

## PROFILE OF SIMULTANEOUS POLY-SUBSTANCE USERS OF UNDERGRADUATE STUDENTS AT ONE UNIVERSITY, KINGSTON - JAMAICA

*Joy Harrison<sup>1</sup>, Laura Simich<sup>2</sup>, Carol Strike<sup>3</sup>, Bruna Brands<sup>4</sup>, Norman Giesbrecht<sup>5</sup>, Akwatu Khenti<sup>6</sup>*

<sup>1</sup> MSW. Social worker/lecturer. Department of Medical Sciences (Community Health and Psychiatry). University of the West Indies, Mona. Kingston, Jamaica. E-mail: joy.harrison02@uwimona.edu.jm

<sup>2</sup> Ph.D. Researcher. Health Systems Research and Consulting Unit. Centre for Addiction and Mental Health. University of Toronto. Toronto, Canada. E-mail: laura\_simch@camh.net

<sup>3</sup> Ph.D. Researcher. Health Systems Research and Consulting Unit. Centre for Addiction and Mental Health. University of Toronto. Toronto, Canada. E-mail: carol\_strike@camh.net

<sup>4</sup> Ph.D. Researcher Senior. Office of Research and Surveillance. Drug Strategy and Controlled Substances Programme. Health Canada and Public Health and Regulatory Policies. Center for Addiction and Mental Health, University Toronto. Toronto, Canada. E-mail: bruna\_brands@camh.net

<sup>5</sup> Ph.D. Researcher. Health Systems Research and Consulting Unit. Centre for Addiction and Mental Health. University of Toronto. Toronto, Canada. E-mail: norman\_giesbrecht@camh.net

<sup>6</sup> MSc. Director of Office of International Health Center for Addiction and Mental Health. Toronto, Canada, E-mail: akwatu\_khenti@camh.net

**ABSTRACT:** This study is part of a multicentric research project involving seven universities in five Latin American countries and one Caribbean island (Jamaica). This cross-sectional study examines the profile of a sample of first and second year undergraduate students in the Medical/Health Science Department of one university in Kingston, Jamaica. The sample size was 295 students. Our results revealed that this pattern of drug use is occurring in this specific university. Alcohol was the most frequently reported substance 27.5%, followed by cannabis 6.1% and tobacco 4.7%. Report of polydrug consumption was low for all categories studied. Our findings may inform interventions at the university level.

**DESCRIPTORS:** Students. Street drugs. Behaviour addictive. Substance-related disorders. Risk factors.

## EL PERFIL DEL POLICONSUMO SIMULTÁNEO DE DROGAS ENTRE ESTUDIANTES DE PREGRADO DE UNA UNIVERSIDAD, KINGSTON - JAMAICA

**RESUMEN:** Este estudio forma parte de una investigación multicéntrica que involucra siete universidades en cinco países de América Latina y una isla caribeña (Jamaica). Estudio de corte transversal que examina el perfil de una muestra de estudiantes de pregrado del primer y segundo años del departamento de Ciencias de la Salud/Médicas de una universidad en Kingston, Jamaica. El tamaño de la muestra fue de 295 estudiantes. Nuestros resultados revelaron que este patrón de consumo de drogas se está produciendo en la universidad estudiada. Alcohol fue la droga mas reportada 27.5%, seguida por cannabis 6.1% y tabaco 4.7%. El reporte de poli-consumo simultaneo fue bajo. Nuestros hallazgos pueden contribuir a informar intervenciones a nivel universitario.

**DESCRIPTORES:** Estudiantes. Drogas ilícitas. Conducta adictiva. Transtornos relacionados com sustancias. Factores de riesgo.

## O PERFIL DO POLICONSUMO SIMULTÂNEO DE DROGAS ENTRE ESTUDANTES DE GRADUAÇÃO DE UMA UNIVERSIDADE, KINGSTON - JAMAICA

**RESUMO:** Este estudo é parte de uma investigação multicêntrica envolvendo sete universidades em cinco países da América Latina e uma ilha caribenha (Jamaica). Este estudo de corte transversal analisa o perfil de 295 estudantes do primeiro e segundo ano de graduação do departamento de ciências da medicina/saúde de uma Universidade em Kingston, Jamaica. Os resultados revelaram que o padrão de policonsumo simultâneo de drogas está ocorrendo na Universidade selecionada. O álcool foi a droga mais comumente relatada (27,5%), seguida pela maconha 6,1%, e tabaco 4,7%). O relatório de policonsumo simultâneo foi baixo. Nossas descobertas podem contribuir para as intervenções a nível universitário.

**DESCRIPTORIOS:** Estudantes. Drogas ilícitas. Comportamento aditivo. Transtornos relacionados ao uso de substancias. Fatores de risco.

## INTRODUCTION

Substance misuse among university students in general is a public health issue for some nations. The pattern of substance use since the 1990s has gotten increasingly worse and now students are immersed in a culture of abuse of addictive substances that results in a range of harmful academic, health and social consequences that extend into the surrounding communities.<sup>1</sup> Simultaneous poly-substance use in particular, is becoming quite prevalent in educational institutions.

The use of licit and illicit substances is on the increase in colleges and universities and seems to begin at middle school, filters up to high school and then into universities and colleges.<sup>2</sup> In a Rio de Janeiro/Brazil university, it was discovered from a survey, that the mean age of first use for substances among medical students was 16.6% for tobacco and 15.9 years of age for alcohol; corroborating with findings from other studies indicating that the ages of initiated use is occurring at younger ages.<sup>2-3</sup> This is disturbing as the use of substances during adolescence is said to be a strong indication that users will progress to a lifetime of substance dependence which is usually associated with high risk behaviours such as violence, school failure and depression.<sup>2</sup>

Students who experiment with alcohol and drugs before entering college may also be more likely to engage in social and recreational activities where these substances are present. Therefore, programmes to be implemented in order to prevent, erase or lessen substance misuse, need to focus on activities which counter alcohol and substance use.<sup>4</sup>

Not much research is done on substance misuse among university students and even less seems to be conducted of the medical/health science faculties. However, university students are an important population to study for substance use, as they are considered to be a vulnerable population, because of their easy access to substances of abuse, academic stress and burn-out.<sup>5-6</sup> This vulnerability can also originate from the transition from high school to university, which could be a very stressful experience for students. This new transitional experience for some students living on their own, with little or no parental control, places them at heightened risk of substance misuse. In addition, university campus life is often a culture all to itself with numerous opportunities to experiment with

various substances to which students may not have been exposed before; such as exposure at parties "raves" both on campus and off campus. University culture also often promotes the heavy use of alcohol and other substances as stress relief and for fun.<sup>7-8</sup>

While much research has been done studying the substance misuse phenomenon, the literature tends to focus narrowly on the ingestion of one substance, or the concurrent use of two or more substances. Only a few of the studies reviewed examined the growing problem of co-ingestion of two or more substances at the same time (simultaneous polydrug use). In the Caribbean and Jamaica in particular, such a study is virtually non-existent, or if existing, is not readily available. As a result, little seems to be known about the interactive properties of psychoactive substances co-ingested at once, due to the lack of empirical data on simultaneous poly-substance use. What is however known is that simultaneous poly-substance use may produce greater intoxication with increased risk of injuries to the user.<sup>1,7,9-11</sup>

This study is therefore useful in adding to the body of knowledge in the area of substance abuse and in particular, the unearthing of new information regarding simultaneous poly-substance use among undergraduate university students enrolled in the medical/health science faculty at one university in Kingston, Jamaica.

## METHOD

The target population of this study was undergraduate university student in their first and second years in the Medical/Health Science Faculty at one university in Kingston, Jamaica. They included students in the Medical Sciences, Nursing, Psychology and Pharmacology Departments at the selected University. The total population was estimated in 1800 students.

This was a cross-sectional study using a survey method of data collection. Recruitment of respondents was conducted by the principal investigators and their trained assistants after obtaining permission from lecturers. The courses included in the study were randomly selected from the 1<sup>st</sup> and 2<sup>nd</sup> year of each program in the Faculty of Health/Medical Science. A self-report questionnaire, developed by the research team, was then administered to 295 students who voluntarily agreed on participating. Some of the items on the questionnaire were taken from

pre-existing scales, including the CAGE scale for measuring psychoactive substance abuse and "participation in campus life" Canadian Survey.<sup>1,14-14</sup>

The statistical analysis was descriptive, including frequency distributions. Data analysis was performed using the statistics software package SPSS, Version 15.0 for Windows.

Before actual fieldwork was embarked on, ethical approvals were granted by the Centre for Addiction and Mental Health Research Ethics Board (CAMH REB), Canada, and the University Hospital of the West Indies/University of the West Indies/Faculty of the Medical (UHWI/UWI/FMS), Jamaica, in October 2008 and February 2009 respectively.

## RESULTS

Sample size was 295 students, with 80.3% (n=237) females and males 19.7% (n=58). Alcohol was the most frequently reported substance 27.5% used in simultaneous combination with other drugs, followed by cannabis 6.1% and tobacco 4.7%.

Table 1 shows the frequency of the different combinations of substances reported in the study. The most reported co-ingested drugs were cannabis and alcohol. Of the ten combinations of substances presented in the questionnaire, none of the combinations including cocaine were mentioned by respondents, same for prescription drugs when combined with cannabis or tobacco.

**Table 1 - Combination of psychoactive substance used in last 12 months by Undergraduate students sampled at one university in Kingston-Jamaica, 2009 (n=295)**

Combination of substances used	Last 12 months		Last 30 days	
	F	%	F	%
Alcohol and cannabis	10	3.4	4	1.4
Alcohol and cocaine	-	-	-	-
Alcohol and prescription drug	2	0.07	1	0.3
Alcohol, tobacco and cannabis	5	1.4	-	-
Alcohol, cocaine and tobacco	-	-	-	-
Alcohol, cocaine, cannabis and tobacco	-	-	-	-
Cannabis and cocaine	-	-	-	-
Cannabis and prescription drugs	-	-	-	-
Tobacco and prescription drugs	-	-	-	-
Tobacco and cannabis	3	0.3	1	0.3

Table 2 exhibits the breakdown of the year of enrollment at the University. Most respondents were in their first year of their enrollment, with less than half of the respondents in the second year.

**Table 2 - Current year of respondents, enrollment at one university in Kingston-Jamaica, 2009 (n=295)**

Current year at university	F	%
First year	208	70.5
Second year	86	29.2
Non response	1	0.3

Table 3 presents the living arrangements of study respondents. Approximately half of the sampled students were living at home with family, and those living with persons to whom they have close kinship ties accounted for almost sixty percent of respondents. Most of the participants in the sample lived outside the University's campus.

**Table 3 - Places of residence for university students sampled at one university in Kingston-Jamaica, 2009 (n=295)**

Places of residence	F	%
On a hall of residence	64	21.7
At home with family	148	50.2
Live with other relatives	27	9.2
Live off campus with roommate	37	12.5
Live off campus alone	16	5.4
Other living arrangements	2	0.9

## DISCUSSION

It is apparent from the results of this study that some simultaneous polydrug use is occurring in the population studied. Only approximately 4% of respondents answered the question of the age of first simultaneous polydrug use, which could deem such results as inconsequential. However, many of the respondents seem to have been initiated into substance use before entering university; concurring with findings of other studies done with similar populations.<sup>1-2</sup> This element may be considered when planning intervention strategies.

The population studied is at the adolescence/young adulthood developmental stages. We did not explore the potential negative consequence of simultaneous polydrug use at this stage of the analysis.

Previous studies in the area of simultaneous polydrug use have reported decreasing rates as educational level increases, and where there is positive functioning, such as university entry.<sup>11,15-16</sup> In late adolescence and early adulthood, cessation of simultaneous poly substance use was also found to occur. Outside the University's campus is where many of the study respondents reside and those who live on the campus have the autonomy to enter and leave the campus as they wish. These living arrangements and free flow of movements on and off campus, allow for greater and continued exposure to a social environment that may be accepting of polydrug use.<sup>4</sup> Moreover, this exposure may be further exacerbated by the availability of and easy accessibility to substances. It was noted from the findings of this study, that the substances used in the different polydrug combinations were all legal and socially accepted, except for cannabis. Where cannabis use in Jamaica is concerned however, even though it is not legally sanctioned, its use is widely accepted by a wide cross-section of the society and so its prevalence in the combinations of substances co-ingested by respondents in this study is not surprising.

Jamaica is a country where the use of psychoactive substances by females is less accepted than when used by males. With the study having such a disproportionately larger number of female than male respondents, the true reflection of simultaneous drug use at the institution may not have been realized.

## CONCLUSION

The simultaneous polydrug use patterns and profile of undergraduate students sampled at one university in Kingston, Jamaica, may reflect social norms of our target population, where use of substances such as alcohol, tobacco and cannabis are present. We recognize an opportunity for universities to develop intervention programs aimed to prevent and help users at this stage, where there seems to be little impairment and with the possibility of less withdrawal complications.

## Limitations

The oversubscription of female respondents in our sample may have misled part of our results. The same may occur due to the small sample size used. Given the specific nature of our target population, findings cannot be generalized.

## Recommendations

Findings from this study can be instructive in the formulation and implementation of intervention strategies, tailored to deal with simultaneous poly-substance use at the University. It is recommended that the study be expanded to include other faculties, regional campuses, and other universities and tertiary institutions in Jamaica. In addition, substance misuse prevention research should be embarked on by this university, with a view to garnering information on the best intervention approach to employ in dealing with simultaneous polydrug use at the institution.

## ACKNOWLEDGEMENTS

Special thanks to the Government of Canada/DFAIT, Organization of America States (OAS), Inter-American Drug Control Commission (CICAD), Centre for Addiction and Mental Health (CAMH - Toronto/Canada), authorities of the selected University and the students and collaborators who participated in the study. Special thanks to Dr. Gustavo Mery, CAMH Reviewer, for his collaboration in the final revision and editorial aspects of all papers and reports of group III.

## REFERENCES

1. National Centre on Addiction and Substance Abuse. Wasting the best and the brightest: substance abuse at America's colleges and universities [CASA]. Columbia (US): Columbia University; 2007 [accessed 2008 Jul 20]. Available from: [www.casacolumbia.org](http://www.casacolumbia.org)
2. Mohler-Kuo M, Lee JE, Weschler H. Trends in marijuana and other drug use among college students: Results from 4 Harvard School of Public Health college alcohol study survey 1993-2001. *J Am Coll Health*. 2003 Jul-Agu; 52(1):17-24.
3. Passos SRL, Brasil PEAA, Santos MAB, Aquino MTC. Prevalence of psychoactive drug use among medical students in Rio de Janeiro. 2006. *Soc. Psychiatry Epidemiol*. 2006 Dec; 41(12):989-96.
4. Simons L, Klichine S, Lantz V, Ascolese L, Deihl S, Schatz B, et al. The relationship between social-contextual factors and alcohol and polydrug use among college freshmen. *J Psychoactive Drugs*. 2005 Dec; 37(4):415-24.
5. Shaiq M, Shah Z, Saleem A, Siddiqi MT, Shaikh KS, Salahuddin FF, et al. Perception of Pakistan medical students about drug and alcohol. *Subst Abuse Treat Prev Policy*. 2006 Oct 25; 1:31.
6. Krieglger KA, Baldwin JN. A survey of alcohol and other drug use behaviour and risk factors in

- health profession students. *J Am Coll Health*. 1994; 42(6):259.
7. Pillon SC, O'Brien B, Chávez KAP. The relationship between drugs use and risk behaviours in Brazilian university students. *Rev Latino-Am Enfermagem*. 2005; 13(Esp 2):1169-76.
8. Barnett SP, Gross SR, Garand I, Pihl RO. Patterns of simultaneous poly-substance use in Canadian rave attendees. *Subst Use Misuse*. 2005; 40(9-10):1525-38.
9. Jatlow P, Elseworth J, Bradbury C, Winger G, Taylor J. Cocaethylene: a neuropharmacologically active metabolite associated with concurrent cocaine-ethanol ingestion. *Life Sci*. 1991; 48(18):1787-94.
10. Martin CS, Clifford PR, Clapper RL. Patterns and predictors of simultaneous and concurrent use of alcohol, tobacco, marijuana, and hallucinogens in first-year college students. *J Subst Abuse*. 1992; 4(3):319-26.
11. Katz JJ, Terry P, Witkin J. Comparative behavioral pharmacology and toxicology of cocaine and its ethanol-derived metabolite, cocaine ethyl-ester (cocaethylene). *Life Sci*. 1992; 50(18):1351-61.
12. Boys A, Marsden J, Strang J. Understanding the reason for drug use among young people: a functional perspective. *Health Educ Research*. 2001 Aug; 16(4):457-69.
13. Erwing J. Detecting alcoholism. The CAGE questionnaire. *JAMA*. 1984 Oct 12; 252(14):1905-7.
14. Gliksman L, Demers A, Adlaf EM, editors. A national survey of Canadians' use of alcohol and other drugs: prevalence of use and related harm. Montreal (CA): Canadian Campus Survey, Centre for Addiction and Mental Health and Research Group on the Social Aspects of Health Université de Montreal; 2004.
15. Earleywine M, Newcomb MD. Concurrent versus simultaneous polydrug use: prevalence, correlates, discriminative validity, and prospective effects on health outcomes. *Exp Clin Psychopharmacol*. 1997 Nov; 5(4):353-64.
16. Oesterle S, Hill KG, Hawkins JD, Abbott RD. Positive functioning and alcohol-use disorders from adolescence to young adulthood. *J Stud Alcohol Drugs*. 2008; 69(1):100-11

Correspondence: Joy Harrison  
Department of Medical Sciences  
(Community Health and Psychiatry)  
University of the West Indies  
Mona, Kingston, Jamaica  
E-mail: joy.harrison02@uwimona.edu.jm