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## EXPLORATION OF SIMULTANEOUS POLYDRUG USE: RISK AND PROTECTIVE FACTORS IN UNDERGRADUATE STUDENTS IN ONE UNIVERSITY, KINGSTON - JAMAICA

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**ABSTRACT:** Simultaneous polydrug use in undergraduate students was studied in one university in Kingston, Jamaica. The study was a cross-sectional, and used a survey method of data collection. We examined protective and risk factors associated with simultaneous polydrug use in a sample of 295 undergraduate students from the health and medical science departments in the university. Our results suggest that continued residence with family, family support, and students' emotional well-being are protective factors. On the other hand, ease of access of substance and limited emotional support may be considered risk factors. Our findings may inform preventive programs, though further research is required.

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

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## EXPLORACIÓN DEL USO SIMULTÁNEO DE POLISUSTANCIAS Y FACTORES PROTECTORES Y DE RIESGOS EN ALUMNOS DE PREGRADO EN UNA UNIVERSIDAD, KINGSTON - JAMICA

**RESUMEN:** El policonsumo simultáneo de sustancias psicoactivas en estudiantes de una universidad fue estudiado en Kingston, Jamaica. El estudio fue de diseño transversal, y utilizó la modalidad de encuesta para la recolección de datos. Examinamos factores de riesgo y de protección asociados al policonsumo simultáneo en una muestra de 295 estudiantes de pregrado de los departamentos de la salud y de la ciencia médica de la universidad participante. Nuestros resultados sugieren que la estancia continuada con la familia, el apoyo familiar, y el bienestar de los estudiantes son factores de riesgo. Por el contrario, la facilidad del acceso de las drogas y el apoyo emocional se podrían considerar como factores protectores. Estos hallazgos pueden informar programas preventivos, aunque se requiere investigación adicional.

**DESCRIPTORES:** Estudiantes. Drogas ilícitas. Conducta adictiva. Trastornos relacionados con sustancias. Factores de riesgo.

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## EXPLORAÇÃO DO POLICONSUMO SIMULTÂNEO DE DROGAS E FATORES PROTETORES E DE RISCOS EM ESTUDANTES DE GRADUAÇÃO DE UMA UNIVERSIDADE, KINGSTON - JAMAICA

**RESUMO:** O policonsumo simultâneo de drogas em estudantes de graduação de uma universidade foi estudado em Kingston, Jamaica. É um estudo de corte transversal utilizando o método survey para coleta de dados. Foram examinados os fatores de risco e de proteção associados com o policonsumo simultâneo, em uma amostra de 295 estudantes de graduação da área da saúde e do departamento de ciências médicas da universidade participante no estudo. Os resultados deste estudo indicam que residir com a família, fornece uma sustentação maior e bem estar emocional, atuando como fatores protetores. Por outro lado, a facilidade de acesso as drogas e a sustentação emocional limitada atuaram como fatores de risco. Estes resultados podem informar os programas de prevenção, embora mais pesquisas sejam necessárias.

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

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## INTRODUCTION

The growing trend of substance abuse among university students is considered a significant public health crisis for many nations. According to the USA based National Centre on Addiction and Substance Abuse (CASA)<sup>1</sup>, students are immersed in a culture of abuse of addictive substances that results in a range of harmful, health, social and academic consequences that extend into the surrounding communities. Research findings<sup>2</sup> indicated that alcohol, tobacco and cannabis were the most commonly used substance among youths. Several risk factors contribute to their vulnerability; these include living on their own with reduced parental control places.<sup>3-4</sup> Difficulties is also associated with making the transition from high school to university, increased availability of such substance, their stage of development, level of peer acceptance and family interaction.<sup>5-6</sup> The poly simultaneous consumption refers to the consumption of different drugs at the same time. In study a recent,<sup>7</sup> it was found that the prevalence was 6.9% for simultaneous polydrug use. The study found that simultaneous polydrug use was more prevalent among undergraduate students who were male, and whose initiation of alcohol use was at an early age.

Several factors have been identified as playing an important role in the use of poly-substance in undergraduate students. These include, age of first use, place of residence, and ease of access, academic performance and the promotion of emotional well-being such as reducing anxiety, increasing pleasurable sensations and building confidence. Some research findings has shown that students who live in residences on campus were found to be two to three times more likely to use substances, with those living off campus to be twice likely to use substances than those students who live at home with relatives.<sup>2,7</sup>

The study under taken is multicentric in nature and involved one university in Kingston, Jamaica as well as five universities from Brazil, Colombia, Chile, El Salvador, and Nicaragua. This paper is based on specific data of one university in Kingston, Jamaica. In Jamaica, little or no research has been done to ascertain the levels of simultaneous polydrug consumption. However from multiple reports substance use is of growing concern to the administrators.<sup>8</sup> In implementing this study, it is hoped that the information garnered, will serve to better equip

our universities with evidence based data on the sources of these substances, their effects, an idea of the undergraduate students who may be more susceptible and intervention measures to deal with this growing negative trend among university students.

## METHODOLOGY

The study used a cross-sectional design, using a survey method of data collection. The research was based on a self-report questionnaire developed by the researchers. Some of the items on the questionnaire were taken from pre-existing scales developed by other researchers.<sup>1,9-12</sup> The questionnaire consisted of four sections with 58 closed ended questions which allowed respondents to provide additional information where necessary. Participants were included in the study after: 1) meeting specific inclusion and exclusion criteria; 2) agreeing after being given a verbal description of the study's goals, procedures, research informed consent form, and confidentiality assurance; 3) answers to any question participants may have on the study and data collection procedures; 4) signed the informed consent forms.

The sample consists of 295 undergraduate students in the first and second year programme of the Faculty Health/Medical Sciences of the selected university. The courses included in the study were randomly selected from each participant program, which gave all eligible students equal chances of being included in this study.

The data was analyzed descriptively, including frequency distribution. Additionally, the relationship between polydrug use and variables on the legal and social situations was explored using independent t-test, Mann Whitney-U and Chi-square analysis.

Ethical approval to conduct this research was obtained in from the Centre for Addiction and Mental Health Research Ethics Board Canada (CAMH REB) in October 2008 and from the University Hospital of the West Indies/University of the West Indies/Faculty of the Medical (UHWI/UWI/FMS) Jamaica, in February 2009.

## RESULTS

Table 1 presents the demographic information of the sample. The majority of undergraduate students included were females 80%. This is

reflective of the general student body population at the university. They were primarily drawn from the nursing faculty 37.5%, which is also predominantly a female population. Students from the department of Anatomy and Physiology and Psychology comprised the next largest sample respectively. The majority of undergraduate students sampled 95.6% were enrolled as full time students and in their 1<sup>st</sup> year of study 79%. Most of the undergraduate students sampled were single 91% and did not work while studying. The majority of the undergraduate students sampled lived at home with their families or with other relatives 50%. Approximately 22% of the sample lived on halls of residence at the university. Overall, a smaller percent lived with roommates or by themselves in 'off campus housing' on or near the university 18%.

**Table 1 - University undergraduate students sampled demographic information at one University in Kingston-Jamaica, 2009 (n=295)**

Demographic Variables	Frequency (f)	Percentage (%)
<b>Gender</b>		
Male	58	19.7
Female	237	80.3
<b>Marital status</b>		
Single	269	91.2
Married	15	5.1
Common-law	8	2.7
Separate/divorce	3	1.0
<b>Place of residence</b>		
On a hall of residence	64	21.7
At home with family	148	50.2
With other relative	27	9.2
Off campus with room mates	37	12.5
Off campus alone	16	5.4
Other	2	0.7
No response	1	0.3
<b>Enrollment status</b>		
Full time	281	95.3
Part-time	13	4.4
No response	1	3
<b>Year study</b>		
First year	208	70.5
Second year	86	29.2
No response	1	0.3
<b>Programme majors</b>		
Anatomy & physiology	71	24.1
Medicine	42	14.2
Nursing	111	37.6
Psychology	62	21
Pharmacy	8	2.7
No response	1	0.3

Table 2 illustrates data on substance use. As is depicted, the majority of the undergraduate students sampled did not respond to the item regarding simultaneous polydrug use, while 22.7% indicated that they were non-users, and 6.1% reported polydrug use in a last 12 month. This percentage fell to 3.1% for the past three month. The median age of onset was 19 years old, while 2.4% began their usage between 14 and 17 years old. Regarding place of consumption, the categories most referred were in their residence off campus and at off campus parties/night clubs. They also responded that substances used were obtained predominantly off campus.

**Table 2 - Reports of simultaneous polydrug use by university undergraduate students at one University in Kingston-Jamaica, 2009 (n=295)**

Simultaneous PolydrugUse	Frequency (f)	Percentage (%)
<b>12 months</b>		
Yes	18	6.1
No	67	22.7
No response	210	71.2
<b>3 months</b>		
Yes	12	3.1
No	76	25.8
No Response	210	71.1
<b>Age of initial use</b>		
9 Years	1	3
14 years	2	7
16 years	2	7
17 years	3	1
18 years	1	3%
19 years	4	1.4
No response	282	95.6
<b>Normal place of use</b>		
Residence on Campus	1	0.3
Residence off Campus	8	2.7
On Campus parties	5	1.7
Off Campus parties/night clubs	11	3.7
Other location	6	2
<b>Location of access</b>		
Off campus	13	4.4
On campus	1	0.3

Table 3 displays the results of simultaneous use by combination of drugs. As is apparent 6% of the students reported simultaneous polydrug use in the past 12 months, with 3% for the past three months. The most frequently used combination was alcohol and cannabis, followed by alcohol, tobacco and cannabis.

**Table 3 - Combination of substances used in the last 12 & 3 months among undergraduate students of one University in Kingston, Jamaica, 2009 (n=295)**

Substances	12 Months		3 Months	
	f	%	f	%
Alcohol + cannabis	10	3.4	4	1.4
Alcohol + cocaine	-	-	-	-
Alcohol + Prescription drug	2	0.7	1	0.3
Alcohol + tobacco + cannabis	5	1.7	4	1.4
Alcohol + cocaine + tobacco	-	-	-	-
Cannabis + Cocaine	-	-	-	-
Cannabis + Prescription drugs	-	-	-	-
Tobacco + cannabis	1	0.3	1	0.3
Tobacco + Prescription drug	-	-	-	-
Other combination	-	-	-	-

Table 4 provides information concerning the reasons for simultaneous polydrug use.

**Table 4 - Reasons for simultaneous polydrug use among undergraduate students of one university in Kingston, Jamaica, 2009 (n=295)**

Main Domain	Reason	f	%
Changing mood	Reduce depressive symptoms	8	2.7%
	Reduce anxiety symptoms	8	2.7%
	Help you to relax	10	3.4%
	Help you to experiment	5	1.7%
	Just get really stoned or intoxicated	6	2.0%
Physical effects	Enhance feeling when having sex	7	2.4%
	Help you to stay awake	3	1.0%
	Help you lose weight	1	0.3%
	Help you to sleep	1	0.3%
Social purposes	Help you enjoy friends	5	1.7%
	Help you feel more confident	4	1.4%
	Help you to lose your inhibitions	7	2.4%
	Help you keep going	6	2.0%
	Because of social pressure	2	0.7%
Facilitate activity	To concentrate	2	0.7%
	Enhance activity	4	1.4%
	Lessen boring tasks	7	2.4%
Manage effects from other substances	Improve effects of other substances	2	0.7%
	Ease the after effect of other substances	2	0.7%

## DISCUSSION

The research sought to explore simultaneous polydrug use in undergraduate students of one university in Jamaica, in order to highlight risk and protective factors associated with such activity. The results revealed that only a minority

Polydrug use was referred as instrumental in helping them to change their moods by 12.5% of the students. Among the reasons, 3.4% of the participants indicated that such substance was used to aid in relaxation, while 2.7% indicated that they helped to alleviate depressive or anxiety symptoms. Approximately 8.2% of respondents indicate that simultaneous polydrug use was primarily for social purposes such as enjoying friendships, losing inhibitions, and developing confidence. A smaller percentage of undergraduate students sampled 3.7% reported use because of the physical effects gained, for example to heighten pleasurable sensations or to change sleep patterns.

We did not detect significant differences between simultaneous polydrug users and non-users in relation to campus activity, academic performance, involvement in legal situations, or being victim of a violent act.

of the students sampled reported simultaneous polydrug use 6% over the last 12 months and 3% over the last three months. Alternatively, these low consumption rates may be reflecting a different pattern of use, such as sequentially rather than simultaneously, the use of a single substance, or an unwillingness to disclose such information.

The most frequently combined substances involved cannabis and alcohol, with tobacco to a lesser extent, coincident with findings of other researchers.<sup>2,9</sup> However unlike previous research findings, the current results did not reveal any significant difference between simultaneous polydrug users and non-users in relation to academic performance, being victims of violent acts or involvement in any legal situations.<sup>10</sup>

The findings also revealed that most of the undergraduate students sampled were studying full time and live with their families or other relatives in a family type setting. The fact that over 50% of the sample lived with family or other relatives may suggest that the continued family support and involvement in the students' life is a likely protective factor against polydrug use. Family life that is satisfying can provide the young adult with boundaries but also acts as a buffer against university-life stressors, by providing the avenue for emotional and economical support.

Most of the participants reported using substances at 'off campus' parties and nightclubs. This is in keeping with other findings that suggest that exposure to polydrug use is likely to occur at parties or other events that promote the use of substances for fun and recreation.<sup>2</sup>

The students sampled indicated that polydrug use was to affect mood, social interaction, aid in relaxation or lower inhibitions. These situations may increase the risk of drugs consumption, based on their emotional response to stressor associated with university life, as suggested by some studies.<sup>2</sup>

## CONCLUSION

The study undertaken in one university in Kingston, Jamaica, sought to explore simultaneous polydrug use among undergraduate students in early years of in health care programmes. Inherent in the findings are issues of protective and risk factors. The results suggest that continued family support and student's positive emotional well-being may likely be protective factors against simultaneous polydrug use in university students. However, activities such as attending parties on or off campus, going to night clubs, easy access to substances may represent factors that promote or increase the risk of use.

## Limitation

There was an over-representation of females versus males in the population of interest and in

the study sample. The findings cannot be generalized based on the particular characteristics of the population studied. Additionally, majority of students sampled chose not to respond to some questions. Finally, the data was collected based on a cross-sectional survey and with a small sample size; therefore, causality cannot be assumed.

## Recommendations

It is recommended further research to be done in the area of simultaneous polydrug use, including different faculties and programme levels in the university. Information from the current research could be used as a foundation on which to begin to build university based policies on the reduction or prevention of substance use in this population.

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