Original Article

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KNOWLEDGE OF CONSEQUENCES, ACADEMIC PERFORMANCE AND DRUG CONSUMPTION AMONG UNDERGRADUATE STUDENTS IN ONE UNIVERSITY IN JAMAICA

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ABSTRACT

Objective: determine the prevalence of drug use and to investigate the relationship between knowledge of consequences and drug consumption as well as the relationship between academic performance and drug consumption among university undergraduate students in Jamaica.
Method: the study uses a cross sectional design. A total of 250 undergraduate students were selected through a randomized cluster sampling process. A modified survey instrument consisting of over 70 items relating to socio-demographics, knowledge of consequences, drug consumption and academic performance measures was used to test the research question and hypothesis.
Results: the findings revealed low levels of drug usage as well as problematic usage, however, there was a weak negative yet statistically significant correlation between the academic performance and alcohol use (r=-.139, p=.028) which suggested that an increase in alcohol usage is associated with reduction in academic performance. The independent T test also revealed a statistically significant difference between those who used alcohol and those who did not use alcohol in the past 12 months based on academic performance.
Conclusion: the findings will inform policy decisions regarding drug use and the provision of intervention services. It is recommended that this research should be extended to other universities in Jamaica.

DESCRIPTORS: Knowledge. Drugs. Consequences of drug use. University. Students.

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CONHECIMENTO DAS CONSEQUÊNCIAS, DESEMPENHO ACADÊMICO E CONSUMO DE DROGAS ENTRE ESTUDANTES DE GRADUAÇÃO EM UMA UNIVERSIDADE DA JAMAICA

RESUMO

Objetivo: determinar a prevalência do uso de drogas e investigar a relação entre o conhecimento das consequências e o consumo de drogas, bem como a relação entre o desempenho acadêmico e o consumo de drogas entre estudantes universitários da Jamaica.
Método: o estudo usa um design transversal. Um total de 250 estudantes de graduação foram selecionados por meio de um processo de amostragem por conglomerado randomizado. Um instrumento de pesquisa modificado, composto por mais de 70 itens referentes a aspectos sociodemográficos, conhecimento de consequências, consumo de drogas e medidas de desempenho acadêmico, foi utilizado para testar a pergunta e a hipótese da pesquisa.
Resultados: os resultados revelaram baixos níveis de uso de drogas, bem como uso problemático, no entanto, houve uma correlação negativa fraca, embora estatisticamente significativa entre o desempenho acadêmico e uso de álcool (r = -. 139, p = .028), o que sugeriu que um aumento no uso de álcool está associado à redução do desempenho acadêmico. O teste T independente também revelou uma diferença estatisticamente significativa entre aqueles que usaram álcool e aqueles que não usaram álcool nos últimos 12 meses com base no desempenho acadêmico.
Conclusão: os resultados informarão as medidas sobre o uso de drogas e a prestação de serviços de intervenção. Recomenda-se que esta pesquisa seja estendida a outras universidades na Jamaica.

DESCRITORES: Conhecimento. Drogas. Consequências do uso de drogas. Universidade. Estudantes.

CONOCIMIENTO DE LAS CONSECUENCIAS, DESEMPEÑO ACADÉMICO Y CONSUMO DE DROGAS ENTRE ESTUDIANTES UNIVERSITARIOS DE GRADO EN UNA UNIVERSIDAD DE JAMAICA

RESUMEN

Objetivo: determinar la prevalencia del uso de drogas e investigar la relación entre el conocimiento de las consecuencias y el consumo de drogas, así como la relación entre el desempeño académico y el consumo de drogas entre estudiantes universitarios de Jamaica.
Método: el estudio utilizó un diseño transversal. Se seleccionó un total de 250 estudiantes universitarios de grado a través de un proceso de muestreo por conglomerado aleatorizado. Se utilizó un instrumento de investigación modificado, compuesto por más de 70 ítems referentes a aspectos sociodemográficos, al conocimiento de las consecuencias, al consumo de drogas y a las medidas de desempeño académico, para comprobar la pregunta y la hipótesis de la investigación.
Resultados: los resultados revelaron bajos niveles de uso de drogas, así como uso problemático. Sin embargo, hubo una correlación negativa débil, aunque estadísticamente significativa entre el desempeño académico y el uso de alcohol (r = - 0,139; p = 0,028), que sugiere que un aumento en el uso de alcohol está asociado a la reducción del desempeño académico. La prueba T independiente también indicó una diferencia estadísticamente significativa entre aquellos que consumieron alcohol y aquellos que no consumieron en los últimos 12 meses sobre la base del desempeño académico.
Conclusión: los resultados informarán las medidas sobre el uso de drogas y la prestación de servicios de intervención. Se recomienda que esta investigación se extienda a otras universidades en Jamaica.

DESCRIPTORES: Conocimiento. Drogas. Consecuencias del uso de drogas. Universidad. Estudiantes.

INTRODUCTION

Drug consumption is a complex phenomenon in many countries across the world.[1] This phenomenon is of great concern in the Caribbean and Central and South American Region. University students within the region are particularly vulnerable to the involvement with licit or illicit drugs.

The World drug report stated that the university environment provides a context for experimentation with alcohol and drugs.[2] The use of licit and illicit drugs among university students in Latin America and the Caribbean are of great concern to a number of professionals including health professionals, university administrators and counsellors. Studies on alcohol consumption among college students across most countries of the world generally show a negative association with academic performance and college students who consume alcohol tend to have lower Grade Point Average (GPA). Alcohol and marijuana use were both negatively correlated with GPA.[3] The rate of substance use was higher among males, residents of university halls, senior students, and among those who possess a positive attitude towards substance use.[4] The levels of consumption among university students highlight the need for university-based education and information programmes.[5]

Some authors reported that alcohol, cannabis, and cocaine are the most commonly consumed drugs among university students. Investigation into the relationship between marijuana, alcohol use and academic performance among undergraduate students suggests that both marijuana and alcohol were negatively correlated with academic performance.[6] The Core Institute substantiated that there was a positive relationship between low academic performance and use of alcohol and other illicit drugs.[7]

Research done among university students in the Latin America and Caribbean region revealed the extensive nature of drug use. In Brazil, a study of 200 first year university students revealed that 86.5% had used alcohol at least once in their life, 75% reported drinking in the preceding 30 days, and 18% of men and 7% of the women reported driving at least once while intoxicated.[8] A multicenter study involving 286 sophomores and juniors registered in a health courses revealed that 26% used cannabis in their lifetime while 16% used cannabis during the last 12 months.[9] A survey of medical students in Chile revealed that 33% reported using cannabis while 1.0% had used cocaine at least once in their lives.[10] A study of university students in Brazil revealed that females and those older than 20 years of age reported less alcohol consumption in the previous month. Another study among Colombian students revealed that 96.2% reported alcohol use, 8.2% reported marijuana use and 2.2% reported cocaine use during the previous year.[11]

Studies on the impact of drug consumption on the academic performance of university students appear mixed. One study from Belgium found no significant association between alcohol use and academic performance while nother study found that low academic performance was more prevalent among males, and cannabis users.[12] A report on the relationship between adolescent patterns of consumption of cannabis, cocaine and alcohol and academic achievement revealed that increased usage of these drugs had a negative impact on adolescent academic achievement. This study underlines the relationship between consumption of alcohol, cocaine and cannabis on academic performance.[13]

Although many studies suggest that alcohol, cannabis and cocaine are the principal drugs of choice for a large proportion of college students very few studies have examined knowledge of consequences and drug consumption among students. Knowledge of alcohol and its effects was generally low among urban college students, and females.[14] Another factor being investigated in relation to drug use was religiosity. It is believed by many that religious and spiritual beliefs based on faith in God tended to support the development of inner strength and a sense of meaning and purpose to life, which can provide an informal means of social control and contribute to reducing the likelihood of drug use among individuals.[15]

The aims of this study were to determine the prevalence of drug use and to investigate the relationship between knowledge of consequences and drug consumption as well as the relationship between academic performance and drug consumption among university undergraduate students. There is also a paucity of research addressing knowledge of consequences, drug use and its impact on academic performance within Jamaica which this study seeks to investigate.

METHOD

A cross-sectional survey design was used to collect data from the students using a pretested questionnaire. The sample was composed of 250 undergraduate students aged 18-35 years during the 2012-2013 academic year who were enrolled in both Health and Social Sciences programs at a university in rural Jamaica. This university is a liberal arts Christian University. The sample was selected based on a random cluster sampling technique on performance ranging from 1 to 10 where 1=very low and 10=excellent.

The Statistical Package for the Social Sciences (SPSS® 22) was used for statistical analysis. Descriptive statistical analyses were conducted such as percentages, means and standard deviation for the variables including demographics, knowledge of consequences, academic performance and drug use. Spearman rank-order correlations were used to test if the main variables were significantly correlated. Spearman rank-order correlations were used for statistical analysis based on the fact that the variables were nominal and ordinal. Additional analyses were conducted to test for bivariate associations between the independent and dependent variables (cannabis, alcohol and cocaine consumption). Student's T-tests were also used to examine the associations among outcome variable and factors such as age and academic performance.

RESULTS

The sample consisted of 250 respondents with 58% (145) of the respondents from the Social Sciences and 42% (105) from the Humanities and Health sciences. Most of the students were single and never married (70%); there were 30% (75) males and 70% (175) female. Table 1 indicates that the age range of the respondents was between 18-35 years with 60% in the 20 -24 age group. The most of the respondents 63% (158) lived off campus while 10% (25) lived on campus and 27% (67) still lived at home. Living arrangement was primarily with family and relatives which accounted for 35% (87) of the sample. The most of the respondents 28% (70, 69) were in their second and fourth year at university, respectively. There were 17% (43) of freshmen and 27% (69) in the third year. Ninety-four per cent (235) indicated that their religious beliefs were very important to them while 4% (10) said their belief was less important to them.

Table 2 indicates that the prevalence of substance use among the students was relatively low. For alcohol, there was 27% (68) lifetime usage while for cannabis; there was 8.8% (22) usage. Cocaine lifetime usage was particularly low reflecting less than 0.5% usage.

Table 3 indicates the level of problematic involvement of substance use. This was determined by using the ASSIST scales and the evaluation guidelines as outlined by the World Health Organization. The problematic involvement for the three drugs under investigation ranged from 2.4%-10.8%. Alcohol yielded the highest percentage of 10.8%; cannabis had 9.6% while cocaine had a problematic involvement percentage of 2.4%.

Table 1 - Socio-demographic characteristics of respondents, Jamaica, 2013. (n=250)

Socio-demographic characteristics	Total	
	f	%
Age in years		
<20	38	15.2
20-24	150	60.0
25-29	48	19.2
>30	14	5.6
Living arrangement		
At home	67	26.8
On campus	25	10.0
Off campus	158	63.2
Year of study		
Year one	43	17.2
Year two	70	28.0
Year three	68	27.2
Year four	69	27.6
Work status		
Currently employed	69	27.6
Not currently employed	181	72.4

Table 2 - Prevalence of alcohol, cannabis and cocaine use over the past 12 months, Jamaica, 2013 (n=250).

Prevalence of drug use	Alcohol		Cannabis		Cocaine	
	f	%	f	%	f	%
Life time drug use	68	27.2	22	8.8	1	0.4
No drug use	182	72.8	228	91.2	249	99.6
Total	250	100.0	250	100.0	250	100.0

Table 3 - Problematic drug involvement with alcohol, cannabis / marijuana and cocaine use, Jamaica, 2013.

Problematic involvement Substance	Moderate to high risk		Low risk	
	f	%	f	%
Alcohol	27	10.8	223	89.2
Cannabis	24	9.6	226	90.4
Cocaine	6	2.4	244	96.4
Total (n=250)	57	23.8	193	77.2

The Spearman rank-order correlation was conducted to determine the relationship between the total knowledge of consequences of alcohol and the consumption of alcohol.

Table 4 displays the correlation of academic performance and consumption of alcohol, cannabis and cocaine over the past 12 months. The findings revealed a weak negative yet statistically significant

relationship between the academic performance and alcohol consumption (r=-.139, p=.028). For cannabis, the results revealed no statistical significant relationship between academic performance and cannabis consumption (r=.023, p=.713). For cocaine, the results also revealed no statistically significant relationship between the academic performance and cocaine consumption (r=-.057, p=.372).

Table 4 - Spearman rank-order correlation of academic performance and consumption of drugs over past 12 months, Jamaica, 2013.

	Consumption of alcohol		**Consumption of cannabis**		**Consumption of cocaine**	
	Spearman's rank correlation coefficient	Value of *p*	Spearman's rank correlation coefficient	Value of *p*	Spearman's rank correlation coefficient	Value of *p*
Academic performance	-.139	.028	.023	.713	-.057	.372

Table 5 indicates the use of an independent sample T-tests to determine whether there were any significant differences in knowledge of consequences between those who used alcohol, cannabis and cocaine and those who did not use any of the three drugs over the past 12 months. For alcohol, the findings revealed no statistical significant difference between the knowledge of consequences of alcohol and those who used alcohol (M=11.54, SD=2.536) and those who did not use alcohol (M=11.79, SD=1.986). For cannabis, there was no statistically significant difference between the mean KOC on cannabis and those who use cannabis (M=11.27, SD=1.609) and those who did not use cannabis (M=10.979, SD=1.979. For cocaine, the findings showed no statistical significant difference between KOC of cocaine and those who use cocaine (M=12.00, SD=none) and those who did not use cocaine (M=11.49, SD=1.979).

An independent student's T-tests was also done to determine if there was any statistically significant difference between academic performance and those who used any of the three drugs over the past 12 months. For alcohol, there was a statistically significant difference among those who used alcohol (M=7.66, SD=1.561) and those who did not use alcohol in the past 12 months (M=6.81, SD=2.370, p=<.006). For cannabis, there was no statistical significant difference between academic performance and those who use cannabis (M=7.32, SD=1.912) and those who did not use cannabis in the past 12 months (M=7.01, SD=2.236). For cocaine, the results revealed no statistically significant difference between those who use cocaine (M=6.00, SD=none) and those who did not use cocaine (M =7.04, SD=2.213).

The independent Student's T-tests revealed no statistically significant difference between the mean knowledge of consequences comparing those with and those without problematic drug use. For alcohol, there was no statistically significant difference on knowledge of consequences among those with problematic alcohol use (M=12.00, SD=1.941 and those without problematic alcohol use (M=11.69, SD=2.172. For cannabis, there was no statistically significant difference between knowledge of consequences and those with problematic cannabis use (M=11.58, SD=1.316) and those without problematic cannabis use (M =10.95, SD=1.996). For cocaine, there was no statistically significant difference between knowledge of consequences of cocaine and those with problematic cocaine use (M=12.33, SD=2.066) and those without problematic cocaine use (M=11.48, SD=1.725).

An independent Student T-test was also conducted to determine if there was any statistically significant difference between the academic performance and those with and those without problematic alcohol use (TABLE 5). For alcohol there was no statistically significant difference between academic performance and those with problematic alcohol use (M=7.44, SD=1.450) and those without problematic alcohol (M=6.99, SD=2.282). For cannabis, there was no statistically significant difference between academic performance and those with problematic cannabis use (M=7.08, SD=2.083 and those

without problematic cannabis (M=7.04, SD=2.227). For cocaine, there was no statistically significant difference between academic performance among those with problematic cocaine use (M=6.67, SD=2.422) and those without problematic cocaine (M =7.05, s=2.209).

Table 5 - Independent T-test of academic performance, lifetime drug use and problematic drug usage. Jamaica, 2013

Academic performance	n	Mean	SD*	T calc.†	df.‡	P§
Lifetime use of alcohol	68	7.66	1.561			
Did not use alcohol	183	6.81	2.370	2.755	248	<.006
Lifetime use of cannabis	22	7.32	1.912			
Did not use cannabis	228	7.01	2.236	.618	248	.537
With problematic alcohol use	27	7.44	1.450			
No problematic alcohol use	223	6.99	2.282	4.278	248	.161
With problematic cannabis use	24	7.08	2.083			
No problematic cannabis use	226	7.04	2.227	.799	248	.920
With problematic cocaine use	6	6.67	2.422			
No problematic cocaine use	244	7.05	2.209	.049	248	.676

*standart deviation; †T calc=calculated; ‡df.=degree of freedom;§ p-value.

DISCUSSION

Drug use among university students is a major international concern, particularly because of their vulnerability and the tremendous negative consequences that are associated with alcohol and substance use.[1–2] Some of these consequences can be detrimental to the individual as well as to the family and the wider community. These findings corroborate previous research which indicates that religious commitment is a protective factor associated with lower drug.[15] However, a high proportion of the sample lived at home or with relatives and friends which provides social support and thus reduces the likelihood of alcohol and drug use involvement. Some authors reported that high levels of religious and spiritual beliefs based on faith in God tended to support the development of inner strength which can provide an informal means of social control thus contributing to the reduction or the avoidance of alcohol and drug use.[13,15]

The problematic drug involvement was also relatively low. Problematic alcohol and cannabis usage was 11%, 10% respectively while cocaine was 2.4%. The correlation of the total knowledge of consequences and drug consumption over the past 12 months revealed no statistical significant relationship between total knowledge of consequences and the consumption of any of the three drugs.

The correlation between academic performance and the drug consumption over the past 12 months revealed a weak negative yet statistically significant relationship between the academic performance and alcohol use (r=-.139, p=.028). This is an important finding even for low levels of alcohol and problematic drug usage among the respondents. This finding supports of the literature which states that there is a negative impact of drug use on academic performance.[7] In other words, lower levels of alcohol and drug use is associated with increased academic performance.

The T-test results revealed no statistical significant differences between the knowledge of consequences of alcohol and alcohol usage, or the knowledge of cannabis and cannabis usage over the past 12 months at p<.05. This finding supports of the literature based on the fact the knowledge of consequences may not prevent usage of drugs based on the level of vulnerability within the university environment.[2]

The T-test was also used to determine any significant differences in the knowledge of consequences of each substance between those who screened for problematic drug use and those who did not. However, the findings revealed no statistically significant difference on knowledge of consequences of each of the drugs. The T-test also revealed no statistically significant difference between academic performance and those with and those without problematic use for any of the three drugs being investigated with p-values for alcohol=.161, cannabis=.920 and cocaine =.676 respectively. This finding could be explained based on the low levels of problematic drug use of each of the three s that was identified.

Based on the fact, that the drug usage was low, a larger sample size could have yielded a larger number of cases which could make the statistical analysis more meaningful.

CONCLUSION

University students are particularly vulnerable to involvement with licit or illicit drugs and the university environment provides a context for experimentation. The three drugs being investigated are alcohol, cannabis and cocaine. The prevalence of drug use over the lifetime and the past 12 months for all three drugs were relatively low. This could possibly be explained by the high level of religiosity among the students who indicated that their religious belief was very important to them.

There was, however, a statistically negative significant relationship between academic performance and alcohol consumption. This finding suggested that in cases of low alcohol consumption and low problematic alcohol involvement that as alcohol usage increases, academic performance will decrease. There was no statistically significant finding for correlation between the total knowledge of consequences of the three drugs and their consumption. There were also no statistically significant relationships between the academic performance and the consumption of cannabis and cocaine over the past 12 months. The T-test also revealed no statistical significant difference between the knowledge of consequences of any of the drugs and the use of any of the drugs. There were also no significant differences between the knowledge of consequences and those with and without problematic drug use for any of the three drugs being investigated. There was also no significant difference between academic performance and those with and those without problematic use for any of the three drugs.

Recommendations

This research should be extended to include university students from non-faith based institutions so that a comparison can be done. Further research should also employ the simple random sampling technique so that a more robust methodology will be employed. Based on the fact that the T-test results for cocaine appear to be inconclusive with no standard deviation for cocaine usage, it is therefore recommended that a larger sample size be done. The findings of this research will be useful in two ways, one for the development of a more extensive university drug policy. Second, and most important, is for the development of the university drug education and drug information programs for students.

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NOTES

CONTRIBUTION OF AUTHORITY

Study design: Wiliams F, Brands B.
Data collect: Wiliams F.
Data analysis and interpretation:
Discussion of the results: Wiliams F, Brands B.
Writing and / or critical review of content: Wiliams F, Brands B.
Review and final approval of the final version: Wiliams F.

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ETHICS COMMITTEE IN RESEARCH

The research proposal was approved by Research Ethics Board of the Centre for Addiction and Mental Health Protocol reference # 163/2012, as well as endorsed by the Northern Caribbean University, Institutional Review Board.

CONFLICT OF INTEREST

There is no conflict of interest.

HISTORICAL

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