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PREVALENCE OF SUBSTANCE USE AND CORRELATES OF MULTIPLE SUBSTANCE USE AMONG SCHOOL-GOING ADOLESCENTS IN BOTSWANA

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ABSTRACT

The purpose of the current study was to estimate the prevalence of substance use and correlates of multiple substance use among adolescents in Botswana. The study was a cross-sectional study in which a random sample of 3,763 students aged 10 to 19 years. A survey questionnaire was self-administered using a personal digital assistant in 15 education districts of Botswana. Bivariate and multinomial logistic regression analyses were used to analyse the data. The study results indicate that the lifetime prevalence was 18.1% for tobacco use and 15.9% for alcohol use. The multiple substance use among adolescents in descending order were: alcohol and tobacco (42.5%); illicit drugs and tobacco (26.6%); alcohol, tobacco and illicit drugs (18.7%); and illicit drugs and alcohol (12.3%). Male adolescents were more likely than their female counterparts to have experienced multiple substance use of drugs and alcohol (OR, 2.0; 95% CI, 1.3-3.3); alcohol, tobacco and drugs (OR, 2.4; 95% CI, 1.7-3.4), tobacco and alcohol (OR, 2.2; 95% CI, 1.6-2.8) and illicit drugs and tobacco (OR, 1.5; 95% CI, 0.9-2.3). Lifetime use of habit-forming substance and multiple substance use were common in Botswana and as such require immediate programme intervention.

Keywords: Smoking, drinking, drug prevalence, multiple substance use, adolescents, Botswana.

INTRODUCTION

Substance use among youths is becoming a global public health problem (Qadri, Goel, Singh, Ahluwalia, Pathak, & Bashir, 2013). Substance use exposes adolescents to the risk of unplanned pregnancy, teenage childbearing, and contracting a sexually transmitted infection (STI), including HIV by inhibiting the use of contraception (World Health Organisation (WHO), 2011). Substance abuse contributes to intentional and unintentional injuries, mental health problems, sexual and

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reproductive health problems, and HIV infections in high-income countries (WHO, 2011). Alcohol abuse is recognized as a major health risk in Botswana (Pitso and Obot, 2011). In both the Botswana National Strategic Framework for HIV/AIDS 2003–09 and the Substance Abuse and Drug Trafficking Strategic Plan 2003–07, alcohol abuse was identified as one of the key socio-cultural factors driving the HIV/AIDS epidemic (Pitso and Obot, 2011). The Botswana National Alcohol Policy Draft has been developed, and notes that the government has an over-riding duty of care to ensure that vulnerable members of the community (particularly young people) are, as far as possible, protected against the impact of alcohol abuse in all its manifestations (The National Policy on Alcohol, 2008).

Many researchers consider alcohol and tobacco to be a "gateway" to illicit drugs use in that their use most often precedes that of marijuana (Kandell, Yamaguchi and Chan, 1992; Clayton and Voss, 1982). Similarly, the use of marijuana precedes that of illicit drugs such as cocaine and heroin (Kandel, Yamaguchi and Chan, 1992). Alcohol use is the largest single contributor to health risks in young people, as measured by the number of disability-adjusted life years (WHO, 2011). Evidence from existing literature shows that tobacco use is a global problem because it is the leading preventable cause of premature mortality and is a risk factor for several diseases, including cancer, cardiovascular and respiratory diseases (United States Department of Health and Human Services (USDHHS), 2010; WHO, 2011). Secondhand smoking (SHS) is also linked to respiratory diseases such as bronchial diseases in children (International Agency for Research on Cancer (IARC), 2002; USDHHS, 2006). Of the 603,000 deaths attributable to SHS in 192 countries in 2004, 28% were children (Oberg, Jaakkola, Woodward, Peruga and Pruss-Ustun, 2011), making tobacco use and control important public health issues for adults and children, particularly because 80% to 90% of smokers start smoking during childhood (USDHHS, 2012).

Substance use and abuse, particularly among young people, have been identified as priority issues in improving the health and economy of a country (Madu and Matla, 2003). Substance use among adolescents in all parts of the world continues to be a significant health problem (Brook, Morojele, Pahl and Brook, 2003). This is particularly true in of Botswana. Lewis (1996) has highlighted that adolescents who become dependent on illicit drugs often experience disruption of relationships with family, teachers, peers; and a heightened deterioration of school and work performance. Road traffic accidents, suicide, violence and high-risk sexual behaviour are often attributed to adolescent substance use (National Institute on Alcohol Abuse and Alcoholism, 2003; Stolle, Sack, and Thmasius, 2009: cited in Moodley, Matjila and Moosa, 2012). The adverse health, behavioural, psychological and social consequences of alcohol consumption among the youth cannot be overemphasized (Pretorius, Ferreira and Edwards, 1999). Despite this evidence, there is limited data on the extent of substance use or abuse in Botswana among adolescents.

Very little information is available on the prevalence and use of polysubstances such as alcohol, smoking and drugs among adolescents in Botswana. Since the use of polysubstances compromise health, in particular the HIV and AIDS epidemic, it is

important to investigate the extent of the use of polysubstances particularly among the young people who are heavily affected by the scourge. This study is one of the few to provide scientific evidence on multiple substance use among adolescents in Botswana. It will enable policymakers to design evidence-based programmes targeting adolescents. This study aims to estimate the prevalence of multiple substance use and its correlates among adolescents in Botswana and inform health policies and interventions.

METHOD

Data

The data used in this study comes from the Botswana Youth Risk Behavioural Surveillance Survey (BYRBSS), which is a cross-sectional study. The BYRBSS was designed to assess awareness of the health-risk behaviours among learners aged 10-19 years; to establish baseline data that will be used track health-risk behavioural trends among learners in Botswana; to examine co-occurrence of risky behaviours exposing learners in Botswana to HIV infection such as drugs, alcohol, crime and sexual behaviour; and to identify exposure to and impact of various components of the Ministry of Education implemented prevention interventions among learners in Botswana (BYRBSS, 2011).

Sampling procedure and Participants

Since a complex sample design was used in this survey, the use of standard statistical procedures cannot be used to compute estimates of the desired parameters. The survey used a multi-stage stratified sampling design dictating that the analysis should use complex sample module to account for multiple stages of sampling. In order to produce a nationally representative sample of learners, 15 educational districts were used as primary sampling sites and the secondary sampling sites were the schools. The schools were selected using probability proportional to size based on total school enrolment data of the year 2007. Five schools of upper primary (i.e. 10-12 year-olds) and five junior and senior secondary schools (i.e. 13-19 year-olds) were selected. In order to select classrooms, a list of classes in each type of school (i.e. upper primary, junior, and senior secondary schools) was ordered by grade and two classes in each sampled school were selected randomly. The school response rate was 92.9%; the student response rate was 88.3%, and the overall response rate was 82.1%. A total of 4,289 students participated in the BYRBSS (for more details on sampling see Republic of Botswana, 2011).

Measures

Three substance use measures were used in this study, namely, smoking, drug use, and drinking or alcohol use. All substance use measures are self-reported. Lifetime prevalence rates were estimated as stated below. Smoking was defined as having ever tried or experimented with cigarette smoking. It was derived from this question: “Have you ever tried or experimented with cigarette smoking, even one or two puffs?” Drug use was derived from this question: “Some people have tried a range of different types of drugs that are used to get high (feel good, relaxed). Which of the following, if any, have you tried?” The list of drugs which provided as items to choose from are the following: marijuana, glue, mandrax,

cocaine, ecstasy, sextasy, and other. Sextasy is a term used to refer to taking viagra and ecstasy together with the intention of increasing sexual drive when on ecstasy. Another measure of illicit drug use was injection drug use where respondents were asked: "Have you ever injected drugs"? The instruction following this question stated that drugs injected for medical purposes or treatment of an illness does not count. However, the results obtained from this variable yielded unbelievably high percentage of illicit drug use which was suspected to have been inflated mainly by including drugs(e.g. drugs for diabetes) used for medical purposes. As such this variable was not used in the paper to generate estimate of drug use. For alcohol use, our chosen outcome measure is derived from a "yes" answer to a question: "Do you sometimes take alcohol?" Current prevalence of alcohol consumption and smoking were estimated from the following questions: current alcohol consumption: "How often you take alcohol?" and current smoking status: "In the past 30 days, how often did you smoke?"

We derived variables indicative of multiple substance use by creating a multilevel variable of smoking, drug use and alcohol use. This resulted in four categories of multiple substance use: smoking and drinking; smoking and drug use; drinking and drug use; and used all three substances. For multinomial logistic regression analysis, no substance use was used as a reference category. Demographic data available in the survey were limited to gender, age, and education.

Analysis

The analysis in this study was done using IBM SPSS Statistics 22. Weighted data were analysed using complex sample module in SPSS to account for the complex sampling designs. Bivariate analysis was conducted to estimate prevalence and multiple substance use rates with confidence intervals among school-going adolescents by selected characteristics. Multinomial logistic regression analysis, which is an extension of the binary logistic regression, was used to investigate correlates of multiple substance use among adolescents. The multinomial logistic regression was used in this instance because the categorical dependent variable has more than two levels.

Ethical considerations

Ethical clearance was sought through the Health Research Unit under the Ministry of Health in Botswana. The Ministry of Education and Skills Development performed community awareness building together with the Chief Education Officers of each district through letters and/or in person. The Chief Education Officers discussed the survey with the school heads, teachers, and parents through parent and teacher meetings. Outreach efforts to disclose how classes will be selected, the dates the survey management team will be on-site, implementation of passive informed consent to the parents, and the basic topics that will be covered in the questionnaire and the amount of time it will take were undertaken. Before the survey was to take place, the school head sent out letters to the participating learners' parents and on the day of the survey there were discussions about the survey to participating classes. Parental/guardian consent was sought and learners assent was obtained before being selected to participate or volunteer to take part in the

study (BYRBSS, 2011). The survey manager was responsible for data collection and management on a daily basis. The research assistants collected all letters sent to parents or guardians and verified that they were signed. The learners whose parents or guardian did not consent were then given the opportunity to answer the first part of the survey questionnaire which is mainly on their background characteristics only and the same applied to learners who did not assent even though their parents/guardians consented (BYRBSS, 2011).

Those that did not qualify to be part of the survey (under nine years old) were excused from the class rooms. Respondents were not coerced to take part in the study; all efforts were made to avoid deception or making false promises in order to woo participants to agree to be part of the study. All research participants were assured of anonymity/confidentiality, and that their individual and personal identities would be protected. Names or other personal identifiers were not recorded in any survey instruments. All survey records were marked with an automatically generated questionnaire identification number (BYRBSS, 2011). The study ensured that there was neither invasion of private space, physical nor social harm to human subjects participating in the study.

The learners completed a self-administered questionnaire in English during class sessions using individually issued personal digital assistants (PDAs) for the purpose. Each learner was able to take the survey at the same time. Because of the sensitivity of some of the questions, we expected some emotional reactions from the learners. Fortunately, HIV and AIDS Life Skills Education are mainstreamed at all levels of the education system in Botswana from training of teachers and teaching of students. For example, each week, forty-minutes of Guidance and Counselling Lessons are set aside for each class and these lessons incorporate HIV and AIDS. Therefore, class teachers were nearby to assist with counselling during and after the survey in case the need arose. All the learners completed the survey, and the PDAs were collected for safekeeping and all the data were downloaded into computers for storage to avoid loss and public display of confidential information (BYRBSS, 2011).

RESULTS

The results are presented in two sections. The first presents the lifetime prevalence of single or individual substance use and the second section shows prevalence of multiple substance use.

Engagement in substance use

Lifetime prevalence of illicit drugs

This section presents results on the proportions of adolescents who reported engaging in the use of illegal drugs classified by gender. Marijuana was reported to have been tried by about 13.2% (10.9-15.8) of the adolescents and this proportion was dominated by male adolescents (15.3%) compared to female adolescents (11.4%). The next popular substance used was glue which was reported by 12.2% adolescents (13.9% males and 10.8% females) (see Table 1). According to the study results, common forms of drugs that appeared popular among the school-going adolescents were marijuana and glue (see Table 1).

Table 1. Percentages of male and female respondents who engaged in substance use by sex

	Male		Female		Total		N
	%	95% CI	%	95% CI	%	95% CI	
Marijuana	15.3	(12.4-18.7)	11.4	(8.6-15.0)	13.2	(10.9-15.8)	3763
Glue	13.9	(9.4-20.1)	10.8	(6.7-16.9)	12.2	(8.0-18.1)	3763
Mandrax	4.0	(1.9-8.1)	3.9	(1.8-7.9)	3.9	(1.9-7.7)	3763
Cocaine	5.8	(3.8-8.9)	5.2	(3.2-8.4)	5.5	(3.8-8.0)	3763
Ecstasy	3.3	(1.6-6.7)	3.6	(2.4-5.3)	3.4	(2.1-5.6)	3763
Sextasy*	5.6	(3.9-7.9)	5.3	(3.7-7.5)	5.4	(3.9-7.6)	3763
Other	1.8	(0.8-4.0)	0.6	(0.4-1.1)	1.2	(0.6-2.2)	3763
None	50.3	(38.5-62.0)	59.2	(44.7-72.3)	55.1	(42.0-67.6)	3763

*__Sextacy__ is a term used to describe taking viagra and ecstasy together with the intention of increasing sexual drive when on ecstasy.

From Table 1, it is clear that illicit drugs such as mandrax, cocaine and ecstacy were used by both female and male adolescents by almost similar proportions. About 4.0% of male and 3.9% of female adolescents reported using mandrax compared to 5.8% of male and 5.2% of female adolescents who reported using cocaine to get high. As such it is clear from these results that illicit drug use among adolescents does not vary much by gender.

Lifetime and current prevalence of smoking

This section contains summaries of survey data on cigarette smoking. The Botswana Youth Behavioral Surveillance Survey interviewed 3567 students for this section. Of the 3,567 students responding to the question on the use of cigarettes, 18.1% (15.0-21.7) reported having ever used or experimented with cigarette smoking. Of the 1565 male students who responded, about 23.3% (19.1-28.1) have experimented with cigarettes compared to 14.0% (11.3-17.1) of the 2002 female students (see Table 2).

The data shows that there are disproportionately lower percentages of younger students who have ever tried smoking compared with older students. For instance, the percentages of students younger than 16 years who have ever experimented with tobacco ranged between 14.1%-17.1%. This compares with a range of 19.7%-30.5% among students who were older than 15 years. There are also variations within groups, where there are disproportionately more males than females who have ever experimented with cigarettes by age. On educational levels, a similar pattern could be said to emerge among students who have experimented with cigarette smoking during their lifetime (see Table 2).

The second section of Table 2 presents the current prevalence of smoking among adolescents. More male than female adolescents reported to be currently smoking cigarettes. The current consumption of cigarette was relatively high among adolescents aged 16-19 years and adolescents in senior secondary schools compared to those aged 10-12 and 13-15 and those from grade 5 till junior secondary. Current consumption of cigarette is almost half the lifetime prevalence of cigarette smoking.

Table 2. Lifetime and current prevalence of individual substance use among school-going adolescents by selected characteristics

Characteristic	Lifetime substance use		
	Injection drugs (% 95% CI)	Ever used alcohol (% 95% CI)	Ever smoked cigarette (% 95% CI)
Sex			
Male	23.3 (21.1-25.7)	18.7 (14.2-24.1)	23.3 (19.1-28.1)
Female	19.7 (16.2-23.7)	13.6 (9.9-18.5)	14.0 (11.3-17.1)
Age group			
10-12	22.1 (17.9-26.9)	9.7 (6.7-13.9)	14.1 (10.8-18.1)
13-15	22.2 (18.5-26.5)	13.6 (11.6-15.9)	17.1 (14.3-20.3)
16-19	19.0 (14.3-24.7)	27.2 (20.5-35.1)	24.7 (19.7-30.5)
Education			
Standards 5,6&7	23.9 (19.9-28.5)	10.8 (7.9-14.5)	15.3 (12.1-19.2)
Junior secondary	20.6 (17.2-24.4)	17.3 (15.2-19.7)	18.6 (15.8-21.6)
Senior secondary	11.9 (9.5-14.8)	37.0 (29.0-45.7)	30.4 (27.2-33.7)
Total	**21.3** (18.6-24.4)	**15.9** (12.0-20.8)	**18.1** (15.0-21.7)
	Current substance use		
		Currently using alcohol (% 95% CI)	**Currently smoking cigarette (% 95% CI)**
Sex			
Male		8.7 (7,1-10.5)	9.1 (7.5-11.0)
Female		5.6 (4.4-7.1)	5.2 (4.2-6.4)
Age group			
10-12		6.9 (4.6-10.1)	6.2 (4.5-8.4)
13-15		5.0 (3.9-6.4)	6.3 (4.7-8.6)
16-19		10.2 (8.3-12.3)	8.9 (7.1-11.1)
Education			
Standards 5,6&7		6.4 (4.4-9.2)	6.6 (4.8-9.1)
Junior secondary		6.5 (4.6-9.0)	6.3 (4.9-8.1)
Senior secondary		11.4 (8.0-16.1)	10.9 (9.6-12.5)
Total		7.0 (5.9-8.3)	7.0 (5.8-8.3)

Lifetime and current prevalence of alcohol use

Out of the total of 3574 students responding to the question on ever use of alcohol, 15.9% (12.0-20.8) had ever used alcohol during their life. The percentage of male students who reported ever consuming alcohol in their lifetime was 18.7% (14.2-24.1) out of 1568 male students compared to 13.6% (9.9-18.5) of the 2006 female students.

The data showed that there were proportionately lower percentages of younger students who have ever used alcohol compared to older students. For instance, the percentages of students who have ever used alcohol ranged between 9.7% (6.7-13.9) and 13.6% (11.6-15.9) among those aged 10-12 and 13-15 years respectively. This compared with 27.2% (20.5-35.1) among students who were older than 15 years. On educational levels, a similar pattern emerged among students who had ever used alcohol during their lifetime (see Table 2).

The second section of Table 2 presents current prevalence of alcohol consumption among adolescents. Again, more male than female adolescents reported to be currently using alcohol, 8.7% (7.1-10.5) and 5.6% (4.4-7.1) respectively. The current consumption of alcohol was high among adolescents aged 16-19 years and adolescents in senior secondary schools, representing 10.2% and 11.4%, respectively.

Prevalence of multiple substance use

Multiple substance use was not uncommon among adolescents. Multiple substance use of alcohol and tobacco was the highest with 42.5% of all adolescents reported using both (see Table 3). A higher percentage of male compared to female adolescents reported the use of both tobacco and alcohol, 43.0% (30.3-56.6) and 41.8% (28.8-56.0), respectively. Multiple uses of both tobacco and alcohol increased with increasing age and educational levels of adolescents.

The next multiple substance use was of drugs and tobacco where 26.6% (21.1-32.9) of adolescents reported using both. A higher proportion of female rather than male adolescents reported using both drugs and tobacco, 30.0% (22.9-38.9) and 23.8% (18.5-30.0), respectively. A higher percentage of younger adolescents and those in lower schools reported using both drugs and tobacco compared to their older counterparts in secondary schools. For example, 33.9% (28.5-39.9) of adolescents in upper primary schools compared to 7.7% (3.8-14.9) of adolescents in senior secondary schools reported using both drugs and tobacco (see Table 3).

The consumption of both illicit drugs and tobacco was reported by 12.3% (8.9-16.7) of adolescents. Almost similar proportions of male and female adolescents, representing 12.8% and 11.5%, respectively, reported consuming drugs and alcohol. Higher proportions of younger adolescents and adolescents in lower schools reported using drugs and alcohol. The

Table 3. Prevalence of multiple substance use among school-going adolescents by selected characteristics

Characteristic	Multiple substance use			
	Illicit drugs & tobacco % (95% CI)	Tobacco & alcohol % (95% CI)	Illicit drugs & alcohol % (95% CI)	Alcohol, tobacco & Illicit drugs % (95% CI)
Sex				
Male	23.8 (18.5-30.0)	43.0 (30.3-56.6)	12.8 (9.2-17.6)	20.4 (10.6-35.6)
Female	30.3 (22.9-38.9)	41.8 (28.8-56.0)	11.5 (7.3-17.5)	16.4 (10.6-24.6)
Age group				
10-12	33.3 (24.6-43.3)	21.9 (13.6-33.3)	13.5 (10.4-17.3)	31.4 (19.0-47.1)
13-15	33.3 (27.3-39.9)	33.5 (23.6-45.1)	14.7 (9.0-23.0)	18.5 (10.6-30.3)
16-19	15.1 (9.8-22.6)	65.2 (53.4-75.3)	8.9 (5.0-15.5)	10.8 (7.1-16.0)
Education				
Standards 5,6&7	33.9 (28.5-39.9)	22.3 (16.5-29.5)	15.5 (8.9-25.7)	28.3 (17.2-42.7)
Junior secondary	27.3 (22.4-32.7)	48.4 (38.2-58.7)	12.2 (8.8-16.6)	12.2 (8.7-16.8)
Senior secondary	7.7 (3.8-14.9)	79.4 (75.0-83.1)	4.7 (1.3-15.7)	8.3 (5.3-12.6)
Total	**26.6 (21.1-32.9)**	**42.5 (29.9-56.1)**	**12.3 (8.9-16.7)**	**18.7 (4.5-10.9)**

concurrent consumption of alcohol, cigarettes, and drugs was reported by 18.7% (4.5-10.9) of adolescents (see Table 3).

Overall a high percentage of males reported multiple substance use compared to their female counterparts. Generally a higher percentage of school-going adolescents aged 10-12 years indicated multiple substance use compared to other adolescents, save for tobacco and alcohol. Similar patterns of multiple substance use can be observed with regards to the educational attainment of adolescents.

Factors that influence multiple substance use

In this section, we report factors influencing multiple substance use among school-going adolescents in Botswana. Table 4 presents the results on the determinants of multiple substance use among adolescents. From this table, it is apparent that male adolescents were more likely than female adolescents to report multiple substance use. Male adolescents are 2.0 times likely than females to report having tried both drugs and alcohol, and this relationship is statistically significant at 95% level. Adolescents aged 16-19 years were 2.8 times more likely to have used drugs and tried alcohol concurrently, although this relationship was not statistically significant. Adolescents in Standards 5, 6 & 7(upper primary) and those in junior secondary schools were more likely than those in senior secondary schools to report having tried drugs and alcohol.

Male adolescents were 1.5 times likely than females to report having tried both drugs and tobacco and this relationship was not statistically significant at 95% level. Adolescents aged 13-19 years were more likely to have tried both tobacco and drugs. However this relationship was not statistically significant at 95% level. Adolescents in Standards 5, 6 & 7 and those in junior secondary schools were more likely than those in senior secondary schools to report having tried drugs and tobacco and this relationship was not statistically significant at 95% level.

Male adolescents are 2.2 times more likely than females to report having tried both tobacco and alcohol, and this relationship was statistically significant at 95% level. Adolescents aged 13-15 and 16-19 years were more likely to have tried both tobacco and alcohol. These relationships were not statistically significant at 95% level. Adolescents in Standards 5, 6

Table 4. Correlates of multiple substance use among school-going adolescents using multinomial logistic regression

Characteristic	Illicit drugs & alcohol Odds ratio (95% CI)	Illicit drugs & smoking Odds ratio (95% CI)	Smoking & alcohol Odds ratio (95% CI)	Alcohol, smoking & illicit drugs Odds ratio (95% CI)
Sex				
Male	2.042 (1.253-3.329)	1.468 (0.946-2.279)	2.173 (1.680-2.810)	2.367 (1.660-3.377)
Age group				
13-15	1.719 (0.715-4.133)	1.452 (0.766-2.753)	1.338 (0.520-3.445)	1.019 (0.663-1.568)
16-19	2.774 (0.838-9.181)	1.608 (0.592-4.369)	2.343 (0.716-7.667)	1.481 (0.776-2.827)
Education				
Standards 5,6&7	2.435(0.429-13.831)	2.164 (0.633-7.400)	0.196 (0.078-0.491)	1.697 (0.721-3.995)
Junior secondary	1.523 (0.345-6.727)	1.733 (0.833-3.603)	0.369 (0.232-0.586)	0.804 (0.401-1.610)

& 7 and those in junior secondary schools were less likely than those in senior secondary schools to report having tried tobacco and alcohol, and these relationships were statistically significant at 95% level.

Male adolescents were 2.5 times more likely than females to report having tried alcohol, tobacco and injected drugs and this relationship was statistically significant at 95% level. Other relationships were not statistically significant at 95% level.

DISCUSSION AND CONCLUSION

The purpose of this study was to investigate the prevalence and correlates of multiple substance use among school-going adolescents in Botswana in order to inform health policies and interventions. The current study shows that marijuana use stands at 13.2% among adolescents in Botswana which is more or less similar to 12.7% among South African adolescents (Reddy et al, 2003; Reddy et al, 2011). The proportion of adolescents using glue, which is an inhalant, is 12.2% in Botswana, and is similar to the South African adolescents' use of inhalants which stood at 12.2% in 2008 (Reddy et al, 2011). In our view, marijuana may be commonly used for entertainment purpose because adolescents enjoy its effect, and because it helps them to socialize. In fact, Madu and Matla (2003) have argued that because of this, drugs (marijuana) fit conveniently in the social world of many adolescents, and play a prominent role in their recreational activities. This result is also consistent with other research showing that marijuana is the drug most likely to be used by adolescents in Europe and the USA (Johnson et al, et al, 2001: cited in Parry et al, 2004).

The results have indicated that the majority of adolescents reported to have used marijuana and glue, while fewer reported the use of hard drugs such cocaine and mandrax. The fact of the matter is that some adolescents have experimented with habit-forming substances although the extent of use may be debated. Botswana Substance Abuse Support Network (BOSASNET) has observed that they were "experiencing a surge in the number of substance abuse addicts among young people who come to their offices seeking help to stop their drug habits" (p2). It observed that "most addicts confess to be hooked on marijuana, alcohol and/or tobacco. BOSASNET representative added that they have helped some young people who claim to be addicted to hard drugs such as cocaine and heroin. These statements clearly show that illicit drug use could be a problem in Botswana, especially among school-going adolescents.

The use of other illicit drugs such as mandrax, cocaine and ecstasy is higher among the South African adolescents compared to adolescents in Botswana. For example, 3.9% of adolescents in Botswana reported using mandrax compared to 7.4% of their South African counterparts, 5.5% Botswana adolescents compared to 6.7% South African adolescents reported using cocaine, and 3.4% adolescents in Botswana compared to 5.8% South African adolescents reported using ecstasy (Reddy et al, 2013).

The lifetime prevalence of cigarette smoking in Botswana (18.1%) is lower than that of the South African adolescents which stands at 29.5% (Reddy et al, 2013). The prevalence of cigarette smoking among adolescents in Botswana

is also lower than that in the US which stood at 44.7% in 2011 (Eaton et al, 2011). In this study, cigarette smoking is associated with the age and educational level of the student, and the same conclusions were drawn from other studies as well. The prevalence of having ever smoked cigarettes was lower among younger adolescents (14.1% for 10-12 year-olds) than older adolescents (24.7% for 16-19 year-olds) The prevalence of having ever smoked cigarette was 15.3% among adolescents in upper primary schools and 30.4% in senior secondary schools. These outcomes of the survey are consistent with those of previous studies (e.g. Eaton et al, 2011; Reddy et al, 2013).

The lifetime prevalence of alcohol consumption stands at 15.9%: 18.7% for males and 13.6% for females. These figures show that alcohol consumption among adolescents in Botswana is lower compared to that of their South African counterparts, which was estimated at 49.6% in 2008 (Reddy et al, 2011).

In Botswana, the lifetime prevalence of injection drugs among adolescents appears rather high (21.3%) compared to that of the consumption of alcohol (15.9%) and cigarette smoking (18.1%) and prevalence rates of all these from other countries. The lifetime prevalence of students who reported having injected illegal drugs into their body stood at 2.3% in the United States, with the prevalence being higher among male (2.9%) than female (1.6%) students. The South African Community Epidemiology Network on Drug Use (SACENDU) data from 2012 recorded 0.3% of the patients aged 18 or under in treatment as injecting (Barrett et al., 2013). Barrett et al (2013) observed that in South Africa, injecting drugs among under-18s appeared to be rare. Because substance use prevalence between South Africa and Botswana are fairly comparable, it is suspected that the reported injection drug use of 21.3% in Botswana is exaggerated.

The plausible explanation is that adolescents did not follow the instructions when answering this question: “Have you ever injected drugs?” In responding to this question, adolescents may have included drugs injected for medical purposes or treatment of an illness even though the instruction clearly stated that these should not be counted. Because the respondents used self-administered questionnaires in answering the question, they may not have observed the instruction not to include drugs injected for medical purposes, which would inflate the figure. Because of this problem the authors used another question to capture drug use among adolescents. The drug use question used was: “Some people have tried a range of different types of drugs that are used to get high (feel good, relaxed). Which of the following, if any, have you tried”? Then the following list of options was provided for the respondent to choose from: marijuana, glue, mandrax, cocaine, ecstacy, sextasy, and other. The responses from this question were more plausible.

It is apparent that individual and multiple substance use are common among young people in Botswana. There are potential or possible consequences of high levels of substance use. For example, substance use can have undesirable consequences at different levels of society. One of the observed consequences involves school problems. School problems associated with substance abuse among young people include lowered commitment to education, declining grades, absenteeism

from school, increased potential for dropping out of school and higher truancy rates (Hawkins, Catalano and Miller, 1992).

Furthermore, the health and safety consequences of substance use among young people include accidental injuries, physical disabilities, diseases, and possible overdoses (National Health & Mental Health Research Council, 2001). The use of alcohol and other drugs increases the risk of young people contracting HIV and other sexually transmitted infections (Tsimako, 2003). The medical and health consequences include increasing the risk for mental and physical health problems, including addiction, death from substance-related accidents, homicides, suicide and engaging in other dangerous behaviours such as reckless driving, unsafe sex, and violence (Feinstein, Richter and Foster, 2012).

Previous studies have observed that the youth who use alcohol and other drugs may be alienated from and stigmatized by their peers (National Health & Mental Health Research Council, 2001). As a result, these may disengage from school and community activities because of their substance abuse, depriving their peers and communities of the positive contributions they might otherwise make.

In conclusion, it is apparent that individual and multiple substance use are common among young people in Botswana. The common substance used by adolescents is illicit drugs, followed by alcohol and tobacco. These findings are not consistent with other studies from the region where generally the most commonly used substance among learners is alcohol, followed by cigarette smoking and lastly illicit drugs, particularly marijuana or cannabis (Moodley et al, 2012; Reddy et al,2011; Atwoli et al, 2011). As previously stated the question on "Have you ever used drugs" may have been misunderstood by the learners hence the unusually high percentage of injecting drug users.

It was also observed that multiple substance use among adolescents in descending order were alcohol and tobacco; drugs and tobacco; alcohol, tobacco and drugs; and drugs and alcohol. Male adolescents were more likely than their female counterparts to have experienced the use of multiple substance such as drugs and alcohol; alcohol, tobacco and drugs; tobacco and alcohol, and drugs and tobacco. Some studies have shown gender differences in the rates and severity of substance use, with higher rates of alcohol, marijuana, and hard drug use among males (Dembo et al, 1991). However the gap between males and females may be closing as nicotine use among females may exceed use among males (Boyle, et al, 1992). A striking finding from the Atteridgeville study is the high lifetime prevalence of alcohol use in female learners when compared with black female learners in previous South African studies, and this higher rate may be part of a national trend of increased use of alcohol among black female learners (Moodley et al 2012). For these adolescents, professionally run programmes can help them stop using and help guard against long-term health and social problems.

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CONFLICT OF INTEREST

None

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