
	AOR	95% CI
Gender		
Female	1	
Male	0.62	0.43 - 0.88
Type of school		
Private	1	
Public	0.94	0.34 - 2.57
Grade at school		
12 th grade	1	
8 th grade	0.51	0.26 - 0.98
10 th grade	0.52	0.32 - 0.85
11 th grade	0.63	0.39 - 1.03
Relationship with father/guardian		
Not applicable	1	
Very good	1.01	0.38 - 2.69
Good	0.98	0.37 - 2.57
Bad	0.94	0.38 - 2.63
Very bad	1.40	0.50 - 2.92
Relationship with mother/guardian		
Not applicable	1	
Very good	-	-
Good	-	-
Bad	-	-
Very bad	-	-
Conversation with parents/guardian on the dangers of drug use		
No	1	
Yes	0.85	0.60 - 1.22
Lifetime alcohol consumption		
No	1	
Yes	0.35	0.04 - 3.46
Alcohol consumption past 12 months		
No	1	
Yes	1.75	0.59 - 5.09
Alcohol consumption past 30 days		
No	1	
Yes	0.78	0.56 - 1.11

AOR, Adjusted Odd Ratio; CI: Confidence Interval

the fear that condom negotiation might lead to violence from their partners (El-Bassel et al., 2011). It is also probable that females fear that asking their sexual partners to use condom may make their partners to perceive them as being promiscuous or unfaithful (Sarkar, 2008).

Participants from public school were less likely to engage in sexual risk behaviour compared to those in private school. These findings may be related to the strict discipline and monitoring of the student in the private school when compared to the public school. Adolescents in eight and tenth graders were significantly less likely to engage in sexual risk behaviours respectively. The possible explanation may be that in eighth grade, students are trying to acclimatize themselves with new school social environment they find themselves in, whereas the 10th grade is the critical grade when students choose the track of subjects to study hence they study hard and desist from alcohol consumption and consequent risky sexual behaviour.

Lifetime users of alcohol and users over the past 30 days in this study were less likely to engage in sexual risk behaviours. On the other hand, alcohol users over the past 12 months were more likely to engage in sexual risk behaviours although no significant association was found. Whereas other studies have shown inconsistencies in the use of alcohol and sexual risk behaviour, some studies have revealed that alcohol consumption before engaging in sexual acts predicts a reduction in the likelihood of condom use (Poulson et al., 1998; McNair et al. 1998). However, Brown and Venable (2007) found that youth engage in unprotected sexual act especially under the influence of alcohol when they are involved with casual partner.

In conclusion, Lifetime use of alcohol among adolescents in Jamaica was high but not significantly associated with sexual risk behaviour. Similarly, past year and past month alcohol use were not significantly associated with sexual risk behavior. Further studies, including qualitative exploratory studies are needed to help explain this phenomenon.

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Conflict of Interest

The authors declare no conflict of interest.

References

Abbey A, Parkhill MR, Buck PO, Saenz C (2007). Condom use with a casual partner: what distinguishes college students' use when intoxicated?. *Psychol Addict Behav*, **2**, 76–83.

Adefuye AS, Abiona TC, Balogun JA, Lukobo-Durrell M (2009). HIV sexual risk behaviors and perception of risk among college students: implications for planning interventions. *BMC Public Health*, **9**, 281.

Atkinson U, Abel WD, Whitehorne-Smith P (2015). Current trends in adolescent substance use in Jamaica. *W Indian Med J*, **2**, 1.

Baliunas D, Rehm J, Irving H, Shuper P (2010). Alcohol consumption and risk of incident human immunodeficiency virus infection: A meta-analysis. *Int J Public Health*, **55**, 159–66.

Broadbudd MR, Dickson-Gomez J (2013) Text messaging for sexual communication and safety among African American young adults. *Qual Health Res*, **23**, 1344–53.

Brown JL, Venable PA (2007). Alcohol use, partner type, and risky sexual behavior among college students: Findings from an event-level study. *Addict Behav*, **32**, 2940 – 52.

Centre for Disease Control and Prevention [CDC] (2016). Youth risk behavior surveillance – United States, 2015. morbidity and mortality weekly report. Surveillance Summaries, **65**, 1–174. Available at <https://www.cdc.gov/mmwr/volumes/65/ss/ss6506a1.htm> (Accessed on 12 November 2017).

Cranford JA, McCabe SE, Boyd C J (2006). A new measure of binge drinking: prevalence and correlates in a probability sample of undergraduates. *Alcohol Clin Exp Res*, **30**, 1896–1905.

Dermen KH, Cooper ML (2000). Inhibition conflict and alcohol expectancy as moderators of alcohol's relationship to condom use. *Exp Clin Psychopharm*, **8**, 198–206.

Donenberg GR, Paikoff R, Pequegnat W (2006). Introduction to the special section on families, youth, and HIV: family-based intervention studies. *J Pediatr Psychol*, **31**, 869-73.

El-Bassel N, Gilbert L, Witte S, Wu E, Chang M (2011). Intimate partner violence and HIV among drug-involved women: Contexts linking these two epidemics: Challenges and implications for prevention and treatment. *Subs Use Misuse*, **46**, 295-306.

Elkington KS, Bauermeister JA, Zimmerman MA (2010). Psychological distress, substance use, and HIV/STI risk behaviors among youth. *J Youth and Adolesc*, **39**, 514-27.

Elkington KS, Bauermeister JA, Zimmerman MA (2011). Do parents and peers matter? A prospective socioecological examination of substance use and sexual risk among African American youth. *J Adolesc*, **34**, 1035-47.

Floyd LJ, Latimer W (2010). Adolescent sexual behaviors at varying levels of substance use frequency. *J Child Adolesc Subst Abuse*, **19**, 66-77.

Hensel DJ, Stupiansky NW, Orr DP, Fortenberry JD (2011). Event-level marijuana use, alcohol use, and condom use among adolescent women. *J Sex Transm Dis*, **38**, 239-43.

Jamaican Information Services (2016). Alcohol remains most used drug in Jamaica. Retrieved from <http://jis.gov.jm/alcohol-remains-used-drug-jamaica/> (Accessed on 23 November, 2017).

McNair LD, Carter JA, Williams MK (1998). Self-esteem, gender, and alcohol use: relationships with HIV risk perception and behaviors in college students. *J Sex Marital Ther*, **24**, 29-36.

Poulson RL, Eppler MA, Satterwhite TN, Wuensch KL, Bass LA (1998). Alcohol consumption, strength of religious beliefs and risky sexual behavior in college students. *J Am Coll Health*, **46**, 227.

Sarkar NN (2008). Barriers to condom use. *Eur J Contracept Reprod Health Care*, **13**, 114-22.

Seth P, Wingood GM, DiClemente RJ, Robinson LS (2011). Alcohol use as a marker for risky sexual behaviors and biologically confirmed sexually transmitted infections among young adult African-American women. *Womens Health Issues*, **21**, 130–5.

Shuper PA, Neuman M, Kanteres F, et al (2010). Causal

considerations on alcohol and HIV/AIDS- a systematic review. *Alcohol*, **45**, 159–66.

Stueve A, O'Donnell LN (2005). Early alcohol initiation and subsequent sexual and alcohol risk behaviors among urban youths. *Am J Public Health*, **95**, 887-93.

Vagenas P, Lama JR, Ludford KT, et al (2013). Alcohol use and sexual risk-taking in Latin America. *Rev Panam Salud Publica*, **34**, 2013.

World Health Organization (WHO) (2014). Global status report on alcohol and health. Available at http://www.who.int/substance_abuse/publications/global_alcohol_report/msb_gsr_2014_1.pdf (Accessed on 02 December 2017).



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