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DRINKING, BINGE DRINKING AND SUBSTANCE USE AMONG HEALTH PROFESSION STUDENTS

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ABSTRACT

Alcohol abuse is a major concern on college and university campuses. Heavy episodic drinking or binge drinking has also become a major health hazard. The aim of this study was to examine the relationship between binge drinking and substance use among 2nd year health profession students at a university in the Western Cape, South Africa. Two hundred-and-one (201) health profession students were selected to participate in a cross-sectional study. A self-administered questionnaire adopted from the National College Health Risk Behaviour Survey and the American College Health Association National College Health Assessment was used to collect the data. Overall, 34.3% of the study sample reported binge drinking, i.e. having had five or more alcoholic drinks at a sitting. The prevalence of binge drinking varied significantly by gender and race. A strong relationship between binge drinking and other substance use was found ($p < 0.05$). Binge drinking has become a key health hazard and the current study provides evidence that the prevalence of binge drinking among university students remain a public health concern.

Key words: Binge drinking, health profession students, substance use.

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INTRODUCTION

Worldwide, alcohol use during adolescence and young adulthood remains a prominent public health problem. Furthermore alcohol abuse is a major concern on college and university camp-

-uses (Baldwin, Johnson, Gotz, Wayment & Elwell, 2006; Dantzer, Wardle, Fuller, Pampalone & Steptoe, 2006). Heavy episodic drinking or binge drinking has also become a major health hazard. Various researchers have cautioned that binge drinking is associated with major contributors to youth mortality, e.g. motor vehicle accidents and suicide. Windle (2003) states that the age group 18-24 years had a higher prevalence of drinking and binge drinking than did people 25 years and older. This is of great concern as several studies revealed that binge drinking significantly impacts the academic performance and health status of university students and their peers (Boyle & Boekeloo, 2006; Jennison, 2004; O'Neill, Para & Sher, 2001).

Biscaro, Broer and Taylor (2004) state that the college culture often views excessive drinking as a rite of passage, encouraging behaviour that is destructive to the college subculture and the general population. The college student are often undergoing role transitions, such as moving away from home for the first time, residing with other students and experiencing less adult supervision. Therefore students also engage in different social activities such as college parties that may lead to heavy alcohol use

(Rozmus, Evans, Wysochansky & Mixon, 2005; Windle, 2003). Research has shown that living circumstances are a major influence in students' drinking behaviour (Perkins, 2002; Presley, Meilman & Leichliter, 2002). Living in university housing is associated with substantially higher levels of alcohol use. Peers may create normative environments that reinforce and sanction high-risk behaviour.

High levels of alcohol use among university students are also associated with a broad array of other risk behaviours, such as tobacco use, unintentional injury and drinking and driving (Borges, Cherpitel, Mondragon, Poznyak & Gutierrez, 2004; Hingson & Winter, 2003). It is also associated with a number of health problems, including an increased risk on contracting sexual transmitted diseases, teenage pregnancy, violence related injuries and accidental death (Windle, 2003). Alcohol also plays a role in high sexual risk taking, especially situations involving casual or unprotected sex, therefore increasing

the risk of Human Immunodeficiency Virus (HIV) transmission (Matuare, McFarland, Fritz, Kim, Woelk & Rutherford, 2002). In addition, students who do not drink experience adverse secondhand effects of drinking, including victimization (verbal or physical threats and actions) as well as disruption of sleep and study habits (Gage & Suzuki, 2006; Windle, 2003; Perkins, 2002).

The aim of this study was to examine the prevalence of binge drinking and the relationship between binge drinking and substance use among 2nd year health profession students at the University of the Western Cape, South Africa.

METHOD

The population for this study included all current full-time 2nd year health profession students at the University of the Western Cape, South Africa. Second-year university students represent a homogeneous population who had presumably adjusted to university life. Webb, Ashton, Kelly and Kamali (1996) also stated that it is unlikely that

students radically change lifestyles in subsequent university years. At the beginning of the second semester of 2006, 508 second year students were enrolled in the Health Sciences Faculty.

Stratified random sampling was specifically used for this research. The population was divided into standardized subsets, namely the nine (9) departments of the Health Sciences faculty. The nine departments include Dietetics, Human Ecology, Nursing, Occupational Therapy, Physiotherapy, Psychology, Social Work, Natural Medicine and Sport Recreation and Exercise Science. Due to the nature of the nursing curriculum, only one-third of the nursing students were considered to take part in the study, thus the total number of students considered was 345.

Data was collected by means of a structured, self-administered questionnaire including items regarding the prevalence, attitudes and knowledge of consequences of the six health risk behaviours (tobacco use, sexual risks, physical inactivity,

alcohol and drug use and behaviours that contribute to unintentional injuries and violence). Questions from the National College Health Risk Behaviour Survey (NCHRBS) as well as the American College Health Association National College Health Assessment (ACHA-NCHA) were included in the questionnaire. The NCHRBS, which forms part of the YRBSS, was developed by the CDC in 1995. The questionnaire has demonstrated good reliability with kappas for the risk behaviour items ranging from .61 to .88. Approximately 79% of the items have “substantial” or higher reliability (Kann, Kinchen, Williams, Ross, Lowry, Grunbaum & Kolbe, 1999). The ACHA-NCHA has also been found to have construct and measurement validity as well as consistent standardized alphas for reliability (ACHA-NCHA, Spring 2003 Reference Group Report, 2005). Only data related to alcohol use is described in this article. Descriptive and inferential statistics was used to analyze the data with a p-value of 0.05 or less to determine statistical significance.

Chi-square tests were used to assess the effects in current binge drinking by selected demographic variables. The exact binomial method was used to construct confidence intervals for proportions.

RESULTS

Two hundred and one (201) students completed and returned the questionnaires, thus the overall response rate was 58.3%. The low response rate was a concern but other college studies have also obtained approximately 50% participation rates, so that the present response rate is not out of line (Reifman & Watson, 2003). More than three-quarter of the student participants were females (77.6%) with a mean age of 22.09 years and almost one-quarter were females (22.4%) with a mean age of 22.18 years. The highest number of participants was from the social work department (24.9%) and the smallest number of participants was from human ecology department (3.0%) as illustrated in Table 1.

Overall, 34.3% of the study sample reported binge drinking, i.e. having had five or more alcoholic drinks at a

sitting. Male students (53.3%) were significantly more likely than female students (28.8%) to report binge drinking ($p < 0.05$). White students (57.1%) were also more likely than Coloured (39.1%) and African/Black students (29.2%) to report binge drinking ($p < 0.05$) as illustrated in Table 2.

Three-quarters (76.6%) of the study sample reported lifetime alcohol use and 54.8% reported alcohol use within the 30 days preceding the study (i.e. current alcohol use). The prevalence of lifetime and current alcohol use varied significantly with age as illustrated in Table 2. The younger students were significantly more likely to report both lifetime and current alcohol use than the older students ($p < 0.05$). Furthermore White students (100.0%; 78.6%) were significantly more likely than Coloured students (82.7%; 63.3%) and African/Black students (77.1%; 48.9%) to report both lifetime and current alcohol use ($p < 0.05$). No significant difference between males and females were

Table 1: Demographic characteristics of participants (n=201)

Characteristic	n	%
Gender		
Female	156	77.6
Male	45	22.4
Age (y)		
18-24	169	84.1
25-29	14	7.0
≥30	18	9.0
Race/ethnicity		
African/Black	48	23.9
Coloured	110	54.7
White	14	7.0
Indian/Asian	22	10.9
Other	7	3.5
Current marital status		
Single	174	86.6
Married/domestic partner	14	7.0
Engaged	11	5.5
Separated	1	0.5
Divorced	1	0.5
Living status		
University housing	44	21.9
Off-campus housing	29	14.4
Parent/guardian's home	122	60.7
Other	6	3.0

Table 2: Percentage (with 95% CIs) of students who used alcohol by age, gender and race/ethnicity

Variable	Lifetime alcohol use ^a	Current alcohol use ^b	Binge drinking ^c
Age			
18-24 years	80.5 (74.5-86.5)	58.3 (50.8-65.8)	38.5 (31.2-45.8)
25-29 years	64.3 (39.2-89.4)	50.0 (23.8-76.2)	14.3 (-4.0-32.6)
≥30 years	50.0 (26.9-73.1)	23.5 (3.3-43.7)	11.1 (-3.4-25.6)
Gender			
Male	77.8 (65.7-89.9)	66.7 (52.9-80.5)	53.3 (38.7-67.9)
Female	76.6 (69.6-83.0)	51.3 (43.4-59.2)	28.8 (21.7-35.9)
Race/Ethnicity			
African/Black	77.1 (65.2-89.0)	48.9 (34.6-63.2)	29.2 (16.3-42.1)
Coloured	82.7 (75.6-89.9)	63.3 (54.3-72.3)	39.1 (30.0-48.2)
White	100.0	78.6 (57.1-100)	57.1 (31.2-83.0)
Indian/Asian	36.4 (16.3-56.5)	18.2 (2.1-34.3)	13.6 (-0.7-27.9)

^a Ever used alcohol in their lifetime

^b Used alcohol on one or more days in the 30 days preceding the study

^c Having had five or more alcoholic drinks at a sitting

found for both lifetime and current alcohol use.

More than one-tenth (11.9%) of the students reported driving after alcohol use in the 30 days preceding the study. Males (28.9%) were significantly more likely to report driving after alcohol use than females (7.1%) ($p < 0.05$). White students (57.1%) were also significantly more likely than Coloured students (13.6%) to report driving after alcohol use ($p < 0.05$). The mean number of alcohol drinks students had the last time they “partied/socialized” was 4.12 (SD 5.11).

A strong relationship between binge drinking and other substance use was found as illustrated in Table 3. Students who reported binge drinking (78.3%) were significantly more likely to report smoking than those not reporting binge drinking (48.5%) ($p < 0.05$). Furthermore, students reporting binge drinking (49.3%) were significantly more likely to report drug use than students not reporting binge drinking (24.2%) ($p < 0.05$). Students reporting binge

drinking (27.5%) were significantly more likely to report driving after alcohol use than students who did not report binge drinking (3.8%) ($p < 0.05$).

DISCUSSION

Alcohol has been consumed in human populations for centuries, but the considerable and varied adverse health effects have only been characterized recently (Rehm, Gutjahr & Gmel, 2001). According to the World Health Report 2002 (WHO, 2002), global consumption has increased in recent decades with most of this increase occurring in developing countries. The current study provides evidence of this increase with a prevalence of 76.6% for lifetime alcohol use among health professional students. Alcohol use varied significantly with age and race which are consistent with studies in other parts of the world (Benton, Benton & Downey, 2006; Dantzer, et al., 2006).

This study found a prevalence of 34.3% for binge drinking and also highlights a significant association

Table 3: Association between binge drinking, other substance use and driving after alcohol use

Substance	χ^2	n	df	p
Smoking	16.573	201	1	0.000
Drug use	12.876	201	1	0.000
Driving after using alcohol	24.305	201	1	0.000

between binge drinking and driving after alcohol use. This is of great concern as various researchers have cautioned that students who drink large quantities are at greater risk for experiencing harmful consequences such as impaired driving (Benton et al., 2006; Presley, Meilman & Cashin, 1996). This was highlighted by the South African Health Review (2000), which showed that 50% of the victims of homicide and fatal traffic collisions had raised blood alcohol levels in South Africa. Alcohol use does not only have a negative impact on the health sector, but also impacts negatively on the family and society in terms of crime and negative effects on economic and social development (Parry, 2000).

The study further highlighted that students who binge-drink are significantly more likely than those that do not binge-drink to report cigarette smoking and drug use. It is thus clear that any prevention/education programme developed to address binge drinking should also address the association between binge drinking and substance use.

The present study highlights that alcohol use among health profession university students is a critical public health problem. Health education has become an increasingly important part of health and medical care. Health professional students are potentially well suited to be health educators.

The health profession students included in this study traditionally spend more time with their patients than do, doctors for instance. Furthermore they are knowledgeable about the causes and risk factors of diseases. Kamwendo, Faresjo, Gustavsson and Jansson (2000) however noted that the educator's role is complicated by the fact that he or she is not only a conveyer but also a recipient of information. Furthermore the educator will have to make a decision about his or her own health behaviour. If they do not adhere to the advice advocated by medical authorities, they end up in the awkward position of conveying conflicting message to patients or clients, one in accordance with medical knowledge and the other based on the educator as a role model.

CONCLUSION

Since the participants in this study were health profession students, a population that is theoretically knowledgeable about the risks of engaging in these behaviours, it is clear that prevention or health promotion programmes should take

the factors influencing engagement in risk behaviours into consideration. Consistent with the Social Consensus Model described by Romer and Hornik (1992), the social environment will inevitably support alternative and more risky responses that people can adopt even though these responses may be consistent with people's knowledge. The study thus provides evidence that interventions that rely primarily on increasing knowledge of negative consequences of substance use will inevitably be unsuccessful. These findings however, do not imply that these university students knew everything they need to know about the risks of substance use or that they fully understand the negative consequences. The findings however suggest that social barriers may have stood in the way of adopting safer behaviour even if basic knowledge about the health threat has been acquired. Counselors should thus guide students and provide education in coping mechanisms, effective communication and responsible decision-making strategies through on-campus orientation and first-year programmes.

Emphasis should be placed on attitudes and the confidence to adapt and maintain healthy lifestyles.

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