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PURPOSE AND SCOPE

The *African Journal of Drug & Alcohol Studies* is an international scientific peer-reviewed journal published by the African Centre for Research and Information on Substance Abuse (CRISA). The Journal publishes original research, evaluation studies, case reports, review articles and book reviews of high scholarly standards. Papers submitted for publication may address any aspect of alcohol and drug use and dependence in Africa and among people of African descent living anywhere in the world.

The term "drug" in the title of the journal refers to all psychoactive substances other than alcohol. These include tobacco, cannabis, inhalants, cocaine, heroin, prescription medicines, and traditional substances used in different parts of Africa (e.g., kola nuts and khat).

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A SYSTEMATIC REVIEW OF EVIDENCE-BASED WORKPLACE PREVENTION PROGRAMMES THAT ADDRESS SUBSTANCE ABUSE AND HIV RISK BEHAVIOURS

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ABSTRACT

The purpose of the systematic review was to determine the effectiveness of workplace substance abuse prevention programmes that also address substance-related HIV risks. A search of major electronic databases was conducted. Two authors independently applied eligibility criteria, assessed study quality, and extracted data using a standardised data extraction form. Due to the heterogeneity of study results, a qualitative approach was applied in assessing the effectiveness of the programmes. The search yielded 14 studies. All studies presented mixed results, with the majority reporting improvements in self-reported substance abuse measures. The review highlighted paucity in the availability of good quality workplace prevention programmes and none that addressed substance abuse and HIV risk behaviours in such settings.

Keywords: Substance abuse, evidence-based, prevention programmes, workplace, industry

INTRODUCTION

Substance abuse[1] in the workplace has generated considerable interest globally (Broome & Bennett, 2011; Elliott & Shelley, 2006; Webb *et al.,* 2009; World Health Organisation (WHO), 2010). Surveys estimate that 1 in 10 American employees report experiencing problems related to substance abuse, while one in three em-

[1] Substance abuse refers to a maladaptive pattern of use of a substance which is not considered dependent. Substances associated with this term include alcohol, amphetamines, barbiturates, benzodiazepines, cocaine, methaqualone, and opioids (American Psychiatric Association, 2000).

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ployees report experiencing the effects of co-worker substance abuse (Bennett *et al.,* 2004; Merrick *et al.,* 2007). Similarly, a survey of 39 companies (n=2566) in Brazil found that 12.4 per cent of employees drank at risky levels (United Nations Office on Drugs and Crime (UNODC), 2005) and 1% reported current use of illicit drugs. Although literature on substance abuse in the South African workforce is limited, the country has seen a surge in reported use of substances such as alcohol, heroin, cocaine and particularly crystal methamphetamine which has become increasingly widespread in Cape Town over the past eight years (Pithey & Parry, 2009; Pluddemann *et al.,* 2008). In 1996, Ronelle (1996) estimated that 20% of the average workforce in South Africa is likely to have ever experienced a substance-related problem.

Although South Africa has a high percentage of persons abstaining from drinking alcohol, when compared to other countries, the annual per capita consumption of pure alcohol per drinker is estimated to be at 19.5 litres (Roerecke *et al.,* 2008). Many drinkers drink at problematic levels, particularly over weekends (Parry *et al.,* 2005). A recent review of harmful drinking patterns and level of consumption in 20 African countries, ranked South Africa fourth highest in terms of the proportion of heavy drinkers as a percentage of current drinkers (Clausen *et al.,* 2009). The prevalence of risky drinking among sectors such as the mining industry in South Africa has been estimated to be at 25% (Pick *et al.,* 2003; Wilson, 1999).

This reported growth in the abuse of substances has been paralleled over the same period of time by an increase in HIV prevalence. An estimated 1.9 million people were newly infected with HIV in sub-Saharan Africa in 2010, bringing to 22.9 million the number of people living with HIV (United Nations Programme on HIV/AIDS (UNAIDS), 2011). South Africa has an estimated 5.6 million people living with HIV, an amount more than any other country in the world (United Nations Programme on HIV/AIDS (UNAIDS), 2011).

This is particularly worrisome given the body of research on the link between substance abuse and HIV globally (Parry *et al.,* 2010). In Southern Africa the majority of HIV/AIDS transmissions occur through heterosexual contact and numerous studies have demonstrated evidence of an association between substance abuse and sexual HIV risk behaviours among men, women and adolescents (Morojele, Pithey, Pule & Joubert, 2006; Parry & Pithey, 2006; Pithey & Parry, 2009). Recent studies found that two adult community populations studied in Cape Town were more likely to engage in risky sex practices, characterised as sex with multiple partners and unprotected sex (OR = 6.2, 95% CI = 3.1–12.3), if they were methamphetamine or alcohol users (Carney & Parry, 2008; Parry & Pithey, 2006; Simbayi *et al.,* 2004).

Substance abuse by employees, on or off-site, impacts on work performance resulting in decreased productivity, work errors, wasted materials, tardiness and absenteeism, all translating to substantial productivity losses each year (Garcia, 1996; Kew, 1992; Merrick *et al.,* 2007; Roman & Blum, 2002). Attempts to address these huge economic losses incurred by industry have seen a growth in research on substance abuse prevention strategies designed for use in the workplace (Cook & Schlenger, 2002; Webb *et al.,* 2009).

Although there is widespread agreement on the need for substance abuse workplace prevention programmes glob-

ally (Broome & Bennett, 2011; Cook & Schlenger, 2002; Webb *et al.,* 2009) and in Africa (World Health Organisation (WHO), 2010), there has been no critical review of published literature on substance abuse workplace programmes that also address HIV risk behaviours. Webb *et al.,* (2009) however conducted a systematic review of alcohol abuse prevention programmes for the workplace which did not include a focus on other substances of abuse such as illicit drug use. The review however highlighted the existence of few methodologically adequate studies of workplace alcohol interventions. Weaknesses in the ten studies included in the Webb *et al.,* (2009) review related to representativeness of samples, consent and participation rates, blinding, post-test time-frames, contamination and reliability, and validity of measures used. Despite the limitations reported the review concludes that brief interventions, interventions contained within health and life-style checks, psychosocial skills training and peer referral have the potential to be replicated and to produce beneficial results Webb *et al.,* (2009).

Given the dual burden of substance abuse and HIV in South Africa and the need for information on how best to address this burden, the objectives of the study were to assess the effectiveness of evidence-based workplace substance abuse prevention programmes from around the world that also address substance-related HIV risk behaviour and to select an intervention suitable for implementation in a South African workplace setting. This review forms part of a larger study aimed at testing the effectiveness of a substance abuse and substance-related HIV risks prevention programme at workplaces in the Western Cape province of South Africa.

METHOD

We conducted a search of electronic databases in October 2009 to identify literature on evidence-based workplace substance abuse prevention programmes that also address substance-related HIV risk behaviours. The following key words were used: '*substance abuse'; 'substance misuse'; 'drug abuse'; 'alcohol abuse'; 'alcohol misuse'; 'dependency'; 'interventions'; 'programmes'; 'workplace'; 'work-related'; 'workers'; 'employees'; 'industry'; 'HIV/AIDS'; 'HIV' and 'HIV-related'*. This first search yielded no results and a second search was executed dropping HIV/AIDS and HIV-related keywords. We searched the following databases: PubMed, MEDLINE, Science Direct, EBSCO, Ovid, Cochrane and SABINET. Our search for unpublished data involved making email contact with key informants such as the UNODC, and other local experts in the field of substance abuse in the workplace. We provided experts with a brief description of the overall aim of the review and asked if they knew of any workplace prevention programmes that fit our descriptions. All applicable information was emailed to the corresponding author. We also searched the WHO, SAMHSA and ILO websites for unpublished articles and documents. The relevant keywords were entered into the websites search engine and any documentation relating to the workplace and prevention was downloaded.

Eligibility criteria included the following: articles had to be in English; the associations between substance abuse and/or substance-related HIV risks prevention programmes and the workplace needed to be stated clearly and concisely (for example, the mean difference in number of

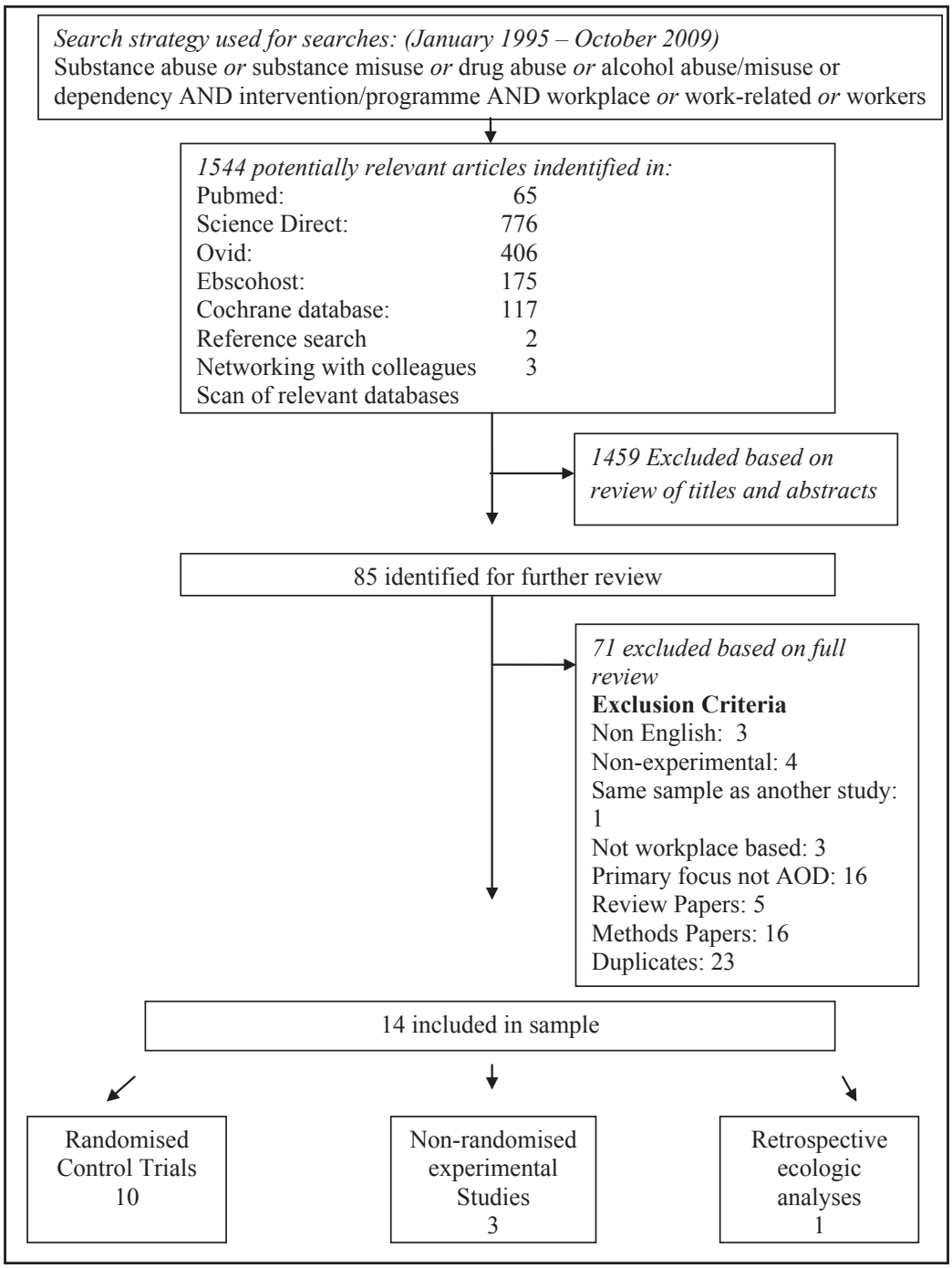

Figure 1: Flow chart indicating search strategy and process

days using alcohol or drugs, effect sizes); verifiable quantitative measures appropriate for inferring relationships between the intervention and outcomes were used; published in the 15 year period 1995 – 2009 (inclusive).

Two review authors (NB and AM) independently i) screened the results of the searches to select potentially relevant studies, ii) applied eligibility criteria, iii) extracted data on the methods, participants, interventions, and outcomes from each eligible study into a specially designed extraction form, iv) compared data in respect of intervention effectiveness, quality and key findings using Babor *et al.,* (2003) Objective Decision Model approach. This approach uses a systematic procedure to evaluate the evidence, compare alternate interventions and assess the societal/community or population benefits of an intervention (Babor et al.,, 2003). Babor and colleagues propose that interventions be rated according to four major criteria: evidence of effectiveness, breadth of research support, extent of testing across diverse countries and cultures, and relative cost of the intervention in terms of time, resources and money *(*Babor et al.,, 2003). Evidence of effectiveness refers to the quality of the scientific evidence and intervention effectiveness. Breath of research support goes beyond considering the quality of science and looks at the consistency of the available evidence. Cross-cultural testing suggests that an intervention applies well to different cultural settings and further considers possibility for intervention replication. Cost to implement and sustain refers to the monetary costs associated with the intervention. The rationale for using the objective decision model approaches by Babor *et al*, (2003) for assessing the effectiveness of the programmes was firstly, due to the variability of studies and secondly to facilitate the choice of an intervention for implementation. Any differences in assessment of eligibility were resolved through interactive discussion.

The selected studies (14 studies) were rated (by NB and AM) on the following seven criteria: standards of evidence, breadth of research support, cross-cultural applicability, target group representation, cost to implement, methodological strength of study, and other practical influences (Babor et al., 2003; Leff et al., 2009). The authors added target group representation to the list of criteria since it was deemed important to identify the target population in the identified studies. A programme targeting the general workforce would be more suited to the purposes of the study. Based on these ratings, the 3 studies with the best scores were chosen for further review and possible implementation in a South African setting.

To further facilitate the task of choosing a quality study for replication in South Africa, a group of 6 experts were identified to further rate the selected interventions on the seven criteria (Babor, *et al.,* 2003; Leff *et al.,* 2009). The experts were selected on the basis of their experience in the substance abuse field and/or Employee Assistance Programmes. The experts comprised of 3 academics, 2 EAP consultants (1 a specialist in substance abuse) and a medical doctor knowledgeable on alcohol and the workplace.

Each member of the expert panel was mailed a rating sheet which contained the categories described by Babor *et al.,* (2003). Using the categories, experts were asked to rate the studies as being least suited, moderately suited or most suited for implementation in South Africa.

Studies rated as being least suited were given a rating of '1' and studies most suited were afforded a rating of '3', with '2' given to those that were categorized as moderately suited. The ratings provided were summed and the intervention with the highest result was chosen for implementation (see Table 3).

RESULTS

Description of studies

Study selection

The systematic review identified 1544 potentially eligible studies that met inclusion criteria. For the published studies where abstracts matched the study inclusion criteria, 85 corresponding full articles were retrieved and further reviewed to determine eligibility. Of the 85 articles, 71 were further excluded through a second review. Following this process of reviewing the titles and abstracts, removing duplicates and articles not meeting inclusion criteria (see Figure 1), 14 potentially eligible intervention studies were subject to further analysis. One ecological study was included in the review. The decision to include the retrospective ecologic analysis was based on the type of intervention tested. Despite the lack of a control, the author (Spicer & Miller, 2005) used cross-sectional time-series data to examine the association between PeerCare implementation and occupational injury over a 13 year period.

The initial aim of the study was to search for substance abuse and substance related HIV workplace interventions. The search yielded no results, which led to the adaptation of the search and a search for only substance abuse workplace prevention programmes. Of the 14 identified studies, 10 were randomized control trials (RCTs), three were non-randomised experimental studies and one study was a retrospective ecologic analysis. The 14 studies selected are described in Table 1.

Participants and location

Twelve of the identified studies were conducted in the USA. One study was conducted in Australia and one study in Iran. The target populations were all adults (>18 years), and the majority of studies had both male and female participants whilst three studies did not report a gender breakdown. Seven studies provided a description of participant race classifications. The worksites included were all medium to large enterprises, with eight workplaces in the services industry (Anderson & Larimer, 2002; Bennett *et al.,* 2004; Billings *et al.,* 2008; Cook *et al.,* 1996; Deitz *et al.,* 2005; Doumas & Hannah, 2008; Richmond *et al.,* 2000; Snow *et al.,* 2002), four in the manufacturing industry (Cook *et al.,* 2004; Heirich & Sieck, 2000; Moradi *et al.,* 2009; Walters & Woodall, 2003), one in the transport industry (Spicer & Miller, 2005) and one industry chose to remain anonymous (Matano *et al.,* 2007). The mean age of employees was reported in only six studies (see Table 1).

Interventions

Interventions differed in respect of the type of strategies used to deliver prevention messages. In five of the included studies, alcohol and drug messages were embedded in a health promotion framework which focused on topics such as healthy eating, weight management, smoking, depression and anxiety and other wellness aspects (Anderson & Larimer, 2002; Billings *et al.,* 2008; Cook *et al.,* 1996; Cook *et al.,* 2004; Deitz *et al.,* 2005; Heirich &

Sieck, 2000). Five of the studies (Bennett *et al.,* 2004; Cook *et al.,* 2004; Moradi *et al.,* 2009; Snow *et al.,* 2002; Spicer & Miller, 2005) provided psychosocial skills training paying particular attention to peer referrals, team building, self-efficacy, coping mechanisms, resistance skills and stress management, whilst Doumas & Hannah, (2008), Matano *et al.,* (2007) and Walters & Woodall, (2003) provided alcohol and drug information. The majority of interventions were provided in a group setting (Bennett *et al*, 2004; Billings *et al.,* 2008; Cook *et al.,* 1996; Cook *et al.,* 2004; Deitz *et al.,* 2005; Moradi *et al.,* 2009; Snow *et al.,* 2002; Spicer & Miller, 2005), but one study used both a group setting and provided individual feedback (Heirich & Sieck, 2000). Three studies presented alcohol and drug prevention information via an internet website (Billings *et al.,* 2008; Doumas & Hannah, 2008; Matano *et al.,* 2007) and one offered a free confidential check-up by mail (Walters & Woodall, 2003). Two interventions took place in a brief intervention format (Anderson & Larimer, 2002; Richmond *et al.,* 2000). In their comparisons all studies included a control group; however, some studies had a no-treatment control group, while others compared two different experimental treatments to each other as well as comparisons with a control group (Bennett *et al.,* 2004; Doumas & Hannah, 2008; Heirich & Sieck, 2000; Matano *et al.,* 2007; Walters & Woodall, 2003).

The programme presenters comprised researchers, peer educators, EAP staff and three studies used the internet as the intervention agent. The duration of the interventions ranged from two sessions in total to 15 sessions in total over a four week to one year time period. The web-based interventions provided access to the website which ranged between 30 and 90 days.

Outcomes

The substance abuse outcome measures chosen varied between studies, although the most frequently chosen outcomes were changes in alcohol or drug use behaviours and attitudes, changes in drinking patterns, reductions in binge drinking and quantity and frequency of consumption of either alcohol or drugs. The majority of studies assessed alcohol use patterns with only two studies (Cook *et al.,* 2004; Moradi *et al.,* 2009) assessing frequency of use of drugs. All studies used self-report measures and two studies (Cook *et al.,* 2004; Spicer & Miller, 2005) confirmed self-reports biochemically. Many of these outcomes were measured at different time points which ranged from immediately following pre–testing to two weeks after pre-testing; on completion of the intervention and after a four week to six month follow-up period. Some studies also assessed other outcomes such as cardiovascular disease and alcohol risk presence (Heirich & Sieck, 2000) and association between the intervention and risk of occupational injury (Spicer & Miller, 2005).

Ratings of Interventions

While the primary outcome was reduction in substance abuse (alcohol and drug) consumption measures, we could not perform a meta-analysis because of the heterogeneity in studies with respect to study design and a wide variation of outcomes reported. Instead the 14 studies have been rated on different dimensions using criteria used by Babor *et al.,* (2003) (see Table 3).

Evidence of effectiveness

The included studies yielded mixed results with the majority of studies report-

Table 1. Study characteristics of the 14 studies identified

Author	Country	Target Industry	Design	Sample Size (n)	Participation Rate	Sex	INSTRUMENTS USED and OUTCOMES
Matano et al., (2007)	USA	Anonymous	RCT	8567	2.7%	Male: 22.1% Female: 77.9%	The Audit questionnaire The Cage questionnaire
Spicer & Miller, (2005)	USA	Transport Industry	Time series design	Not indicated	86%	Not indicated	Company Injury Records
Deitz et al., (2005)	USA	Insurance company	Quasi-experimental design.	1167	46% - 47%	Not indicated	Health Behaviour Questionnaire - Heavy drinking (5 or more days having 5 or more drinks in past 30 days) - Binge drinking (1 day with 5 or more drinks in past 30 days)
Bennett et al., (2004)	USA	Safety Sensitive Jobs	RCT	587	73%	Male: 83%	Own measures developed Four consumption (frequency and drunkenness) questions; 5 questions relating to hangovers; 6 questions relating to problems as a result of use; 7 questions related to work drinking climate and co-worker use.
Richmond et al., (2000)	Australia	Postal service workers	RCT	1206	61%	62% male and 38% female	Health and Fitness Questionnaire (HFQ). Mean # of standard drinks per week; regular excessive drinking (quantity/frequency index); binge drinking in previous 3 months
Anderson & Larimer, (2002)	USA	Food and Retail	RCT	155	77%	51 men & 31 women 47 men & 26 women	Alcohol Dependence Scale; Inventory of drug taking situations; Comprehensive effects of alcohol questionnaire. Frequency of consumption and peak BAL; # of drinks consumed per day in previous 3 months; Typical BAL (typical # of drinks consumed per occasion and period of time over which drinking occurred during past 3 months).
Doumas& Hannah, (2007)	USA	Not indicated	RCT	124	63%	73% male 27% female	Daily Drinking Questionnaire. 3 measures of alcohol consumption (drinking quantity, peak consumption, freq of drinking to intoxication); Binge drinking measures (frequency of binge drinking).

Author	Country	Target Industry	Design	Sample Size (n)	Participation Rate	Sex	INSTRUMENTS USED and OUTCOMES
Heirich & Sieck, (2000)	USA	Industrial workers	RCT	2000	-	Not indicated	Self-report drinking levels Biometric measures of CVD risks ; Quantity and Frequency
Cook et al., (1996)	USA	Printing company workers	Quasi experimental	108	-	60 males and 47 females	Health Behaviour Questionnaire Heavy drinking (5 or more days having 5 or more drinks in past 30 days); Binge drinking (1 day with 5 or more drinks in past 30 days)
Walters & Woodall, (2003)	USA	Manufacturing workers		48	7.4%	56% female	Measures Used: Quantity/Frequency of Consumption Measure; Short Index of Problems - Recent; Importance-Confidence Indicators; Perceived Risk of Alcohol
Snow et al., (2002)	USA	Secretarial	RCT	239		All females	Work and Family Stress Questionnaires. # of drinks drank per month and; the extent to which alcohol was used to reduce tension
Moradi et al., (2009)	Iran	Petrochemical workers	RCT	181		Not indicated	Trans -Theoretical Model based on Prochaska's processes of change. Outcomes measured: Knowledge on drug abuse; Attitudes towards drug abuse; Resistance skills
Cook et al., (2004)	USA	Construction workers	Quasi experimental	374		98% male	Questionnaire composed of items in National Household Survey on Drug Abuse. Bioassay data was also used. Outcomes measured: Alcohol use quantity/frequency; Drinking stages of change; Illicit drug use
Billings et al., (2008)	USA	Technology company	RCT	309	-	29.4% males and 70% females	Stage of Change; Past 30 day use

Table 2. Study Ratings of Interventions

Author and Year	Standards of Evidence [1]	Methodological Strength of Study	Intervention Integrity [2]	Breadth of Research Support [3] Author and Year	Cross Cultural Applicability [4]	Cost to Implement [5]	Target Group [6]	Practicalities [7]	Overall Assessment
Matano, et al., 2007	++	RCT	0	+	+	Low	GW	Web-based Low participation	Web-based Not Suited
Spicer et al., 2005	++	Time Series Design	0	+	+	High	GW	Indirect measure of alcohol	Time frame Not suited
Deitz, D et al., 2005	++	Non-randomized experimental	0	+++	+	High	GW	Mailed surveys	Mailed self-report survey – good results
Bennett et al., 2004	++	RCT	0	+++	+	High	GW		
Richmond et al., 2000	+	RCT	0	0	+	moderate	Low -moderate risk users		Not suited (Average results and Brief Intervention)
Anderson et al., 2002	+	RCT	++	+	+	Low	GW		Not suited (Average results and Brief Intervention)
Doumas et al., 2007	++	RCT	+	+	+	Moderate	Young Adults	Web-based; target group young people	Not suited (see practicalities)
Heirich et al., 2000	++	RCT	0	++	+	High	GW	Would require medical personnel. Weak method	Not suited (see practicalities)
Cook et al., 1996	++	Non-randomized experimental	0	++	+	Moderate	HR		
Walters et al., 2003	++	RCT	0	+	?	Low	Light to moderate drinkers	Mailed feedback, may not work BC	Not suited (see practicalities)
Snow et al., 2002 (Book Chapter)	++	RCT	0	++ (Trinidad and Tobago)	0	Moderate	Women only	Women only	Considered but rejected because women only focus

Author and Year	Standards of Evidence [1]	Methodological Strength of Study	Intervention Integrity [2]	Breadth of Research Support [3] Author and Year	Cross Cultural Applicability [4]	Cost to Implement [5]	Target Group [6]	Practicalities [7]	Overall Assessment
Moradi et al., 2009	+	RCT	0	+	+	Moderate	GW but males only	Alcohol not the primary outcome Males only	Not suited (see practicalities)
Cook et al., 2004	+	Non-randomized experimental	0	++	+	Moderate	HR	Poor results	Not Suited (see practicalities)
Billing et al., 08	++	RCT	0	+	+	Low	GW	Web-based	Not suited Web-based

Key: Ratings of Interventions

[1] 0 Evidence indicates a lack of effectiveness; + Evidence for limited effectiveness; ++ Evidence for moderate effectiveness; +++ Evidence of a high degree of effectiveness

[2] 0 Consistency of intervention not reported on; + Implemented with a low degree of fidelity; +++ Implemented with a high degree of fidelity

[3] 0 No studies of effectiveness have been undertaken; + Only one well designed study of effectiveness completed; ++ Two to four studies of effectiveness completed; +++ Five or more studies of effectiveness completed

[4] 0 Not tested adequately across cultures; ? Not reported on; + Studied in only one country; ++ Studied in two or more countries; +++ Studied in five or more countries

[5] Low: Low cost to implement and sustain; Moderate: Moderate cost to implement and sustain; High: High cost to implement and sustain

[6] GW General Workforce; HR High Risk Users; MR Moderate Risk Users; LR Low Risk Users

[7] This column considers the practicalities and implementability of the programme in the SA context

Table 3. Expert Reviewer Ratings for three selected interventions (number of raters indicating that the intervention rates adequately for a particular category)

Categories and Ratings	Cook et al, 1996 A	Deitz et al, 2005 B	Bennett et al, 2004 C
		Ratings	
Interventions Descriptions	9	13	15
Focus (Alcohol only or AOD)	7	16	17
Length	14	11	11
Material	11	13	15
Topics Addressed	9	18	13
Effectiveness	9	13	16
Methodological Strength of Study	9	17	12
Intervention Integrity	9	9	9
Breath of research support	11	17	13
Cross Cultural Applicability	11	11	12
Cost of implement	15	8	12
Target group	10	7	16
Practicalities	**16**	**7**	**15**
TOTAL	**140**	**160**	**178**

ing significant effects. Cook *et al.,* (2004) reported no significant differences between the experimental group and the control group on any of the two alcohol consumption and one illicit drug use measure. In contrast, Bennett *et al.,* (2004) found that employees receiving the Team Awareness intervention significantly reduced problem drinking from 20% to 11% as compared to control subjects who showed no significant change at pre- and post-test (13% respectively): F=6.78, p=0.01). Bennett *et al.,* (2004) also reported significant reductions in working with a hangover or missing work because of a hangover from 16% to 6% as compared to control subjects who showed no change at pre and post-test (9% respectively) (F=7.34, p=0.007). Similar results were recorded by Cook *et al.,* (1996), where the programme group significantly reduced the average number of days in the past 30 days on which they had a drink from 7.9 to 4.1, as compared to the off-site control group which showed a slight increase from 7.4 to 8.1 drinks (t=3.17, p=0.002). The programme group also significantly reduced the average number of days on which the employee drank five or more drinks as compared to the off-site control group (t=2.15, p=0.035).

Matano, *et al.,* (2007) found that the mean number of beer binges by moderate-risk participants dropped significantly among participants receiving the Coping Matters intervention, an internet delivered alcohol education programme, from 1.36 (SD 0.84) to 0.71 (0.91), per week, compared to an increase of 1.00 (0.00) to 1.13 (0.64) binges per week for the controls (Mann Whitney *U* test = 25.00, p =0.01). Similarly, low-risk participants showed a significantly greater reduction in mean number of beer binges (1.00 (0.00) to 0.59 (0.50) (Mann Whitney *U* test = 95.50, p= 0.02), as well as hard liquor binges 1.00

(0.00) – 0.57 (0.51) (Mann Whitney *U* test = 133.50, p=0.05) compared to the controls. Participants in Billings *et al.,* (2008) study adopted a more healthy approach to drinking as compared to controls by showing a positive movement on the binge drinking stage of change measure (from 4.54 (1.91) at baseline to 4.89 (1.72) after intervention; F=7.57, p=0.006). Although Deitz *et al.,* (2005) reported a decrease in heavy drinking among participants in the intervention group in comparison to those in the control (p=0.020), differences for binge drinking were not significant (p=0.070). Significant decreases in alcohol consumption were also reported by Walters & Woodall (2003) and Doumas & Hannah (2008).

Spicer & Miller (2005) used an indirect measure of alcohol use and found a significant association between the percentage of employees covered under the PeerCare contract, a programme that promotes peer referral systems, and injury rates (RR=0.9984, 95% CI: 0.9975-0.9994). These findings imply that a 1% increase in the workforce covered; resulted in a 0.16% decrease in monthly injury rates (Spicer & Miller, 2005). Moradi *et al.,* (2009) found a significant improvement in most of the resistance skills against peer pressure to use drugs among those exposed to the intervention group (p=0.0006), improved attitude towards drug abuse (t= 5.55; p=0.000) and improved knowledge about drug abuse (t= 0.42, p= 0.000) when compared to the control group. Anderson & Larimer (2002) evaluated differential treatment effects across time, condition and gender and found that female drinkers were more likely to benefit from the intervention when compared to male drinkers (F = 4.01, p=< 0.055). Similarly, Richmond *et al.,* (2000) found a significant decline in the number of drinks per week amongst women in the experimental group as compared to controls (F = 39.98, p=0.01). Although men also showed a decline in the number of drinks over time, the result was not statistically significant.

Methodological strength of the studies

The studies also varied on methodological adequacy. Ten studies were RCTs, three were non-randomised experimental studies and one study employed an ecological time series analysis. All ten RCTs were reported as randomised, yet none of the RCTs elaborated on sequence generation. Allocation concealment was clearly described in only three of the 10 RCTs (Anderson & Larimer, 2002; Doumas & Hannah, 2008; Walters & Woodall, 2003). Blinding was generally not reported on in any of the included studies except for the study by Deitz *et al.,* (2005). Three studies reported on possible contamination of the intervention due to major policy changes at the time of the study (Bennett *et al.,* 2004; Deitz *et al.,* 2005; Heirich & Sieck, 2000). In the latter study the control group gained access to the intervention which resulted in changes to the study design, whilst the other studies were single-site interventions and therefore failed to obtain an off-site comparison group.

The main measures used were self-report measures, although two studies used specific biomarkers (Spicer & Miller, 2005; Cook *et al.,* 2004). Five studies reported on the reliability and validity of measurement tools used (Anderson & Larimer, 2002; Bennett *et al.,* 2004; Cook *et al.,* 1996; Matano *et al.,* 2007; Walters & Woodall, 2003). Studies also rated poorly on withdrawals and dropouts, with the exception of Walters & Woodall

(2003) and Spicer & Miller (2005), where 80% of participants completed the study. Spicer & Miller (2005) ecological time series analysis also included a long follow-up time period which strengthened the study and facilitated monitoring change over time.

Intervention integrity

Thirteen studies did not describe methods used to ensure intervention integrity and fidelity monitoring and were judged as weak in relation to meeting this criteria. Although Anderson & Larimer (2002) indicated the use of checklists and feedback protocols to promote consistency in programme delivery, no formal evaluation method was reported.

Breadth of research support

Bennett *et al.,* (2004), Deitz *et al.,* (2005), Heirich & Sieck (2000), Cook *et al.,* (1996), Cook *et al.,* (2004) and Snow *et al.,* (2002) have continued conducting field tests of the studies covered in the review which have shown repeated effectiveness.

Cross-Cultural, Gender and Population Applicability

The studies included in the review did not speak to cross-cultural applicability of the interventions, although there is anecdotal evidence (the corresponding author contacted the programme developers to establish cross-cultural applicability of the interventions) that the intervention reported on by Snow *et al.,* (2002) and Bennett *et al.,* (2004) were respectively replicated in Trinidad and Tobago, and Guan. All studies gave details on gender profiling of participants. Twelve studies were heterogeneous for gender with the exception of Snow *et al.,* (2002) and Moradi *et al.,* (2009). Studies were representative of various population groups.

Target Group

Of the 14 studies included in the review, eight studies targeted the general workforce. Two studies targeted light to moderate risk users (Richmond *et al.,* 2000; Walters & Woodall, 2003) and a further two studies focused on high risk users (Cook *et al.,* 1996; Cook *et al.,* 2004). Bennett *et al.,* (2004) and Richmond *et al.,* (2000) incorporated both white and blue collar workers whereas Deitz *et al.,* (2005) focused solely on white collar workers while Cook *et al.,* (1996), Moradi *et al.,* (2009) and Cook *et al.,* (2004) targeted only blue collar workers. The remaining 8 studies did not classify workers into these categories.

Cost to implement

The costs associated with implementing the 14 included studies varied. Studies by Billings *et al.,* (2008); Doumas & Hannah (2008) and Matano *et al.,* (2007) used e-learning methods as a preventative tool as the internet offers a cheaper method of delivering prevention messages. Similarly, Walters & Woodall (2003) and Deitz *et al.,* (2005) used mailed self-report surveys as their data collection tool, which are also cost effective. The study by Heirich & Sieck (2000) focused mainly on cardiovascular disease and alcohol and required the use of medical personnel for data collection purposes, while Anderson & Larimer (2002) and Richmond *et al.,* (2000) mostly used individualised feedback sessions, both requiring the expertise and service of highly skilled personnel. The study by Spicer & Miller (2005) employed the use of a fairly unique longitudinal design which may be difficult to replicate. The studies by Bennett *et al.,*

(2004); Cook *et al.,* (1996) and Deitz *et al.,* (2005) are not costly to sustain in the long term, but require consultant input for programme development, which may require high initial financial outlay.

Findings of the ratings provided by key experts

Following the rating of the 14 studies on the different dimensions supplied, two authors (NHB and AM) studied the 14 interventions. They selected the interventions which rated strongly on all or most of the dimensions discussed previously. Additional comments and an overall assessment of the feasibility of using the interventions by the two authors are given in the last column of Table 2. The interventions by Bennett *et al.,* (2004); Cook *et al.,* (1996) and Deitz *et al.,* (2005) were considered for further review. A copy of the ratings sheet was sent to each member on the expert panel and they were asked to further provide their ratings on each of the studies and related categories. Table 3 provides a breakdown of the ratings supplied by the 6 experts. The study by Cook *et al.,* (1996) was rated most suited in respect of programme length, cost to implement. Deitz *et al.,* (2005) rated most suited on the diversity of topics covered, methodological strength and breath of research support. Bennett *et al.,* (2004) was rated strongly on target group, cross cultural applicability, intervention integrity, effectiveness, focus on alcohol and drugs and material availability. Once the results were tallied, the intervention by Bennett *et al.,* (2004) rated the strongest overall.

DISCUSSION

Despite the large number of studies identified, the review highlighted the scarcity of evidence, with only 14 studies evaluating the effectiveness of substance abuse workplace prevention programmes. In addition, the review highlighted the dearth of substance abuse prevention programmes in developing countries and also the variability in study design, methodology and programme content. The review also highlights the lack of intervention integrity monitoring in prevention research, and further brings to light factors that might hinder replication of programmes in developing countries.

The fact that no substance abuse workplace prevention programmes were found that address substance and HIV in one single programme is worthy of note considering the growing understanding of the nexus between substance abuse and HIV, and academic consensus on the intersection between substance abuse and risky sexual behaviour (Morojele *et al.,* 2006; Parry & Pithey, 2006; Parry *et al.,* 2005; Wechsberg *et al.,* 2008). This finding is not surprising given that similar findings were also reported in a study examining the extent to which South African substance abuse treatment services provide HIV risk reduction services to patients. Limited availability of such services was reported (Myers, 2010). This is most concerning for developing countries where HIV prevalence rates are highest.

Most of the 14 studies originate from the USA. This may partly explain the absence of a substance-related HIV risks component found in this review. Developed countries like the USA are more likely to integrate substance abuse prevention into stress and coping-based interventions, peer-to-peer approaches, and other wide-ranging health promotion programmes that aim to reduce the health risks such as cardiovascular diseas-

es which are more germane to first world societies (Bray *et al.,* 2011). Although potential biases of this nature can be addressed by customising or adapting the intervention for replication in a different setting, there is still a need for local programmes that are not only cost effective, easy to implement in differing contexts and sustainable (Veniegas, 2009), but also address the reality of substance related – HIV risks which are more marked in many developing countries.

From the review it is also evident that various direct and indirect approaches are used for delivering substance abuse prevention messages. Scholars in the field of workplace substance abuse prevention have found programmes embedded in less stigmatized topics such as employee health and wellness to be less of a threat to corporate sectors, and often receive more attention in a relation to a programme that focus solely on substance related issues (Bennett *et al.,* 2000; Cook & Schlenger, 2002; Heirich & Sieck, 2000). Similarly the use of a study design that ascribes to evidence-based practices and shows the medium to long term effects of any intervention should be encouraged. Programmes ensuring sustained effects over a period of time remain valuable to the prevention science field (Rossi *et al.,* 2004).

Although the review produced a wide range of studies, variability in study design and methodology was significant. Webb *et al.,* (2009), in a review of alcohol abuse prevention programmes cites this variability as a challenge calling for the standardization of methods used for evaluating substance abuse interventions in the workplace.

It is also important to discuss intervention integrity which remains a fundamental construct to understand and evaluate when considering prevention literature (Leff *et al.,* 2009). Intervention integrity is defined as the degree to which the interventions were implemented as they were prescribed. In a literature review on the degree to which intervention studies report on intervention integrity conducted Leff *et al.,* (2009) found that intervention integrity is only recorded in a handful of studies ranging from 3.5% to 28% of studies they reviewed. This contributes to the need for the development of a set of guidelines for reporting on implementation integrity of interventions in general (Foxcroft *et al.,* 2005; Webb *et al.,* 2009).

Furthermore, the relative monetary costs to implement and sustain an intervention as well as intervention feasibility issues are all important facts to consider when evaluating an intervention (Babor *et al.,* 2003). Consequently, the criteria for selection of an intervention for implementation should not only include studies reporting significant results with good methodological and other strengths, but also evidence of cost-effectiveness, practical implementable and representativeness of the target audience. For example, although recent literature (Billings *et al.,* 2008; Matano *et al.,* 2007) report on the effectiveness of e-learning methods as a preventative tool, it raises a concern which is related to accessibility considering that computers are possibly only accessible to skilled employees (Richmond *et al.,* 2000). In addition, a further barrier to utilising web services, specifically in developing countries, may be literacy levels. This could be a barrier in South Africa for instance, where the mean reading level is the sixth grade (Centres for Disease Control and Prevention, 2008). Additional factors that should be considered include the use of mailed self-report surveys as a data col-

lection tool. This may also pose difficulties considering the realities of informal housing and lack of formal postal addresses in certain areas of South Africa and other developing countries (Wilkinson, 2000).

Findings from this study should however be considered in the light of some limitations. Firstly, there was substantial heterogeneity between the studies which did not allow for meta-analyses. In addition, the studies reviewed are weighed down by methodological inadequacies highlighting the need for more rigorous study designs. Although RCTs remain costly to implement, they are the gold standard and their implementation should be encouraged. In instances where RCTs are not practical to implement, Foxcroft et al., (2005) suggests the use of longitudinal or time series study designs with sufficient measure points. The majority of studies were small scale, once-off studies which compromise the generalisability of results and do not add to the breath of research support which is valuable in motivating for study replication. Ideally future interventions should be larger scale and replicated in multiple settings to ascertain whether adapted versions of the study will have similar effects. Similarly, studies failed to report on intervention integrity considering that evaluating the degree to which study processes were followed is an important indicator to determining success or failure of a study. In addition future research should consider the use of outcome measures other than only using self-report measures. Consideration should also be given to developing single outcome measures that can be used to predict substance abuse.The development of cost effectiveness assessment tools will also be advantageous for study replication in resource poor settings.

A final limitation is that all the included studies are from developed country settings and therefore it is unclear whether these findings can be generalised to low- and middle-income countries.

CONCLUSIONS

Despite the systematic search for methodologically sound workplace prevention programmes, the search yielded, for inclusion in the review, no intervention studies aimed at addressing both substance abuse and substance related HIV in the workplace and only 14 studies involving interventions to address substance abuse in the workplace. Wide-ranging variability in study design, study results and outcome measures resulted in an inability to compare the 14 studies but three promising interventions were identified for implementation in South Africa.

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TABOO OF ALCOHOL AND ROAD SAFETY POLICIES IN ALGERIA

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ABSTRACT

The objective of this work is to show the real dimension of drunk driving in Algeria through the statistics of road accidents, the evolution of the legislative framework concerning driving while drunk and road preventive actions undertaken to fight against this risk factor. We first analyzed the statistics published by the National Centre for Road Safety (NCRS) in recent years to present the part of driving while drunk in the national data of road accidents. Then we retraced the evolution of the legislative framework for road safety particularly the laws governing driving while drunk. Finally, an overview of how the mass media process and disseminate information related to road traffic accidents, especially one devoted to driving while drunk and that has been achieved to show the part of the means of information in road safety. The results show that driving under the influence of alcohol is behind a significant number of road traffic accidents in Algeria. The results also show that the legislative framework concerning this risk is limited to the fixing of rates of blood alcohol concentrations authorized for driving. These same results reveal the absence of sensitization actions, information and research for this risk factor particular by the mass media. Driving while drunk is a real problem for road safety in Algeria which preserves an unclear representation in the society and constitutes a taboo subject which slows down road safety policies.

Key words: Alcohol, driving while drunk, driving under influence of alcohol, road safety, Algeria

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INTRODUCTION

It is well known that driving requires concentration, attention, appropriate skills, common sense and a concern for the safety of all road users, especially those who are vulnerable (ECE, 2010). Furthermore the consumption of substances that influence the behavior has measurable negative effects on road safety, alcohol is the main problem (Siegrist, 2006). Indeed, consumption of alcohol can seriously affect the perception of the driver, reduce his ability to react and deal safely with unexpected or unforeseen events, and may be fatal for both the driver and other road users. According to the World Health Organization (WHO), driving while intoxicated increases both the risk of accidents and the probability of death or serious trauma (WHO, 2009). In Algeria, there is not enough knowledge about the real dimension of the phenomenon of driving under the influence of alcohol, there is also a lack of important elements for determining the categories of users the most affected. Large deficiencies also exist regarding the preventive measures to be taken. This work attempts to tackle the problem of driving under the influence of alcohol in Algeria in terms of statistical data published by the authorities concerned, laws that regulate driving under the influence of alcohol and the road preventive actions undertaken to fight against this risk factor.

METHOD

This study was carried out in Algeria, a country of more than 35 million inhabitants and where the rate of motorisation is the fastest in the whole of the Maghreb region. First, data published by the National Centre for Road Safety (NCRS) from 2005 to 2010 were analyzed in order to present the part concerning driving while drunk. Then the evolution of the legislative framework concerning the road safety especially the laws regulating the driving while intoxicated was assessed. This is the Law No. 1-14 of 19 August 2001 completed and modified by the law N ° 04-16 of 10 November 2004 and by Ordinance No. 09-03, 22 July 2009. Finally, the results of a study on the ways that the mass media treat and disseminate the information related to the road traffic accidents in Algeria during 2008 were presented. The corpus consists of 276 articles published in four newspapers (the most read in 2008), radio records (programs + radio spots) and television documents (programs + TV spots) that tackled the problem of road accidents.

RESULTS

Alcohol and road safety

According to statistics published by the NCRS the number of accidents that occurred during 2010 in Algeria were 32,873 with 52,435 casualties and 3,660 deaths. Human factor was behind more than 80% of the accidents recorded. All of the causes related to the human factor are presented in Table 1.

It appears that drunk driving represents one of the causes of road traffic accidents in Algeria with 1.37% of accidents caused by human factors in 2010. It is clear that these numbers are probably lower than the actual, due to the lack systematic analysis of control in traffic and the lack of autopsies of deaths. Furthermore, the risk of drunk driving is the cause of accidents not only of the driver but also of

Table 1. Human factors related to road traffic accidents in Algeria (NCRS, 2010)

Human factors	Number of accidents	(%)
Non respect of the regulatory speed	8382	25.50
Loss of control	5177	15.75
Non compliance of pedestrian	3996	12.16
Non respect for the signals	2807	8.54
Dangerous overtaking	2527	7.69
Non respect of the safety distance	1933	5.88
Non respect of the priority	1595	4.85
Dangerous maneuvers	1054	3.21
Driving without a driving license	491	1.49
Driving while drunk	451	1.37
Parking or dangerous stopping	226	0.69
Non respect of the charge	188	0.57
Hit and run crime	178	0.54
Use of mobile phone	79	0.24
Blinded by the light	67	0.24
Total	29,151	8868

pedestrians for which we have no data. Moreover, the percentage change of driving while drunk in road traffic accidents from 2005 to 2010 is presented in Table 2.

According to this table drunk driving is responsible for an annual average of 2.16% of the recorded accidents between 2005 and 2010 (NCRS, 2010). Although the proportions may seem relatively low in terms of frequency, what is worrying is the absence of reliable data on the categories of users involved and the recorded and exceeded rates of alcohol.

Table 2. Percentage of drunk driving in road traffic accidents (NCRS, 2010)

Year	Number of accidents	Alcohol related (%)
2005	39233	2.99
2006	40885	2.51
2007	39010	1.86
2008	40481	2.63
2009	41224	1.60
2010	32873	1.37

Alcohol and road safety policy

The first actions on road safety go back to the 80s with the appearance of the Law No. 87-09 of 10 February 1987. This law came to provide public authorities with tools to improve road safety. In this sense, the law determines the speed limit in urban areas and in open country. Also, the use of seat belt for road safety becoame-compulsory. The permitted blood alcohol concentration for driving the vehicle is set at 0.80 g/l of blood. These preventive measures were then reinforced by the Law No. 01-14 of 19 August 2001 which abrogated the Law 87-09. Among the most important innovations introduced by this new law include the drastic reduction of the level of alcohol permitted in the blood of road vehicle drivers to 0.10 g/l of blood. The effects of these prevention efforts were ephemeral as the number of accidents has continued to increase. The statistics show that the human factor is the main cause of the accidents with an average annual rate

of 80%. In this regard the government has decided to revise the legislative framework concerning the road safety which led to the promulgation of the Law 04-16 of 10 November 2004, which modified and completed the law of 19 August 2001 concerning the organization, security and police road traffic. This law aims mainly to improve the system of controls to improve road safety. In this sense, the law envisages, as administrative penalties, 34 cases of immediate retrieve of the driving license with suspension of the ability to drive including driving while drunk and under the influence of substances or plants classified as narcotics. Concerning violations with writing minutes in addition to the possibility of suspension or cancellation of driver's license with the agreement of the *wali* (head of province), twelve (12) other cases were set for the new holders of a temporary driving certificate among which are the drunk driving, and the driving under the influence of substances or plants classified as narcotics. The Ordinance No. 09-03, July 22, 2009, which modified and completed the Law No. 16-04, and especially in its article 2 has helped to define the drunken state as a state which is characterized by the presence of alcohol in the blood at a rate equal to or higher than 0.20 g/l of blood. It appears that the permitted blood alcohol levels have recorded variations from 1987 to 2009. There is no information on the manner used for fixing these rates but this already marks the presence of risk associated with driving while drunk in Algeria.

Concerning information and sensitization activities, the results of a study on how the mass media treat and disseminate the information related to the road traffic accidents in Algeria (Bencherif et al., 2012) show that the articles of the press which deal with the road traffic accidents are few compared to the high number of accidents. Driving while drunk was treated in a general way and consequently little information was provided about this risk factor. For sound recordings (radio) and audiovisual (television) we noted the total absence of programmes, spot advertising and sensitization campaigns that deal with drunk driving compared to the other factors such as speeding, dangerous parking and use of cell phone. The latter two factors were not as important a risk as driving while drunk, according to statistics of NCRS.

It seems that the regulatory dispositions and the actions of information and sensitization initiatives planned to fight against driving while drunk in Algeria is still insufficient. These insufficiencies are related to the absence of reliable data on the extent of the problem (user categories, quantities consumed, etc.), on its causes (personal, social, economic) and its consequences (costs on healthcare, social costs, economic costs).

Driving while drunk is primarily a social problem

In many Western societies, the consumption of alcoholic drinks is strictly controlled and considerable means are used to sensitize the public to the harmful effects of alcohol on health and accident risks (Bay, 2010; Hamelin et al., 2011). Moreover, in most Arab and Muslim countries that prohibit the presence of alcohol, its consumption is increasingly widespread in the societies and especially among youth and constitutes a real problem for road safety in these countries in the lack and deficiencies in the strategies to control this problem. In Algeria, the social use of alcohol preserves a fuzzy

representation and constitutes a taboo subject in a society that forbids the consumption while setting limits for excess consumption for driving. Indeed, driving under the influence of alcohol is a sign of a vast social problem regarding the sociocultural situation of Algeria. Moreover, the perception of the actors in our society concerning alcohol did not change much and alcohol was not recognized until now as a real danger in the lack of information and especially of research which is an essential element for the knowledge of the risk and which helps in shaping public action on road safety (Hamelin et al., 2011).

CONCLUSION

In recent years, road safety matters have received greater attention of governments in Algeria. However, the results show that much remains to be done. This work shows the importance of the issue of alcohol on the road in Algeria and the limits of current policies to fight this problem. It particularly emphasizes the fact that alcohol is a serious social problem for the road users particularly drivers. It also emphasizes the fact that alcohol is a taboo subject for which you must open the debate and start the search on the extent of driving while drunk and how to implement for the fight against this problem.

Finally, the results of this study showed that three factors determine the strategy against driving while drunk in Algeria: (1) the recognition of the risk of drunk driving by the different actors in society; (2) knowledge of this risk in terms of experimentation, exposure and development of regulations; and (3) the establishment and monitoring of functioning of the education system, training, sensitization and traffic enforcement by mobilizing the necessary human and financial resources.

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PATTERNS AND DETERMINANTS OF ALCOHOL USE AMONG NIGERIAN UNIVERSITY STUDENTS: AN OVERVIEW OF RECENT DEVELOPMENTS

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ABSTRACT

Use of licit and illicit drugs among students is a growing global phenomenon. Studies from different western countries reveal that students use and misuse substances such as alcohol and tobacco more than non-students. In Nigeria, cultural restraints prevented young people from consuming alcohol in the traditional era. However, recent studies show that many now consume alcohol and other substances in harmful ways. Findings from this recent literature indicate that while some Nigerian university students use alcohol to enhance sexual performance, boost confidence and reduce stress, others use heavy episodic drinking as means of constructing social identity. Other findings reveal that a majority combine alcohol with other drugs and that anxiety, depression, injury to self and others and failing examinations are some of the alcohol-related problems among users. It can be argued that factors such as lack of policy, aggressive advertisements, brewer-sponsored promotions and sponsorship of youth-oriented programmes are some of the facilitators of students' alcohol use. The paper discusses the implications of these developments for contemporary Nigerian society and recommends that alcohol policies should be formulated and implemented.

Keywords: alcohol misuse, alcohol-related problems, determinants of alcohol use, Nigerian university students, patterns of alcohol use

INTRODUCTION

Alcohol has been used for various purposes in many human societies for over ten thousand years (Smart, 2007). In Nigeria and other parts of Africa, locally produced alcoholic beverages date back over many centuries (Obot, 2007). Though alcohol has been used for many purposes in the communities that make up the place presently called Nigeria, drinking patterns and purposes were culturally controlled (Umunna,

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1967). A consistent characteristic of the patterns was that alcohol consumption among women and youths was not popular (Odejide, Ohaeri, & Ikuesan, 1989). In contemporary Nigerian society, this group is said to be drinking alcohol as well as using other psychoactive substances harmfully (Klein, 2001). This shift has been attributed to many factors, but to date, there has been little agreement. While some say it was ignited by the oil boom of the 1970s that led to the proliferation of breweries (Hathaway, 1997), some argue it was due to the effects of modernisation or globalization (Ikuesan, 1994) while a few others (especially recent studies) blame all the foregoing, in addition to the influence of the media, advertising, sophisticated marketing and lack of alcohol policy (Dumbili, 2013a; Jernigan & Obot, 2006; Obot, 2007; Odejide et al., 1989).

Though there is a 61.7% abstention from alcohol consumption among Nigerians due to socio-religious factors (World Health Organization, 2011), studies have revealed that high episodic consumption exists among those that drink alcohol. For instance, Umoh, Obot, & Obot (2012) reported that while the average per capita consumption for adults in Africa stands at 6.2 litres, Nigerian's adult per capita consumption is 12.3 litres which ranks it among the highest in Africa. This lends credence to an earlier study (Room & Selin, 2005) which ranked Nigeria second in Africa behind Uganda, but also reported equal alcohol-related problems among male and female drinkers.

Currently, one of the most serious discussions in substance use literature globally is hazardous alcohol consumption among young people, (Foxcroft, Ireland, Lister-Sharp, Lowe, & Breen, 2003), especially students (Kaynak et al., 2013; Pasch, Perry, Stigler, & Komro, 2009; Wechsler, Lee, Hall, Wagenaar, & Lee, 2002; Wechsler & Nelson, 2008; Wemm et al., 2013; Young, Morales, McCabe, Boyd, & d'Arcy, 2005) because of this is leading to many problems amongst this group. This has been attributed to many predictors; one such is the growing culture of intoxication in western countries (Piacentini & Banister, 2009). Additionally, scholars from these western countries have argued that not only do students drink more alcohol than non-student populations (Kypri, Langley, & Stephenson, 2005; Kypri et al., 2009; Kypri, Cronin, & Wright, 2005), but that they also use other drugs. For example, Dawson, Grant, Stinson, & Chou's (2004) comparative study in the USA revealed that students drank heavier than their non-students counterparts while Caldeira, Arria, O'Grady, Vincent, & Wish (2008) reported other drug-related disorders among this group.

Though substance research generally is undeniably in its infancy in Nigeria (Dimah & Gire, 2004), a considerable number of research has been conducted focusing on Nigerian students. These studies (past and present) have produced evidence to show that Nigerian students use different psychosocial substance for diverse reasons (Adelekan, Abiodun, Obayan, Oni, & Ogunremi, 1992; Adelekan, 1989; Fatoye & Morakinyo, 2002; Ihezue, 1988a; Makanjuola, Daramola, & Obembe, 2007; Olley & Ajiteru, 2001). In spite of the growing number of research among students in the country, to date, there has been little agreement on the pattern of substance use, factors that engender substance consumption among Nigerian students, the category of students that use substances, and to my knowledge, no review article among the student population exist in Nigeria.

It is against this background that this paper fills this gap by reviewing studies conducted among Nigerian university students between January 2000 and May, 2013. Though the focus is on alcohol, it is difficult to ignore the fact that substance literature in Nigeria is replete with findings to show that the majority that use alcohol (a licit drug), also use one or more illicit substances together (Makanjuola et al., 2007 p.113). The review, therefore, will highlight the findings of these studies, discuss their implications and suggest remedial measures for contemporary Nigerian society. The article is divided into four sections. The ensuing section highlights the methods adopted in the review. This is followed by the section that synthesized the findings of identified studies and discussed their implications. This last section highlighted the factors that engender alcohol use among students and concluded by recommending some remedial measures and areas that require further research.

METHOD

The literature for this review was obtained fromsearches of the African Journal Archive, PubMed, MEDLINE, PsychArticles, Cochrane Library, EBSCOhost and Sociological Abstracts. Further searches of Google Scholar and the African Journal of Drug and Alcohol Studies (that publishes peer reviewed scholarly work in Nigeria) were conducted to identify recent literature. A combination of search terms was used such as: ''patterns of alcohol use/ consumption among Nigerian university students'', ''determinant of alcohol use among Nigerian university students'', "alcohol misuse in Nigerian universities/ tertiary institution" and ''alcohol use disorders among Nigerian university undergraduates''. Other search terms were ''perceived benefits of alcohol among Nigerian students'', ''motives for consuming alcohol by Nigerian undergraduates'' ''alcohol adverts in Nigeria university'', ''alcohol marketing in Nigeria university'' and ''alcohol promotion in the Nigerian universities''. It is noteworthy that the search was based on only English language databases. Following the multiple check and cross examination of the literature, 19 articles were identified. Though the scope of this paper was to include papers published between 2000 and 2013, no study published in 2000 was identified. Thus, ten titles met the inclusion criteria because they were published between January 2001 and May 2013 in peer reviewed journals.

RESULTS

As noted, the searches yielded 19 titles, but after a further sifting, nine studies were eliminated. While four of these studies (Enekwechi, 1996; Ihezue, 1988a; Ihezue, 1988b; Ohaeri et al., 1996) were published before 2000, three studies (Adewuya, Ola, & Aloba, 2006; Adewuya, 2006; Odenigbo, Agbo, & Atinmo, 2013) did not sample only university students. Similarly, two studies (Gire, 2002; Welcome, Razvodovsky, & Pereverzev, 2010) examined Nigerian and non-Nigerian students due to the fact that they were not conducted in Nigeria. In all, ten studies (see Table 1) (all employed quantitative methods) that met the inclusion criteria were included in the review.

Patterns of alcohol use among Nigerian university students

As noted, all the studies included employed quantitative approaches. Abikoye

Table 1. Studies included in the literature review

Author	Year	Aims	Demographic Characteristics	Results	Predictors alcohol use
Olley & Ajiteru	2001	To document the prevalence and pattern of alcohol consumption	525 Female students from all levels of study; mean age: 22.06.	A prevalence of 54.2% of alcohol use was found; while 87.3% from this number were drinking normally, 7.7% used alcohol hazardously and 5% harmfully abused alcohol	Severe family relationships and social anxiety
Adewuya	2005	To validate the instrument for the detection of alcohol-related problems	248 students (mean age: 22.5years) completed the two instruments; 225 undergraduates, 23 postgraduate; 229 were single	141 had no alcohol-related problems; 107 had alcohol-related problems; 76- hazardous alcohol use; 25-harmful alcohol use; 6-alcohol dependence	NA
Adewuya et al.	2007	To estimate the prevalence and explore the socio-demographic correlates of alcohol use disorders	2658 (males: 1913; females: 745) students	The 12-month prevalence for alcohol abuse is 3.5% (Male: 4.4%; Female: 1.1%) and alcohol dependence is 0.8% (Male: 1.1%; female: 0.13%)	Parental drinking; being a male; non-religious; higher economic status
Makanjuola et al.	2007	To determine the prevalence, pattern and factors associated with substance use	961 medical students (males: 625; females: 336); aged between 16 and 43 participated	43.2% noted they have been offered alcohol; with 122 (13.6%) current users and 341(38.0%) had lifetime use	Having study difficulty; living alone; male gender; being a clinical student (who mostly live off campus)
Olley	2008	To examine the prevalence and associated factors of sexual risk behaviour	841 (16-25 years) year one students; 538 males; 303 females; 819 (single), 22 (married)	180 were sexually active; 53 (male), 20 (female) used alcohol normally; 10males and 11 females use alcohol hazardously; one female use alcohol harmfully	NA
Abikoye & Adekoya	2010	To examine substance abuse in a non-residential university	325 undergraduate students (183 males; 142 females); mean age: 22.5. 148 are in 1st and 2nd years; 120 in 3rd and 4th years; 57 in year 4 and above	204(62.8%) had ridden in a car driven by someone who was high on alcohol/ drug; 193(59.4%) had used alcohol/drug to relax; 159 have received warning to stop alcohol/drug use; males use more drugs	Inability to delay gratification; being of younger age; social pressure; freer environment; off campus
Chikere & Mayowa	2011	To examine the prevalence and perceived health effect of alcohol use of undergraduates	482 Males students with mean age of 24.7 years; 79% single; 1st year 53(11%); 2nd year 90(18.7%); 3rd year 152(31.3%); 4th year 188(39.0%)	While 78.4% prevalence of alcohol use was for all respondents, 92.2% was for those aged 26 and above. Being unmarried predicted higher alcohol(p-value <0.001)	To feel good; because all my friends drink alcohol; to feel high; to be famous on campus; to enhance sexual performance

Abikoye & Osinowo	2011	To examine alcohol use pattern and perception of student-patrons of bar	1705 (965males and 740 females) students from 3universities; mean age is 21.52 years; low economic status 30.7%; middle 42.7%; high 26.6%	44.5% are low-risk drinkers; 43.3% are high-risk drinkers (recommended for simple advice); 10.4% high-risk drinkers (need advice, counseling and continued monitoring); 3.7% fell under alcohol dependence (need referral to specialist); 72.6% noted that alcohol is good for socializing; 57.7% noted that it reduces stress; 36% (alcohol enhances sexual performance)	Parental alcohol use; high parental socio-economic status; living off campus
Umoh et al.	2012	To examine perception of alcohol promotion and policy	492 (265male and 227 female) students with mean age of 24.84 years. 127 males use alcohol, 138 do not use alcohol. 98 females drink while 129 are abstainers.	84% believe alcohol harm exceeds its benefits; above 88% want the government to intervene in order to protect the populace; 85% noted that alcohol can be bought anywhere	NA
Abayomi et al.	2013	To examine the relationship between alcohol consumption and psychological well-being	443 (291 male and 152 female) second year students from the 32 departments. Age is between 14 and 28	12 months prevalence of alcohol was 40.6%; 14.9% had alcohol-related problem, 31.1% reported heavy episodic alcohol use. 8.9% had alcohol-related injuries.	Older age, higher parental education and male gender predicted more alcohol use

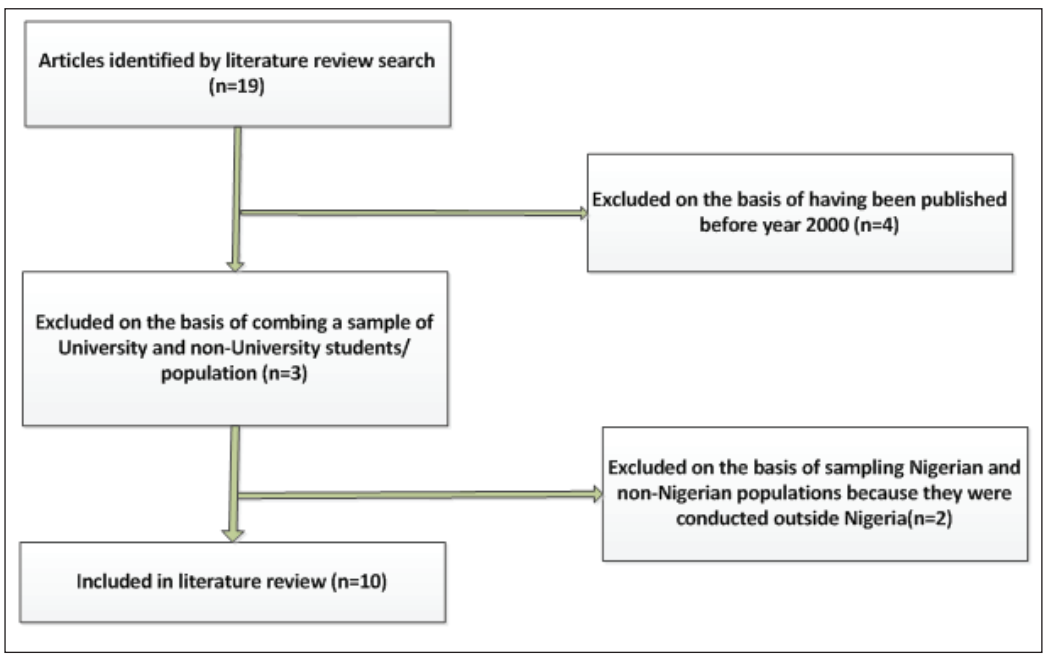

Figure 1: A flow diagram for literature review on patterns and determinants of alcohol usw among Nigerian University students, 2000-2013

& Osinowo's (2011) study of alcohol use patterns *and* alcohol-related perceptions of students who patronised drinking bars within the host communities revealed that 44.5% had scores within Zone 1 in the AUDIT scale, and this means that they were low risk alcohol users, recommended for just alcohol education; 43.3% had scores within Zone 2 and were ''high-risk drinkers recommended for simple advice'' (Abikoye & Osinowo, 2011 p.261). The authors reported that 10.4% of the respondents were high-risk alcohol consumers that did not just require advice but also ''counselling and continued monitoring'' (Abikoye & Osinowo, 2011 p.261). This is because their scores were within the third Zone; about 3.7% could be categorised under alcohol dependence because their scores fell within the fourth Zone and this group needed to be referred to specialists for further diagnosis and possibly treatment (Abikoye & Osinowo, 2011).

The results of perception, revealed that 72.6% participants believe that alcohol facilitates a group's socialisation, 67.9% reported that it helps to reduce stress, and 57.7% use it because drinking is a mark of maturity (Abikoye & Osinowo, 2011). Findings also revealed that 39.2% use alcohol because it provides them with alertness or concentration, 36.2% believes it enhances sexual performance, 25% use it to have fun while 21.7% and 10.4% respectively, reportedly use alcohol to enhance boldness/confidence and to avoid being bored (Abikoye & Osinowo, 2011). These scholars argued that these themes of perception were central in all the different study sites. The respondents were also knowledgeable of alcohol-related problems such as injuries, accidents, violence, etc. The findings further revealed other independent predictors of alcohol consumption among respondents to include: parental drinking, socio-economic status of parents and place of residence in the university (Abikoye & Osinowo, 2011).

Their findings lend support to an earlier study conducted in one of the universities they studied (Abikoye & Adekoya, 2010). In this 2010 study, 59.4% respondents reported using alcohol/drug for relaxation and to ''feel better; 48.9%, had received warning to cut down substance use while 32.6% had gotten into trouble using alcohol or drugs'' (Abikoye & Adekoya, 2010 p.303). The authors revealed that males and younger students used and misused substances than females and older students because of the inability to delay gratification (Abikoye & Adekoya, 2010). In fact, these two studies have produced some interesting findings that corroborated another related study (Chikere & Mayowa, 2011). In that study Chikere and his colleague note that 24.4% of the respondents use alcohol because ''it makes them feel high or on top of the world'', 6.6% use alcohol because ''it makes them belong to the group of happening guys'' in their various campuses (Chikere & Mayowa, 2011 p.118). The scholars argued that 52% of the respondents use alcohol for relaxation and stress reduction, 16% drink because of having friends that use alcohol, and 51.1% use alcohol to enhance sexual performance or pleasure (Chikere & Mayowa, 2011). That these students use alcohol to enhance sexual pleasure may not be unconnected to the way some alcoholic beverages are portrayed by producers in Nigerian as Obot & Ibanga (2002) reported: ''even before Power added his charm to marketing of the stout, Guinness was associated with strength and sexual virility. It is not surprising, therefore, among many lovers

of the beverage *that* Guinness is called 'black power' and Viagra'' (p.6).

The fact that a majority of respondent Abikoye & Osinowo (2011) sampled are in the category of risky drinkers show that alcohol use among students in Nigeria may be high as it is in western society among the age group studied. This can be argued to be a paradigm shift from what obtained in the traditional Nigerian society because young people hardly drank alcohol and if they must drink on festive days, they must not drink independently:

> *Even though, Nigerians drink a great deal of alcohol, it is generally believed that it is bad to drink too much…. The youngest person present, pours drinks from a container or bottle, handing the first cup to the oldest person and then to others, in descending order of age (Oshodin, 1995, p. 215).*

Though the foregoing may not depict the entirety of how alcohol was used in all the ethnic groups that make up Nigeria, it buttresses, the point that elders were the group that drank alcohol being served by the youths. Based on data from Abikoye and colleagues' study, it can be argued that young people are not just beginning to drink, but some are misusing alcohol. In the same vein, these three studies (Abikoye & Adekoya, 2010; Abikoye & Osinowo, 2011; Chikere & Mayowa, 2011) have revealed findings on motives for drinking in the contemporary Nigerian society that are also inversely related to the motives for drinking in the traditional Nigerian society. This is because in the latter, alcohol was used for religious worship, entertainment of guests, and for pleasure (Odejide et al., 1989), but in contemporary Nigeria, drinking motives include inter alia: for sexual pleasure and for the construction of social identity.

Another finding of Abikoye & Osinowo's (2011) study that is worth noting shows that the non-residential university's status has an influence on students' drinking, and this is because of the increasing drinking bars and 'Joints' in these communities. This finding has serious implications because it predicted risky sexual behaviours among undergraduate students in Enugu (Okafor & Obi, 2005). One main reason is because, in Nigeria, universities prohibit sales of alcohol on campuses, especially in the hostels. Thus, host communities often take advantage of this to sell alcohol and food around campuses. One undeniable fact is that in Nigeria, hotels, nightclubs and bars are increasing built around universities. Because most universities provide partial or no accommodation for their students, many live off campuses and due to lack of monitoring, a majority that drink attend nightclubs and visit bars regularly (Abikoye & Osinowo, 2011).

In the same vein of alcohol and risky behaviours, a study conducted among year one students at the University of Ibadan revealed that 33% of the respondents had used alcohol before that study was conducted (Olley, 2008). Out of the 30.8% participants that were active sexually, 53% reported consuming alcohol while 8.5% males and 18% females hazardously use alcohol (Olley, 2008). Again, Benjamin Olley revealed that, among males, alcohol abuse has a significant relationship with risky sexual behaviours. Similarly, he argued that 3% of sexually active participants had sex in exchange for drugs, 7.2% for alcohol and 11% use alcohol heavily before intercourse (Olley, 2008). That some students exchanged sex

for alcohol is recent evidence in Nigeria, but has been reported in South Africa where alcohol serves as currencies for exchange of sex (Townsend et al., 2011). Also, that 18% of females drink hazardously corroborates an earlier study among females in that same university (Olley & Ajiteru, 2001) which revealed that there was a 54.2% prevalence of harmful use of alcohol among female students. Studies concerning western countries have reported that young people, especially males see drinking and getting drunk as part of growing up or becoming a man (Iwamoto, Cheng, Lee, Takamatsu, & Gordon, 2011; Nayak, 2006; Roberts, 2004). This is rapidly becoming part of females' life-style, especially in cultures where female drinking is normative (MacNeela & Bredin, 2011), but scholars have reported that rape, sexual assaults and other risky behaviours among females are higher when they are drunk (Parks & Fals-Stewart, 2004; Roberts, 2004). This culture of intoxication has arguably encroached into Nigerian universities.

In another study conducted among medical students of the University of Ilorin, Makanjuola et al. (2007) reported that 32% of the respondents either lived with their friends or were living alone. Further, the data revealed that 74.1% claimed to be ''very religious'', and among them were 68% and 32% Christians and Muslims respectively (p.113). Additionally, 40.4% currently use at least one of these substances, and the findings revealed a 78% lifetime prevalence of substance consumption (Makanjuola et al., 2007). Further, 13.6% were currently consuming alcohol, and this makes it the second most used drug among the substances examined. There were significant differences between males and females who currently use alcohol (17.6% and 4.7%, x^2 =26, p<0.001), and the lifetime use [42.8% and 27.0%, x^2 = 19.84, p<0.001] (Makanjuola et al., 2007) while factors that predicted alcohol use include: ''living alone during school period'', having difficulties in ones' academics and ''being a clinical student'' (p.113).The data further revealed significant relationships between lifetime alcohol use, tobacco and cannabis showing that those who were mentally healthy according to self-report were those likely to be non-current users of alcohol (Makanjuola et al., 2007). This finding corroborates the fact that alcohol misuse is harmful to health and supports Chikere and colleague's study that reported that 45.5% of the participants who use alcohol agreed that it makes them feel bad, 63.8% reported that it makes them feel drowsy, encourages drunk-driving, hangovers and causes weakness (Chikere & Mayowa, 2011). Further, Makanjuola et al. (2007) argued that those who claimed to be very religious were less likely to use alcohol which lends support to a previous study conducted in the same university where Adelekan, Abiodun, Imouokhome-Obayan, Oni, & Ogunremi (1993) reported that being ''very religious'', reduced use of alcohol and other substances than being ''just religious'' (p.250). What we know about substance use and religiosity is largely based upon empirical findings from western countries. For example, Pedersen & Kolstad (2000) argued that those who attached much importance to religion were likely to be non-drinkers in Norway while Gryczynski & Ward (2012) reported that religiosity has associations with abstention, less drinking, as well as less binge drinking in the USA. These Nigerian studies were conducted in western Nigeria cohabited by Christians and Mus-

lims. Therefore, such empirical studies are required in other parts of the country where 98% and 2% of the population respectively are likely to be Christians and traditional worshipers.

Makanjuola and colleagues' finding that students who lived off-campus are likely to be using substances than on-campus students, lends support to two other studies conducted in that same region (Abikoye & Adekoya, 2010; Abikoye, 2012). The study produced surprising results that are relevant to the debate on students' use and misuse of substances, especially because it was conducted among medical students who supposedly, would have known the consequences of substance misuse. It arguably shows that the motive for using a substance supersedes the perception of a likelihood of substance-related problems, and this is in agreement with the study that reported that students rode on a car under inhibition with their driver-friends who were also drunk (Abikoye & Osinowo, 2011). Similarly, it supports Chikere & Mayowa's (2011) finding that 52.1% current alcohol users had no intention of quitting harmful alcohol use. This finding that though people may know the consequences of harmful alcohol use, they may not be willing to stop drinking may not be unconnected with the fact that drunkenness among young people is used for constructing social identity. This is in agreement with Demant & Järvinen's (2010) findings that drunkenness serves as social capital or resource among young Danish.

In another study conducted in Osun State, Adewuya et al. (2007) reported a 4.4% alcohol abuse for males and 1.1% for their female counterparts. The scholars argued that 1.1% males and 0.13% females can be rated under alcohol dependence categories. Adewuya and colleagues also argued that not being religious, parental alcohol use, being a male and having higher socioeconomic status predicted alcohol use disorder (Adewuya et al., 2007). That higher parental socioeconomic status predicted alcohol is in consonance with Abikoye & Osinowo's (2011) study, and this has been attributed to parental permissiveness. There is a popular maxim among parents who might have passed through economic difficulties growing up that ''their children should not undergo hardship because they (parents) had it tough in life'' (Abikoye & Adekoya, 2010 p.305), and this arguably encourages young people to consume substances. Though there is a dearth of empirically result in this debate in Nigeria, scholars outside Nigeria have argued that parental leniency, less monitoring and permissiveness predict young people's substance misuse (Ledoux, Miller, Choquet, & Plant, 2002; Pokhrel, Unger, Wagner, Ritt-Olson, & Sussman, 2008).

Similarly, Abayomi et al's (2013) study of year one students, revealed a 14.9% hazardous alcohol drinking prevalence. They also reported that 24.3% and 49.1% female and male students respectively used alcohol in the past one year. Further, 67.8% use alcohol monthly while alcohol-related injury to self or others occurred among 7.3% of the participants (Abayomi et al., 2013). Factors that predicted more harmful alcohol consumption include: male gender, having a father with high educational status or having a severe relationship with one's father. The scholars also noted that those who reported hazardous alcohol use were ''four times likely to have psychological distress'' (p.3). The ensuing section will examine probable reasons for using this drug among Nigerian students.

Determinants of alcohol use among students and consequences

One factor that arguably popularised alcohol use on Nigerian campuses is the founding of the palm wine drinkers' club, called Kegite at the University of Ife in 1962 (Ohaeri et al., 1996). Though the intention of this club was to reinforce African culture, the glamour at which members dance and drink palm wine on campus, the fact that it is a legally registered confraternity in Nigerian universities, the popularity of Nigerians who founded the club and the spread of the club to many university campuses contributed to the normalization of drunkenness among Nigeria undergraduates. Nonetheless, other plausible explanations that can be grouped under community, structural and individual factors are hereunder examined.

Community and Structural Factors

Lack of policy

Suffice it to say that Nigeria to date, is one of the countries with high alcohol and other substance-related problems (World Health Organization, 2009) but without a corresponding measure in the form of policy (Obot, 2007; Umoh et al., 2012). Scholars in the 1970s (Anumonye, Omoniwa, & Adaranijo, 1977) and 1980s (Odejide et al., 1989) identified this problem and called on the various governments to formulate policy to regulate alcohol but to date, no policy has been formulated. In 2010, Nigeria had a delegate at the World Health Assembly's meeting that adopted the 10-point resolution for countries without an alcohol policy to adopt and formulation policies (Chick, 2011), yet has eschewed any initiative towards formulating policies that will regulate alcohol sales and consumption.

Presently, Nigeria has no specification/definition of standard drinks, no standard measurement for selling alcoholic beverages in bars as it is found in western countries, and alcoholic beverages do not carry ABV on their labels. Unsurprisingly, what exist in Nigeria are the self-imposed brewers' self-regulations (Dumbili, 2013a). One of these self-imposed regulations is either the *drink responsibly* warning message that often hurriedly ends electronic media adverts, or the International Centre for Alcohol Policies' (ICAP) *drink responsibly campaign* (Dumbili, 2013b). Scholars (e.g. Barry & Goodson, 2010; Dowling, Clark, & Corney, 2006) have argued that the brewer-sponsored responsible drinking message is not effective mainly because it is often designed with ambiguity to promote brewers' image (Smith, Atkin, & Roznowski, 2006). In the Nigerian context, it has been argued to be ineffective due to various reasons. Firstly, how can irresponsible drinking be determined where responsible consumption has not been defined? This is why Dumbili (2013a p.25) described the *drink responsibly* warning message as ''a paradox of *semantic* deception'' because for one's alcohol consumption to be defined as irresponsible, what constitutes responsible consumption must have been defined. For instance, the UK has stipulated that male and the female's responsible drinks per week are 21 and 14 units respectively (Farke, 2011); thus, there is a basis for judging irresponsible consumption.

In the same vein, Nigerian brewers have been collaborating with ICAP in the 'drink responsibly' campaign (Vanguard, 2011), but this has been described as an attempt to silence policy formulation because ICAP is a brewer-funded pro-drinking organization (Jernigan, 2012; McCreanor, Cass-

well, & Hill, 2002) that cannot support anti-alcohol policies. In terms of tobacco policy, a Bill was presented to the National Legislative House, but to date, it has not been passed into law (Tafawa, Viswanath, Kawachi, & Williams, 2012). This lack of regulation has been attributed to several reasons, one such being ''the immense benefit that the government derives in the form of tax from alcohol industries'' (Ibanga et al., 2005 p.150). The non-regulation of alcohol is having serious impacts on the normalization of alcohol misuse among Nigerian students, and this contributes to the increasing alcohol-related problems in Nigeria. This is in keeping with a recent study in a Nigerian university which reported that 88% of the students agreed that lack of policy is the main cause of the increasing alcohol-related problems in Nigeria (Umoh et al., 2012).

Additionally, Umoh and colleagues reported that more than 85% of the participants noted that this makes it easy for anybody to purchase ''alcohol anywhere in Nigeria'' (Umoh et al., 2012 p. 110-111). This unrestricted availability has a long history according to Oshodin (1995) because ''it is possible to see a five-year-old child purchasing alcohol'' in Nigeria (p.219), and this corroborates Chikere & Mayowa's (2011) finding that alcohol can be purchased anywhere. Internationally, scholars (e.g., Cameron et al., 2012; Cameron, Cochrane, Gordon, & Livingston, 2013; Pridemore & Grubesic, 2012; Young, Macdonald, & Ellaway, 2012) have argued that alcohol-problems increase with the increase in availability of sale outlets and its density. Thus, it is argued that regulating alcohol availability via policy reduces access to alcohol, deters misuse, and reduces alcohol-related problems among young people (Gruenewald, 2011). For example, Bryden, Roberts, McKee, & Petticrew's (2012) systematic review concluded that ''higher outlet density in a community may be associated with high levels of alcohol use'' (p. 355). In a study of 1050 American adolescents, for example, Resko et al. (2010) noted that alcohol outlet density engendered violence among these adolescents. Similarly, McKinney, Caetano, Harris, & Ebama (2009) found a strong association between alcohol outlet density and partner violence among American couples while Spoerri, Zwahlen, Panczak, Egger, & Huss (2013) observed that, in Switzerland, alcohol-related deaths had an association with the closeness of sale outlet in the neighbourhood. Additionally, Ahern, Margerison-Zilko, Hubbard, & Galea (2013) note that it was associated with binge drinking among adults in the USA, and Schofield & Denson (2013) observed that the longer the hour of alcohol outlet sale, the higher violent crime is witnessed in New York State.

That alcohol can be purchased anywhere lends support to the fact that, in Nigeria, there is no restriction on alcohol sale (Umoh et al., 2012) (except in some northern states where Sharia laws exist) due to lack of policy on on/off licence sales. One serious consequence of this lack of policy is that minors can buy and consume alcohol in Nigeria, and this leads to early alcohol initiation. For example, Chikere and colleague reported that 11.6% of their respondents started drinking between 11-15 years, and this corroborates Odejide, Ohaeri, Adelekan, & Ikuesan's (1987) report that 40% of the participants had their first drink at 11 years. Though this has a long history in Nigeria (Oshodin, 1995), it arguably has increased in contemporary Nigeria where alcohol industries are sponsoring different night youth-oriented events, admit-

ting youths free of charge and nurturing and arguably future patrons (Dumbili, 2013b). Another implication of this lack of regulation is that many faculty events are now sponsored by alcohol producers, and many sales outlets are increasingly located in Nigerian university campuses. Undeniably, this contributes to high and alcohol misuse among students, which often results in clashes that are rampant in Nigerian higher education (Rotimi, 2005).

Advertising, Marketing, Promotion and Availability

Presently, alcohol adverts, marketing and promotions are becoming increasingly aggressive, and brewer-sponsored promotion are rife with offers including 'drink and win free drinks', cash, cars and other gifts. As noted, brewers now sponsor different youth-oriented programmes such as fashion shows, faculty night events, etc. on and off campuses that may encourage students to drink alcohol (Dumbili, 2013b; Nigerian Breweries, 2012). Additionally, different other youth-targeted events are sponsored by brewers and tobacco producers either on the media, hotels or stadia such as Star Trek, Star Quest, Legend Real Nite Deal, Benson and Hedges Music Time (Dumbili, 2013b; Tafawa et al., 2012).

This aggressive advertising may have accounted for the reason 'Star beer' was the most used beverage among Chikere & Mayowa's (2011) respondents. It is noteworthy that in the 1960s Nigerian Breweries Limited [NBL] (Star producer), conducted a research and discovered that Star was not selling as the brewer intended. Following this, ''NBL wrote a new advertising brief for their agency, specifying the need to build up a stronger brand image, and the aim of persuading 'light' drinkers to drink more regularly'' (Van Den Bersselaar, 2011 p.401). This persuasion of light drinkers to consume more has persisted as Obot & Ibanga (2002) argued: ''the introduction of the new bottle brought a sudden revival in consumer interest for Star and at the moment, Star is Nigeria's favourite beer… Star is now the beer of pleasure, fun, leisure and shared drinking'' (p.7). One reason these marketing activities may predict students' alcohol use is that:

> *Advertising and other marketing techniques are one potential source of information for young people about the cost and benefits of alcohol. Advertising creates the impression that, for a relatively small expenditure, young people can psychologically connect to the positive fantasy places, lifestyle and personality characteristics that it portrays (Saffer, 2002 p.173).*

Though this ''buy five and get one free promotion'' has been since the early 2000s (Obot & Ibanga, 2002 p.7), it is becoming increasingly sophisticated. This is because brewers and tobacco producers use popular Nigerian musicians or actors/actresses as models to advertise and promote these events, admit attendees free as well as offer them free drinks. Similarly, as tradition media are promoting these events/promos, brewers upload them in their websites and social media such as Facebook and YouTube and encourage Nigerian youths to visit and view them (Nigerian Breweries, 2013), but this has serious implications. Scholars have argued that young people who are exposed to constant media messages and texts are likely to behave in tandem with 'media fact', because many receive media

messages at face value (Atkinson, Bellis, & Sumnall, 2012; Hanewinkel & Sargent, 2009; Hanewinkel et al., 2012), especially in relation to alcohol and drugs (Minnebo & Eggermont, 2007; Thomson, 2012). Thus, Atkinson et al. (2012) reported that ''social norms theories of alcohol consumption suggest that individuals draw on the behaviour of significant others (e.g. peers, parents, and television characters) as a guide to what are 'normal' drinking practices, which then reinforces socially acceptable behaviour'' (p.91-92).

Because ''mass media depictions are not true, at best, they are partial truths; sometimes we may even feel they are collections of lies'' (Seale, 2003 p.514), they often portray commercials and adverts that create ''product hyper-reality'' (McCreanor, Greenaway, Barnes, Borell, & Gregory, 2005 p.255). This creation of exaggerated messages and texts has been argued (Connolly, Casswell, Zhang, & Silva, 2006; Ellickson, Collins, Hambarsoomians, & McCaffrey, 2005; Gordon, Moodie, Eadie, & Hastings, 2009; Gunter, Hansen, & Touri, 2008; Nicholls, 2012; Saffer, 2002) to enhance young people's alcohol misuse not just because they are often targeted at young people (Jones & Donovan, 2009), but because they ''entail an interactive aspect in the sense that the content engages the audience, evoking their cultural capital in a way that rely on some of the methods of conversation'' of the media characters (McCreanor et al., 2005 p.256).

In Nigeria, the implications of this media pervasiveness have been reported among adolescents. De Bruijn (2011) reported that a boy of 14 revealed that he admires the advertisement of 'Stout' due to ''the free drinks they promote'' and added that ''if I don't see the Stout ad on television, I feel bad'' (p.37). Another girl said that ''I see advertising 2 or 3 or 4 times a week'' and further explained why she prefers Star commercials: ''because you can win so many things, for example, free drinks'' (p.37). This lends support to what scholars from other countries noted that the sponsorship of events encourages people to drink (O'Brien, Miller, Kolt, Martens, & Webber, 2011), promotional paraphernalia directly induces those who received the items to use the product (O'Brien & Kypri, 2008) while ''bar-sponsored drink special increased patrons' level of intoxication'' (Thombs et al., 2009 p.206). This arguably contributes to the growing culture of intoxication in Nigerian universities and may continue because of lack of regulations.

Individual factors

Scholars have argued that no amount of alcohol is risk free, therefore, ''abstinence is a socially acceptable choice'' (DeJong, Atkin, & Wallack, 1992 p.675). In contemporary Nigeria, many young people due to the inability to delay gratification (Abikoye & Adekoya, 2010) often take the freedom from their parents as an opportunity to drink alcohol and involve in other social vices. This is because some parents still prohibit young people from using alcohol at home. That Nigerian undergraduate students now use alcohol and drunkenness for constructing social identity (Chikere & Mayowa, 2011) as has been reported in other countries (Ridout, Campbell, & Ellis, 2012), shows that many young people use this drug with predetermined motives and arguably careless about the consequences. Many students, especially males often want to be seen as part of the elites on campus, and this makes them attend parties, nightclubs (Chikere & Mayowa, 2011) and other places where it may be difficult to resist peer pressure to drink alcohol.

This theme was consistent in all the studies that examined factors that can predict alcohol use. Again, parental factors such as having severe relationship problems with one's parents, having parents that drink and having parents with high socioeconomic status predicted alcohol use. This reveals that many parents contribute to this social problem. That parental drinking predicted more alcohol among these students corroborates Cranford, Zucker, Jester, Puttler, & Fitzgerald's (2010) study in the USA.

In Nigeria, Oshodin (1984) had earlier noted that secondary school students in Benin City use and misuse alcohol because while some of their parents use the drug, others apply alcohol herbal medicine to their sick wards which leads to the early onset of alcohol use. He equally added that many parents often send their children (mostly minors) to buy alcoholic beverages for them or for their guest (Oshodin, 1995), and this contributes to exposing these minors to alcohol which arguably continues when they leave their homes for higher education. In the same vein, lack of parental discipline has been recently found to predict substance use in Nigeria (Abasiubong, Idung, Udoh, & Ekanem, 2012), and as Abikoye & Adekoya (2010) noted, many Nigeria parents who might have encountered economic constraints while growing up often boost that their wards will not suffer the same fate. Thus, they give large sums of money to these youths while returning to school. Because some of these students are underage (as this reflected in this review that younger age predicted more alcohol use), they tend to use the money on frivolities, one such being alcohol misuse. It is also noteworthy that factors such as living off campus, being a male, having severe relationship with one's parents, having academic difficulties and being a clinical student encouraged alcohol consumption among Nigerian students.

Strengths and limitations of the studies

Studies reviewed varied in quality, but the overall strength is that many used relatively large samples, appropriate designs and validated instruments (AUDIT) as well as an explicit language of expression in their data presentation and discussion. Despite these strengths, many were flawed because of the choice of self-reporting instruments. Again, some did not use a representative sample while some chose to sample only male or female without giving any reason for making such choices. Additionally, all the ten titles were quantitative studies, and this is a major flaw. That no qualitative or mixed methods study has been conducted in Nigeria among university students arguably, means that addressing the rising alcohol-related problems may be difficult because quantitative data may not be enough to proffer solutions to alcohol-related problems because they do not capture people's lived experience.

Strengths and limitations of the review

The review as noted is the first to synthesis studies of this kind in Nigeria, thus has added to the literature. Secondly, the review points out clearly the findings of different studies based on the region these studies were conducted. This will arguably make intervention easier for specific regions and populations. This notwithstanding, the review is limited by the fact that a number of studies may have been missed, especially those that were not published in journals (grew literature) such as thesis and dissertation or in some Nigerian journals that do not have

online databases. Secondly, as the review covered only papers published in English, articles published in other languages may have strengthened the review if they were included. It is also worthy of note that the papers reviewed were not selected based on their qualities. Therefore, this variation in the quality of these studies may have affected the quality of the review.

Recommendations and conclusion

Moderate alcohol consumption may not harm the body but misuse engenders severe consequences which might not just affect the drinker but also others (Wechsler et al., 2002). That some Nigerian youths use alcohol for sexual pleasure (Chikere & Mayowa, 2011; Klein, 2001; Sunmola, Olley, & Oso, 2007) may lead to none or inconsistent use of contraception such as condoms due to lack of inhibition (Sunmola et al., 2007) and may engender the contraction of sexually transmitted illness. In the same vein, Nigeria's higher education (due to drug misuse among some students) has witnessed several clashes due to secret cult activities, and many innocent students have been killed by stray bullets (Rotimi, 2005). Other substance-related problems reported among Nigerian students include: depression, anxiety (Adewuya et al., 2006), alcohol dependence (Abikoye & Osinowo, 2011), and poor academic performance (Ihezue, 1988a).

Therefore, to proffer solutions to the increasing substance misuse among Nigerian students, policies should be formulated and implemented to regulate the:

> *physical availability of alcohol and other drugs by partial or total ban, regulating retail outlet, hour and days of retail sale, restriction on eligibility to purchase and sell alcohol, minimum purchasing age laws, promotion of alcohol free activities on campuses and community mobilisation approach'' (Umoh et al., 2012, p.113).*

Brewers should be banned from sponsoring faculty activities and the giveaway of branded paraphernalia should be reconsidered. There is also an urgent need to address the sale of alcohol to minors. In order to achieve this objective, the government has to issue the citizens national identity cards as this has been effective for identifying minors in developed countries. Similarly, there is a need to designate on and off licence sale points and strictly enforce it because many of the studies reviewed reported that alcohol can be purchased *anywhere*. In the meantime, the parents, religious organizations and nongovernmental organizations should assist in reorienting Nigerian youths. This is because as the government has eschewed every attempt to formulate and implement alcohol policies, orientation and social marketing should be adopted for value reorientation.

In addition, every university should establish different spheres of intervention ranging from counselling centres to treatment of alcoholics. This will help in informing students about the health and social consequences of using alcohol as a means of reducing stress, managing academic difficulties and harmful alcohol use. It is also vital that the screening of individuals/students for hazardous and harmful alcohol consumption, brief intervention and referral to treatment (SBRIT) should as a matter of urgency be periodically performed by trained experts with instruments such as AUDIT and CAGE questionnaire in various campuses. As it was reported that living off cam-

pus predicted more alcohol use, hostels should be constructed by many universities where such is lacking, and students should be encouraged to live on campus because alcohol sale is prohibited in most Nigerian universities' hostels. It is equally recommended that parents should desist from sending minors to buy alcoholic beverages for them and should not give their wards too much money that can lead to spending such in frivolities. Until these are implemented, the growing culture of intoxication may continue, and other motives for consuming alcohol will emerge.

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REPRESENTATIONS SOCIALES DE LA CONSOMMATION DE TRAMADOL AU NIGER, PERCEPTIONS ET CONNAISSANCES DES COMMUNAUTES : ENJEUX POUR LES ACTIONS DE LUTTE

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RESUME

Le chlorhydrate de Tramadol est un antalgique de palier II sur la classification de l'OMS des médicaments anti douleurs. Son trafic illicite et utilisation détournée et abusive sont devenus un problème social au Niger. L'objectif de cette étude était de décrire les représentations sociales du tramadol évaluées à travers les connaissances et les attitudes des communautés - représentées par les élus locaux, les vendeurs ambulants de produits pharmaceutiques et les administrateurs - et de mettre ces représentations en lien avec les pratiques de sa consommation. L'étude était qualitative, transversale et descriptive. Il ressort une dualité dans la dynamique représentationnelle du Tramadol passant du «Tramadol-médicament» au «Tramadol-drogue» responsable respectivement d'une consommation naïve et d'une consommation abusive et dépendante. Toute mesure de lutte contre ce phénomène doit promouvoir des connaissances et attitudes communautaires en lien avec les conséquences sociales et sanitaires de la consommation de cette substance.

Mots clés: Représentations sociales, Tramadol, drogue, médicament, prévention

ABSTRACT

SOCIAL REPRESENTATIONS OF CONSUMPTION OF TRAMADOL IN NIGER, PERCEPTIONS AND KNOWLEDGE OF COMMUNITIES: ISSUES FOR ACTION

Tramadol hydrochloride is a Level II analgesic on the WHO classification of anti-pain medications. Its smuggling, diversion and abuse have become a social problem in Niger. The objective of this study was to describe the social representations of tramadol evaluated through the knowledge and attitudes of communities -- represented by the local officials, vendors of pharmaceuticals and administrators -- and to these representations in connection with practices of consumption. The study was qualitative, cross-sectional and descriptive. It follows a duality in the representational dynamics of Tramadol from the "Tramadol-

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medication" to "Tramadol-drug" responsible for respectively naive consumption and abuse/dependent consumption. Any control measures against this phenomenon must promote community knowledge and attitudes in relation to the social and health consequences of the use of this substance.

Key words: Social representations, Tramadol, drug, prevention

INTRODUCTION

Plusieurs études, font état d'une progression de l'utilisation des médicaments à des fins non médicales par les adolescents et les jeunes adultes dans le monde. En Afrique, ce phénomène a concerné certains médicaments (coritico-stéroïdes, dihydroergocryptine, trinitrine percutanée, testostérone, dapsone, rétinol, hydroquinone, benzodiazépines et autres sédatifs etc.) pour des motifs divers (Lévy & Thoër, 2008). A cette liste non exhaustive, s'est ajouté le Tramadol (UN Office Contre la Drogue & le Crime, 2013a ; UN Office Contre la Drogue & le Crime [UNODC], 2013b).

Au Niger, le Tramadol est devenu aujourd'hui la substance psychoactive la plus consommée, en raison de son agrément populaire (Sani, 2009 ; Maiga et al., 2013a ; Maiga et al., 2013b).

Parce que le rapport aux substances psychoactives s'inscrit dans un contexte social et culturel porteur de sens, un débat s'est déclenché au tour de la nature et de la dangerosité de cette substance d'une part et des moyens de lutte à mettre en œuvre face à l'ampleur grandissant du phénomène d'autre part.

Au regard, des données dont on dispose sur le Tramadol au Niger : Trafic illicite (UNODC, 2013b); usage détourné et abusif par les communautés (Sani, 2009 ; Maiga et al., 2013a) ; conséquences sanitaires du mésusage observées dans les centres de santé (Maiga et al., 2013b), l'objectif était, premièrement d'appréhender les univers représentationnels du Tramadol à travers les connaissances et perceptions des communautés, puis secondairement de mettre en relation ces représentations avec les pratiques de sa consommation dans les communautés.

METHODOLOGIE

Type d'étude

Il s'est agi d'une étude qualitative, transversale et descriptive sur les représentations du Tramadol à travers les connaissances et perceptions en milieu communautaire. Elle a été réalisée du 1er avril au 10 mai 2013.

Cadre, Populations cibles et méthodes

Cadre

L'étude a été réalisée au Niger. Elle s'était intéressée aux communes urbaines (dont les conseils sont localisés au niveau des chefs lieux des départements). Selon le découpage administratif, le pays compte 45 communes urbaines.

Le choix des communes urbaines ayant servi de sites pour l'étude a été effectué selon une commodité motivée par les moyens financiers destinés à l'étude.

Étaient retenues, les communes situées aux alentours et sur les principaux axes divisant le pays de l'Ouest à l'Est et du Sud au Nord.

Populations cibles

Les populations cibles étaient les communautés[1] des communes urbaines, retenues pour participer à l'étude.

Chaque communauté de commune retenue, a été représentée par des élus locaux, des vendeurs ambulants de produits pharmaceutiques et des responsables administratifs sur le postulat que ces profils de représentants détiennent l'information qui aiderait à atteindre les buts de l'étude.

Les groupes de discussion (un par commune) ont été constitués par les directions des conseils communaux et les enquêteurs à dessein d'un dialogue serein et constructif. Pour atteindre ce but, chaque groupe de discussion a été constitué par au moins un élu local, au moins un vendeur ambulant de produits pharmaceutiques et au moins un responsable administratif. Toute fois le nombre de participants par groupe de discussion a été prévu pour ne pas dépasser 14, pour satisfaire aux exigences numériques de participants à un groupe discussion d'étude qualitative (4 à 12 participants) avec une moyenne fixé à 10 (Baribeau et al., 2010). Les participants aux groupes de discussion étaient, sans distinction de sexe, d'ethnie et de langue, mais ils étaient d'âge excluant les mineurs.

Déroulement de l'enquête

Les responsables administratifs ont été informés du passage des enquêteurs par la voie administrative deux semaines avant l'arrivée de l'équipe. Ils ont été chargés à leur tour d'informer les informateurs clés, potentiels participants aux groupes de discussion (élus locaux et vendeurs ambulants de produits pharmaceutiques).

La collecte des données

Elle a été réalisée par une équipe d'enquêteurs composée de trois personnes : un spécialiste en santé mentale (Technicien supérieur en santé mentale ou psychiatre), modérateur qui a animé l'entretien ; un magistrat et un psychologue, observateurs, ont noté les entretiens et ont intervenu au cours des entretiens.

Avant le début de chaque entretien de groupe, les participants ont été informés que leur inscription sur la liste de présence correspondait à leur consentement pour participer à l'étude. Ils ont été également informés de la possibilité de retirer leur consentement à tout moment du déroulement de l'étude.

Les entretiens de groupe se sont déroulés dans les hôtels des villes des communes selon le schéma suivant :

1 présentation de l'équipe d'enquêteurs et des objectifs de la rencontre ;
2 animation de la discussion de groupe par introduction progressive des thèmes ;
3 au cours des discussions, les participants ont été invités à s'exprimer pendant environ une heure sur les thèmes suivants contenus dans le guide d'entretien :
   a. connaissances sur le Tramadol et sa consommation dans les communautés ;
   b. perception de l'ampleur (fréquence et gravité) de la consommation de Tramadol dans les communautés ;
   c. propositions de stratégies pour la lutte contre le phénomène si nécessaire.

[1] Dans cette étude le terme de communauté fait référence à des habitants d'une entité administrative (Ici communes urbaines). Il s'agit de communauté hétérogène composées de plusieurs groupes ethniques (donc de pratique culturelle différente) qui selon les régions parlent tous une des deux langues impérialistes (une des deux langues dominantes du Niger) : Haoussa ou Djerma. Ils partagent toute fois la même religion.

Un résumé immédiat de chaque entretien de groupe a été fait et présenté aux participants, le rapport final de l'enquête leur a été communiqué par courrier.

Analyse des données

Les noms des participants ont été changés ainsi que ceux de leur communauté d'origine afin d'assurer l'anonymat.

L'analyse a été thématique, elle a utilisé la technique déductive. Les données textuelles ont été saisies par le logiciel Word. Puis, les différentes parties du texte ont été regroupées selon les catégories thématiques suivantes :

1 nom d'appellation du Tramadol;
2 fréquence de consommation ;
3 gravité (conséquences sociales et sanitaires);
4 raisons et modes de consommation;
5 consommateurs;
6 drogue ou médicament;
7 structures de soins de santé;
8 prestations de soins de santé.

RESULTATS

L'enquête a été menée dans 34 communes urbaines (sur les 45 du pays soit 75,55%), avec la participation de 442 personnes réparties dans 34 focus groupes composés de 5 à 14 sujets.

CONNAISSANCES DU TRAMADOL

Les noms d'appellation du Tramadol

Le Tramadol est connu généralement sous le nom de « tramol », mais 14 autres noms ont été répertoriés principalement donnés par les vendeurs ambulants de produits pharmaceutiques. Selon ces derniers, ces appellations sont en rapport avec non seulement la présentation et l'intensité de ses effets mais également avec la dissimulation du produit. Le tableau I donne les différentes appellations répertoriées, leur traduction en français et leurs références symboliques

Tableau 1. Appellations du Tramadol, traduction en français et références symboliques

Appellations	Traduction en Français	Références symboliques
"Salou Djibo"	Salou Djibo	Nom d'une personne considérée comme un héro au Niger
"Maiguiwa"	«A éléphant»	L'emballage comporte la photo d'un éléphant symbole de force
"Tra"	Tra	Diminutif de tramol = Nom de code
"Moltra"	Moltra	Verlan : prononciation des mots en syllabes inversées
"Goudou"	Courir	Augmentation de la vitesse d'exécution des activités
"120"	Dosage 120 mg	Conditionnement forte à 120 mg
"Bari Ban Bari"	« Arrête ! je n'arrête pas »	Persévérant dans les activités physiques
"Gabi"	Force	Force physique
"General"	Général	Apte à tout faire
"Kioum"	Sec	Relatif aux crises convulsives
"Sodja"	Militaire	Symbole du combat, de la force du feu
"Wouta"	Feu	Qui ravage tout sur son passage
"Chaud"	Chaud	Très actif
"Tramol-Monsieur"	Tramol-monsieur	Relatif à l'usage aphrodisiaque

Fréquence

Les participants ont estimé que la consommation de Tramadol est fréquente voire très fréquente, que les consommateurs sont souvent jeunes (intervalle d'âge 10 à 30 ans) et de genre masculin. Ils ont noté toute fois que cette consommation n'épargne aucun âge ni aucun sexe.

Gravité

En termes de gravité de la consommation, les participants ont associé la consommation du Tramadol à certaines complications sanitaires et sociales comme : les crises convulsives, troubles psychiatriques, décès, bagarres rangées, vols en association, enlèvements et viols, meurtres, accidents de la circulation.

Les effets dévastateurs du Tramadol sur la santé des consommateurs et la société ont été comparés par certains participants à ceux du Vih/Sida.

Raisons de la consommation

Les raisons de la consommation de Tramadol abordées par les participants se focalisent sur l'amélioration de la performance au travail physique, la prévention et le traitement de la fatigue liée au travail, le traitement de certaines douleurs physiques, la recherche de sensation et de plaisir, la délinquance et la dépendance.

Une analyse plus approfondie permet de regrouper les raisons abordées en deux thèmes plus larges, une première consommation de Tramadol comme un traitement médicamenteux et une seconde comme une drogue.

Modes de consommation

Quelque soit la raison évoquée, deux modes de consommation ont été mis en évidence : Une consommation collective au cours des regroupements d'hommes et/ou de femmes et surtout des jeunes et une consommation individuelle souvent indépendante de l'âge et du sexe.

Le tableau II résume les deux modes de consommations de consommation du Tramadol et leurs circonstances

L'administration se fait par voie orale sous la forme de comprimé. Le Tramadol est consommé seul ou dilué dans des boissons (sucreries, café, thé etc.).

PERCEPTIONS ET REPESENTATIONS DU TRAMADOL

Une analyse thématique plus détaillée du discours des participants met en évidence une perception différenciée de cette substance influencée par les modalités de consommation. Le «Tramadol-drogue» était évoqué par certains participants, dans ce cadre, il est associé à

Tableau 2. Modes et circonstances de consommation du Tramadol

Modes de consommations	Circonstances de la consommation
Consommation collective	Regroupement de réjouissance (Baptêmes, mariages etc.) Travaux physiques collectifs (travaux communautaires, etc.) Toxicomaniaque (délinquance, recherche de sensation etc.)
Consommation individuelle	Prévention de la fatigue Traitement de la fatigue Recherche de performance physique ou sexuelle (sport, compétition, plaisir etc.) Traitement de toutes formes de douleurs

la détente, au plaisir, à l'abus et ses conséquences sur la santé et la société. Cette analyse est soutenue par le témoignage de cet administrateur :

« Ce que je vais raconter est honteux. C'était, à la fermeture des bureaux de vote d'une des élections passées, les jeunes animateurs des bureaux de vote nous avaient demandé de l'agent du tramol. Sans aucune hésitation, nous potentiels élus avions accéder à leur demande. Hum ! Quelques heures, plus tard les jeunes étaient dans une situation d'agitation collective, ils n'étaient pas accessibles à nos tentatives de raisonnement. Alors pour les dissuader, nous avions fait appel à la police, qui n'avait pas réussi à les calmer, c'est alors que nous avions eu l'idée de faire intervenir l'armée. A l'arrivée, l'armée avait fait des tirs en l'air dans le but d'intimider et de disperser les jeunes. Qu'elle fut ma surprise, notre surprise ! A chaque salve de tirs, les jeunes demandaient encore des tirs en l'air. En fait les tirs ne faisaient que les exciter davantage, finalement les altercations que nous voulions éviter surmenèrent. C'était terrible » ! (M, 38 ans)

Le «Tramadol-médicament» évoqué par d'autres était associé au traitement ou à la prévention de certains états jugés à tort ou à raison comme troubles ou maladies. Le témoignage de cette élue locale est illustratif :

« Je devais aller à la Mecque pour le pèlerinage, et il est d'usage de prendre des conseils et même des cours auprès des avertis. Savez-vous que, le pèlerinage est également une épreuve physique, une de mes amis m'avait donné une plaquette de tramol en me ventant ses mérites sur l'amélioration des performances physiques. Arrivée à la maison, lors du colisage des mes bagages, les enfants ont vus le médicament et s'étaient écriés tout en me demandant ce que je voulais faire avec cette drogue » (Z, 48 ans).

LES MESURES DE LUTTE CONTRE LA CONSOMMATION ABUSIVE

En termes de stratégies de lutte contre l'abus du Tramadol, toutes les propositions ont indiqué l'implication des politiques, responsables coutumiers, administratifs et religieux, agents de santé, forces de sécurité et des douanes. Elles étaient les suivantes :

- campagnes générales de communication sous diverses formes (sketches, publi-reportages, débats radiophoniques et télévisés, caravanes de sensibilisation etc.) pour le changement de comportement à l'endroit de toutes les couches sociales surtout les jeunes et les vendeurs ambulants de produits pharmaceutiques etc. ;
- mesures législatives telle que la pénalisation du trafic et de l'usage ;
- interdiction de l'importation et du transit au Niger ;
- amélioration de l'accessibilité aux prestations de soins de santé et de la disponibilité des médicaments (Réorganiser, encadrer, accompagner et multiplier les dépôts légaux de vente des médicaments pharmaceutiques) ;
- prise en charge médicale des personnes souffrant des complications de l'usage du Tramadol ;
- création de centres d'insertion des jeunes oisifs.

DISCUSSION

L'intérêt de cette recherche réside dans l'identification de la dynamique représentationnelle du Tramadol dans nos communautés. Cela peut être porteur d'enjeux publics (santé publique, cadre légal) et de privés (mode de vie), en raison des informations qui font état de son trafic et de son mésusage au Niger (UNODC, 2013a ; UNODC, 2013b ; Sani, 2009 ; Maiga et al., 2013a ; Maiga et al., 2013b).

La qualité des informations de cette étude peut être garantie et reproduite par des entretiens de groupe bien conduits, un échantillonnage par commodité d'abord (ayant permis de prendre en compte la quasi totalité des communes du Niger) et à dessein des enquêtés basé sur des statuts sociaux qui font d'eux des informateurs clés. Les apports d'informations de ces derniers dans les études qualitatives ont été prouvés (Cicero et al., 2011).

Ces caractéristiques de l'étude nous ont permis d'approcher la relation que les communautés entretiennent avec le Tramadol, c'est à dire les connaissances, croyances et attitudes partagées. L'ampleur, tant en termes de fréquence de consommation, que de gravité va dans le même sens que les écrits précédents sur le sujet au Niger (Sani, 2009 ; Maiga et al., 2013a ; Maiga et al., 2013b). En effet, tous les participants s'accordent sur l'ampleur grandissant du phénomène. Il ressort également que, les participants s'accordent sur les effets nocifs de son mésusage pour la santé des consommateurs. Toute fois, ils appréhendent beaucoup moins les capacités addictogènes intrinsèques du Tramadol qui semble jouer un rôle majeur dans la transformation d'une consommation naïve en une consommation abusive et dépendante. Les raisons de la consommation pourraient être expliquées par un processus fondé sur les psychologies naïves et les théories de sens commun (Heider, 1958). Ce type de processus a déjà été mis en évidence au sujet de l'alcool, quant à ses effets thérapeutiques curatifs et/ou préventifs de certaines affections (Dubet, 1992 ; Dany, & Apostolidis, 2002).

Le mode de consommation qui a orienté la catégorisation, les préoccupations et centres d'intérêts des participants à travers la valorisation de certaines thématiques a permis d'identifier une dualité des perceptions du Tramadol. Premièrement, le Tramadol est perçu comme une drogue par certains participants. Cette perception est argumentée par le mode abusif de la consommation (dose et fréquence) et ses conséquences sanitaires et légales. Cette perception est également argumentée par certains noms de code attribués à cette subtance qui font penser à une reconnaissance tacite de l'illégalité de la consommation. Deuxièment, le Tramadol est perçu comme un médicament. Cette perception est argumentée par une consommation pour suppléer à une insuffisance des prestations de soins de santé et une non disponibilité des médicament dans les structures de soins. Elle est également argumentée par l'idée selon laquelle l'amélioration de l'accessibilité financière et géographique des médicaments dans les structures de santé est un moyen de lutte contre l'abus. Ce point de vue est partagé par HAMEL (*http://www.remed.org/THESE_V_Hamel.pdf* cité 8 juillet 2013) dans sa thèse intitulé : La vente illicite de médicaments dans les pays en développement : analyse de l'émergence d'un itinéraire thérapeutique à part entière, situé en parallèle du

recours classique aux structures officielles de santé.

Les connaissances des participants influencent donc les représentations que ces derniers développent vis-à-vis du Tramadol, mettant à jour des enjeux différents en termes d'actions de lutte. Les actions de lutte proposées par les participants prennent en compte une réduction de l'offre et de la demande. Retenues, ces propositions doivent s'opérer dans une réalité communautaire comportant des déterminants sociaux et sanitaires négatifs (chômage, inaccessibilité aux prestations de soins de santé primaires, le relâchement des normes sociales, etc.).

En ce qui concerne la réduction de la demande, les résultats invitent à réfléchir quant à l'opportunité d'une prévention spécifique visant la réduction des risques encourus dans toutes les formes de relation à cette substance, au regard de l'ampleur (fréquence et gravité) de son usage par les jeunes adultes. Un des principes préventifs pourrait être le retrait du Tramadol, de la liste officielle de produits pharmaceutiques, un second principe pourrait être l'amélioration de la disponibilité des médicaments dans les structures sanitaires.

En ce qui concerne la réduction de l'offre, toutes les actions proposées vont dans le sens de mettre le Tramadol sous contrôle national comme l'ont déjà fait certains pays (UNODC, 2013a).

CONCLUSION

Les résultats de cette étude montrent bien, comment une consommation naïve du Tramadol se transforme en une consommation abusive, voire dépendante. Une action préventive doit promouvoir des connaissances et attitudes communautaires en lien avec les conséquences sociales et sanitaires de la consommation, dans un environnement doté de prestations de soins de santé accessibles

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COMMENTARY

ALCOHOL MARKETING IN AFRICA: NOT AN ORDINARY BUSINESS

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ABSTRACT

Alcohol was the cause of nearly five million deaths globally in 2010, an increase of over one million deaths recorded ten years earlier. It was the leading risk factor for disease in southern sub-Saharan Africa (SSA), fifth in the East and West, and sixth in the Central African region. Several factors account for the increasing harm associated with alcohol in Africa among which are the availability of a wide variety of alcoholic beverages, rising urban populations, more disposable income to purchase alcohol, and unrestrained marketing and promotion of alcohol. Using a variety of strategies, producers of alcohol target young people and women with aspirational messages and other exhortations in an unprecedented onslaught of marketing and promotion which is increasingly being recognized as detrimental to public health and social welfare. Missing in the discussion on alcohol in most African countries is a clear understanding that alcohol marketing is not an ordinary economic activity and that the business of alcohol (an addictive substance with high potential for harm) can subvert the rights of individuals and the principles of democracy which many African societies are struggling to enthrone. This paper discusses these issues with particular attention to the harms caused by alcohol (to drinkers and non-drinkers alike), the potential for far-reaching harms to individuals and the society at large if the present scenario continues, and how these harms can be averted or minimized with the implementation of evidence-based policies.

Key words: Alcohol marketing, alcohol promotion, Africa, alcohol advertising

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INTRODUCTION

Alcohol has featured in both positive and negative lights in the social history of sub-Saharan Africa where different types of fermented beverages manufactured from fruits and grains have been consumed for millennia as part of normal cultural and social interactions. While problematic drinking has always featured in the drinking habits of people in the African continent (Adomakoh, 1976), widespread recognition of drunkenness as a social problem began with the arrival of distilled drinks beginning with pre-colonial contact with European traders and explorers. It is on record that gin, rum, whiskey and other beverages were used as items of exchange in commercial transactions during the colonial penetration of the continent (Pan, 1975). What might have been the first recorded evidence of serious concern about the negative role of alcohol in Africa was expressed in connection with rum-induced drunkenness. In 1844 a chief in what is today central Nigeria complained to the colonial administrators that "Rum has ruined my country; it has ruined my people. It has made them become mad" (Pan, 1975, p. 11). Thus through the exchange of "African raw materials and slaves with whiskey and gin in an infamous barter system the stage was set for the large scale commercialization of alcohol which is being witnessed today in the continent" (Obot, 1993, p. 75).

Western commercial beverages have not only penetrated every nook and cranny of sub-Saharan African societies, the region is experiencing an onslaught of alcohol marketing and promotion activities by industrial giants and less endowed local players. Africa is a sought-after market because there is a large room for growth due to the existence of pools of abstainers and their increasing levels of disposable income (even as poverty remains a major affliction in the most countries). It is also a region with little or no restrictions on the behaviours of producers and marketers because alcohol control policies are lacking or not enforced where they exist. The result, as recent findings have shown, is that alcoholic beverages have become one of the most accessible and affordable commercial products in many countries of the region (de Brujin, 2011), and unfortunately also a product associated with a growing burden of health problems due mostly to unintentional injuries and chronic health conditions (Lim et al., 2012) often caused by road traffic accidents.

DRINKING IN AFRICA

In every country in the African continent more people abstain from drinking than drink, with the proportion of abstainers as high as 90 percent in Muslim countries (WHO, 2011). Total adult per capita consumption (APC) is 6.15 litres of pure alcohol, which is about the global average of 6.13 litres and less than the consumption in Europe (12 litres) and the Americas (8.7 litres). However, the low overall per capita consumption in Africa hides a couple of ugly secrets. First is that while some of the lowest per capita consumption in the world can be found in Africa, two countries in the region – Nigeria and Uganda -- are consistently among those with the highest level of APC. Second is that when the amount consumed per drinker is considered, South Africa and Nigeria are in the top league of countries recording the highest levels of consumption (WHO, 2011). What this means is that the typical drinker

in these countries simply drinks too much at a sitting, a pattern of consumption described as heavy episodic or all-or-nothing drinking (Partanen, 1991).

What is being consumed? Up to 50% of alcohol consumed in Africa is not captured in official government records; this category of unrecorded alcohol is made up mostly of homemade fermented and distilled beverages. The consumption of these beverages today is generally out of necessity not choice because the most preferred beverage is western commercial beer (Obot, 2006); in other words differential cost is what limits the consumption of commercial beverages and somehow helps to sustain the market for home brews. However, this is a fast-changing situation because as national income increases, consumption of unrecorded alcohol will decrease while overall consumption will increase (WHO, 2011). Yet homemade drinks will remain an important aspect of the drinking habits of many African consumers, especially among the poor and people living in rural areas, even as increasing availability and affordability of western commercial drinks will likely diminish their acceptability.

Even in societies where alcohol is consumed by a majority of the population, most of the abstainers can be found among women and young people. In traditional African societies drinking by women was regulated and children and adolescents were largely expected not to drink on their own and sanctioned by parents if caught consuming alcohol (Obot, 1993). Again, this situation has changed in recent years as drinking among women seems to have increased (Ibanga et al., 2005; Tumwesigye et al., 2005; WHO, 2011), and as there is growing evidence that alcohol is associated with high incidence of death and disability among young people (Roerecke, Rehm & Obot, 2006; Rehm et al., 2010). This emerging profile of increased consumption and problems among women and young adults is related to a number of economic and social factors one of which, as stated earlier, is that the large base of abstainers has become a prime target of advertisers.

AVAILABILITY OF ALCOHOL: NOT BUSINESS AS USUAL IN AFRICA

The influence of economic operators on the availability of alcohol is well established and not surprising. Whether availability is viewed as making sure that alcoholic beverages can be bought at affordable prices, in terms of acceptability, or its accessibility as and when needed, the industry has interest and has been involved in many types of activities to achieve the overall goal of increased availability and consumption. This industry role in driving supply of and demand for a dangerous substance is not limited to alcohol but has been studied in the context of tobacco and other products (guns, cars, food) that are also associated with disability, disease and other negative outcomes (Jahiel, 2010). The concept of "corporation-induced diseases" as proposed by Jahiel (2008) refers to morbidity and mortality from diseases caused by the consumption of or exposure to industrial products. How this applies to alcohol has received some attention (Jahiel & Babor, 2007), and this attention is bound to increase with renewed focus on the contribution of alcohol to the global burden of disease, especially in low and middle income countries (Lim et al., 2012). In line with this conceptualization, this paper asserts that the alcohol industry is a vector for

health and social problems in Africa because it exists to propagate consumption of an addictive substance through unfair ways and means that subvert the rights of young people and vulnerable groups.

MARKETING OF ALCOHOL

The African market has been described as a "jewel" and the alcohol industry spends large and increasing amounts of money to market and promote different types of beverage (Jernigan, 2012a, b). In some of the traditionally high consumption countries in the continent (Kenya, Nigeria, South Africa, Uganda) alcohol producers are among the top advertisers. Large producers like Heineken, Diageo and SABMiller are focused on expanding the market in these and other countries by investing heavily in new breweries and advertising their brands, and these activities seem to be producing the desired results. In Nigeria, a country long known for its love for Guinness stout (the first Guinness brewery outside Ireland and the UK was built in Lagos in 1962), net sales of Guinness products rose in the year ending in June 2012 and profits increased over the previous year even as sales declined a bit. Nigeria has indeed for many years been the second largest global market for Guinness extra stout and number one in Africa.

In a new strategy in Nigeria, alcohol is being promoted by the country's movie industry and the hip-hop music industry seems to have played a major role in what is a growing interest in expensive liquor and wine. According to Euromonitor International Nigeria is one of the fastest-growing champagne markets, with sales of $49 million in 2011, $59 million in 2012 and estimated to reach $105 million in 2017 (Smith, 2013). Across the continent beer remains the most preferred beverage but spirits are making a noticeable entry and wine consumption is not negligible. In particular Diageo has been marketing Johnnie Walker whiskey in Africa and in its 2012 annual report promises to grow the spirits business in the continent. Since it was launched in 2006 Smirnoff ice, a mixed drink, has remained very popular among young drinkers.

There seems to be no doubt that because of growing populations and increasing prosperity in some sections of fast developing countries, Africa will become a centre of high level marketing and promotion of alcohol in the coming years. This is not a surprising view, however what makes alcohol marketing and promotion in much of Africa different is the near-total lack of controls which allows the industry room to employ a wide variety of techniques and strategies to grow the market.

Marketing and promotion strategies: Alcohol marketing and promotion activities are ubiquitous in most African countries and highly unregulated. These activities have been highlighted in various reviews and studies (Obot, 2002; Jernigan & Obot, 2006; de Brujin, 2011) and tend to include sponsorship of events and programmes. These events are the ones that attract young people, e.g., fashion shows, beauty contests, sports events, music segments on radio, performances by foreign musical stars, and end-of-year or seasonal carnivals where alcohol is the centre of attraction (Obot, 2002). In a systematic effort to study the marketing and promotional strategies used by alcohol producers in four African countries (Gambia, Ghana, Nigeria and Uganda) a massive amount of alcohol advertising was reported in these countries except The Gambia, a predomi-

nantly Muslim country (de Brujin, 2011). Most of the advertising was on radio but also in magazines targeting special groups like women and young people. Product placement was common in urban areas and indeed the main message coming out of this study is that a walk through urban and semi-urban areas of these countries is to experience an elaborate display of beer advertising on billboards, sides of buildings, moving vehicles and store fronts where the products are often exhibited and ready for consumption.

An analysis of the common themes in the advertisements confirm what has been the predominant messages for many years (Obot, 2002). Alcohol (beer and spirits) is presented as a cultural item and the act of drinking a particular beverage is encouraged as behaviour in keeping with the ways of life of a people. The theme of success (in business, sports and the professions) and participation in a western way of life is a direct call to non-drinkers not to miss out and drinkers to continue to imbibe. And, of course, the producers tout their contribution to society in terms of jobs created and tax paid to government coffers.

Other strategies include product design where, for example, spirits are sold in small packages or bottles rendering them affordable to young people. A recent development is the local sourcing of agricultural inputs (sorghum, maize, barley, cassava) as raw materials for the production of beer. New products from these have emerged in Uganda, Kenya and Mozambique with encouragement from governments in the form of tax waivers. Because the products of these "home grown" raw materials are cheaper and therefore more affordable beer consumption may increase as the economic constraint mentioned earlier is removed. Another advantage of these products from the industry perspective is that they products make beer seem more like a local and natural beverage and allows the industry to easily penetrate sectors of the economy and governance structures with an appealing message hinged on contributions to the economy. It is an old strategy reminiscent of the tobacco industry which for many years held up its purported contributions to the development of the agricultural sector through its young farmers programme (Obot, 1993) and continue to defend their opposition to Nigeria's tobacco control bill because of what they see as a potential loss to the economy.

Targeting women and young people: Guinness (a member of the Diageo family) is known for its innovative and thematic campaigns (Michael Power, The Ticket) which emphasize "action" or carry aspirational messages. In 2012 the company launched a special fruit-flavoured alcoholic drink for women called SNAPP across four venues in the country. According to an industry spokesperson:

SNAPP has been introduced into the ready to drink category in response to the increasing demand for an alcoholic drink that appeals to women who want to show their individuality and unique style when out socializing with friends. This is very much in line with Guinness Nigeria's vision of celebrating life, everyday, everywhere. SNAPP is a drink that is made with the choicest ingredients giving it a crispy and naturally refreshing taste. It is a first of its kind for women in the alcoholic Ready-To-Drink category and is the perfect choice for the modern, classy woman looking for a feminine and stylish alcoholic beverage" (Okorie, 2012).

We are also informed that SNAPP was created because "We know that women are rapidly gaining economic power and

becoming more independent. Women everywhere are increasingly celebrating their successes in their various fields of endeavor, be it family or at work" (Okorie, 2012).

In a similar vein a brand from the Heineken stable advertises its television reality show in which young people go on a search and "the last man standing" goes home with very attractive prizes. The *Gulder* Ultimate Search programme was created to "promote the brand's values of confidence, discernment, focus, courage, determination and [not to be forgotten] success" (Odusote, 2010). In Africa targeting young people and women for the promotion of alcoholic beverages has become a bare-faced and growing phenomenon.

Table 1 shows examples of the messages the alcohol industry tries to convey to the public not only in advertisements but in other forms of communication. The second column of the table are refutations of the messages on the basis of available scientific evidence.

A PERNICIOUS ROLE IN THE POLICY PROCESS

The alcohol industry exists for the purpose of making money for its investors. It is not a secret that in trying to maximize profit and make shareholders happy the products are presented in ways that make them appealing to potential consumers. This often involves use of unethical approaches to marketing and promotion of products which were highlighted earlier.

It has become clear in recent years that the alcohol industry goes beyond pushing their products to trying to exert control over the environment in which they operate. This pernicious type of control involves direct involvement in national policy development with potential for long-lasting impact. As documented in an influential paper by Bakke and Endal (2006), the alcohol industry has sought to take over the role of government in the design of alcohol policies in several African countries. Employing the services of an industry-funded centre and international consultants, and with the collaboration of often unsuspecting local organizations, such efforts were in high gear at a time when the World Health Organization was developing its global alcohol strategy. What the industry wanted and continues to seek was to influence the policy process in these countries by foisting on them a one-size-fits-all policy which promotes strategies not supported by scientific evidence but which protects the interests of the industry. The policies proposed by the industry agents (like the focus on education and responsible drinking) ignore the public health impact of alcohol and the process of designing them is a subversion of the rights of countries to direct their affairs in ways that are not detrimental to the welfare of its citizens.

NOT AN ORDINARY BUSINESS

The publication of the book *Alcohol: no ordinary commodity* (Babor et al., 2003) ten years ago served as a wake-up call to the public health community and policy makers to the role of alcohol in society. Alcohol is not a commodity like bread and vegetables; it is a toxic, intoxicating and dependence producing substance with well-established causal links to acute and chronic health and social problems. And unlike the consumption of ordinary products, drinking leads to more drinking and more drinking means more trouble espe-

Table 1. Alcohol industry views versus scientific evidence

Industry views	The scientific evidence
Drinking is a normal activity; everybody does it.	No, everybody does not do it. In fact most people do not drink (WHO, 2011) and there are good reasons for them not to drink. For example, adolescents, pregnant women, people engaged in some risky activities like operating machinery, and those with some medical conditions are advised not to drink. Moreover, in some religious traditions the consumption of alcohol is prohibited.
Drinking and success go together.	This is a powerful message especially among the young so it is not surprising that success has remained a common theme in advertisements. Of course, available evidence does not support the touted association. On the contrary, failure is more likely to follow heavy drinking than success. Alcohol is a risk factor for non-communicable diseases, HIV/AIDS and drinking is associated with problems that impede personal and socio-economic development (Room, Rehm & Parry, 2011).
Alcohol is part of your cultural heritage.	The beverages that are advertised as cultural items tend to be spirits – gin is a favorite. It is a drink often used in transactions between two parties, in libations to appease the gods, and favoured by elders and leaders of the clan. But as distilled spirits play quite a disruptive role in the African culture, a role that led a traditional ruler in colonial times to call for help because of the effects (Pan, 1975).
Alcohol is good for you.	There is evidence from some western countries that moderate drinking is associated with cardio-protective effects. However, because of the pattern of consumption that is characterized by heavy episodic drinking the net effect of alcohol consumption in Africa in terms of death and disability is negative (Lim et al., 2012).
Alcohol advertising is only for brand loyalty; it is not meant to encourage drinking initiation.	Alcohol advertising may be important in brand loyalty but it does much more than that. There is good evidence that exposure to advertising influences the initiation of drinking among young people (Anderson et al., 2009; Henrikson et al., 2008).
The alcohol industry is an important contributor to the economy.	Alcohol producers pay taxes to government but unlike other products alcohol is a major contributor to burden of disease across the world (Lim et al., 2012). Alcohol is associated with chronic diseases, accidents, health care costs, etc. In countries where the social and economic costs of alcohol have been conducted as in Canada, US, Australia, the costs to society outweigh whatever tax benefit there might be.
If only everyone drank responsibly there would not be any alcohol-related problem.	"Responsible drinking" is a deceptive term. The deception lies in the assumption that the problem with alcohol lies with people who habitually drink too much. In real life people who "drink responsibly" sometimes drink too much and there is evidence that occasional heavy drinking is associated with elevated mortality in males (Rehm et al., 2001).
The alcohol industry should be at the table as a partner in the policy development process.	We have seen what being at the table means in the actions of economic operators in several African countries (Bakke & Endal, 2006). It means behaviours which aim to protect the interests of investors and against the principles of public health. As the Director-General of the World Health Organization recently observed "The development of alcohol policy is the sole prerogative of national authorities. In the view of WHO, the alcohol industry has no role in the formulation of alcohol policy, which must be protected from distortion by commercial interests" (Chan, 2013).

cially in African societies where the pattern of drinking often involves heavy episodic consumption.

Just as alcohol is not an ordinary commodity, alcohol marketing is not an ordinary business. It is a business that carries with it a high potential for harm and this harm increases with use. For example, the high level of harm associated with alcohol in some parts of the African continent (Lim et al., 2012) seems to be mostly a direct result of increasing availability of alcoholic beverages in these countries (WHO, 2011). Alcohol marketing is not an ordinary business because advertising influences consumption. Products are advertised to increase their exposure to the public or some sections of it, make them appealing to potential buyers, and ultimately increase sales of the product. This business consideration is not any different when it is beer, wine and spirits that are advertised and it is doubtful that so much would have been invested in advertising them if there was no overall business benefit derived from it. Beer companies are among the largest advertisers in several African countries targeted by the industry and the evidence is there to show that indeed advertising influences the behaviour of young people in such a way that those exposed to advertising messages are more likely to initiate drinking and drink more than those not so exposed (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Henriksen, Feighery, Schleicher, & Fortmann, 2008).

THE RESPONSE

In much of the western world the behaviour of the alcohol industry is increasingly being monitored by government and non-governmental bodies but in Africa little of that is going on. Worse still, only a few countries have policies which seek to control the production, distribution and consumption of alcohol. For example, only a handful of countries have alcohol policy in the form a government document with debated and adopted principles and actions to attain the goal of reducing consumption and alcohol-related harm. In other words while it is clear from available data that alcohol is a growing menace in the African region the response by governments has been tepid at best and in some cases whatever response exists is influenced by the industry through their role in the development of the policy document. This case of asking the goat to watch over the yams has been documented by Bakke and Endal (2011) and serves as a warning to governments that the self interest of the alcohol industry is incompatible with public health which should serve as the bedrock of alcohol policy.

The influence of the alcohol industry is manifested not only in its meddlesomeness in the policy process but also in wanting to foist strategies that are not supported by evidence of effectiveness. There is consensus today that alcohol problems can be reduced with the application of evidence-based policies which include restrictions of availability and control of marketing and promotion (WHO, 2011; Babor et al., 2010). However, in what can only be regarded as attempts to mislead, the industry continues to push those policy options that are less likely to affect the bottom line. The focus on strategies that do not work to reduce consumption and problems is guided by economic considerations and not social welfare.

Vigorous national responses are needed

In the face of industry onslaught on the rights of young and vulnerable people

through direct targeting, the response to alcohol problems in Africa and other parts of the world has benefitted from work carried out by the World Health Organization. A Global strategy to reduce harmful use of alcohol was adopted by the World Health Assembly in 2010 in recognition of the link between alcohol, health and development (WHO, 2010). The strategy document lists ten policy options and interventions and calls for global efforts to assist member states in implementing evidence-based measures to address consumption and related harm. Among the ten areas of work are: response from the health sector to minimize the effects of harmful use of alcohol, drink-driving countermeasures, pricing policies, availability of alcohol and marketing of alcoholic beverages. Following the lead of the global body, the African Office of the World Health Organization has also identified ten policy options or priority areas similar to the global policy options.

Since the developments of these guides to action a consensus has emerged among public health practitioners that that some actions are more important than others and that to achieve reductions in harmful consumption and problems three areas are particularly poignant. Sometimes known as the "three best-buys" these areas are reduced availability, pricing and taxation policies, and control of marketing and promotion. National alcohol control policies should be developed with a special attention to these three options based on extensive literature which support their association with use and harm. Unfortunately these are the policy options often ignored by the alcohol industry while they focus attention on policies that have limited effectiveness. Of course in Africa it is also necessary to address availability in the context of widespread consumption of informal and illegal alcohol especially as this impinges on the successful implementation of effective policies.

CONCLUSION

That alcohol is a major contributor to the burden of health and social problems in a growing number of African countries is hardly debatable. This burden has been highlighted recently for some countries in southern and East Africa. There is no reason to believe that many countries in West and Central Africa are not in the same boat and only lack of data prevent similar findings.

The good news about alcohol problems across the world is the availability of the technology to control alcohol problems via the implementation of tested policy options. Though the success of these strategies have been predominantly in western countries, there is some evidence that the three "best buys" combined with other measures mentioned above (including providing services in the health care sector) can offer the protection needed. As presented in the WHO strategy (WHO, 2010), an awareness of the danger caused by unrestricted marketing and its consequence is a first step in action against alcohol by nations across the world. More needs to be done by civil society and public health experts in African countries to advocate for effective alcohol policies while keeping at bay the meddlesomeness of economic operators whose interest is in selling more and more of their products but who masquerade as defenders of public health. Ultimately it is the responsibility of countries to protect the right to health of young people and all their citizens by reducing their exposure

to targeted marketing and promotion of what is essentially an addictive and dangerous psychoactive substance.

It is also important to keep in mind that the major alcohol producers in Africa (Heineken, Diageo, SABMiller) are large global organizations with heavy financial involvement of Western-based investors, and that the unethical behaviours of the industry in Africa are largely not tolerated in their home countries. The road to success, therefore, needs to include concerted global action to check the excesses of economic operators through monitoring and reporting of unethical activities of the industry by interest groups in their home turfs and in what the industry sees as the emerging alcohol markets of Africa.

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