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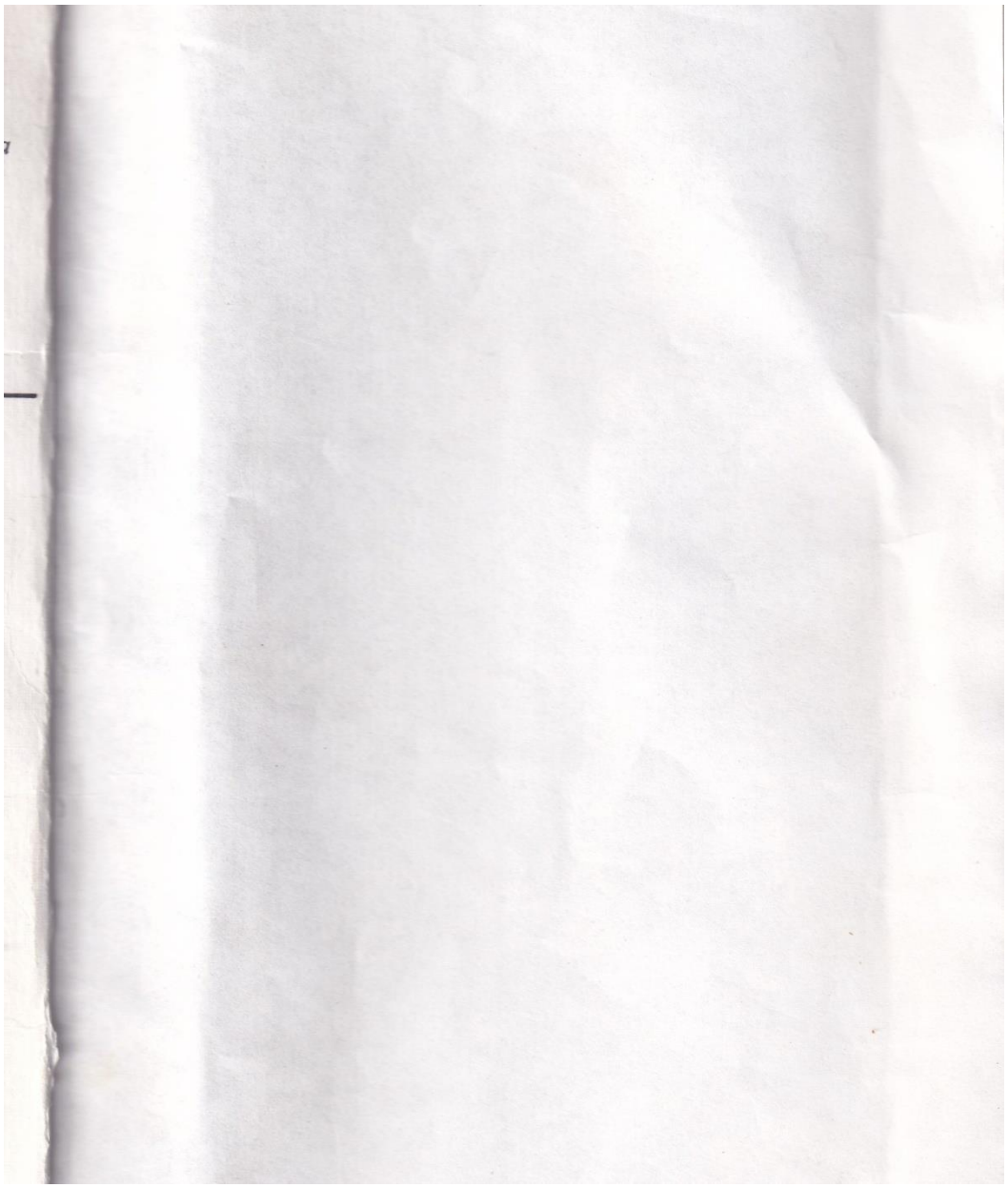

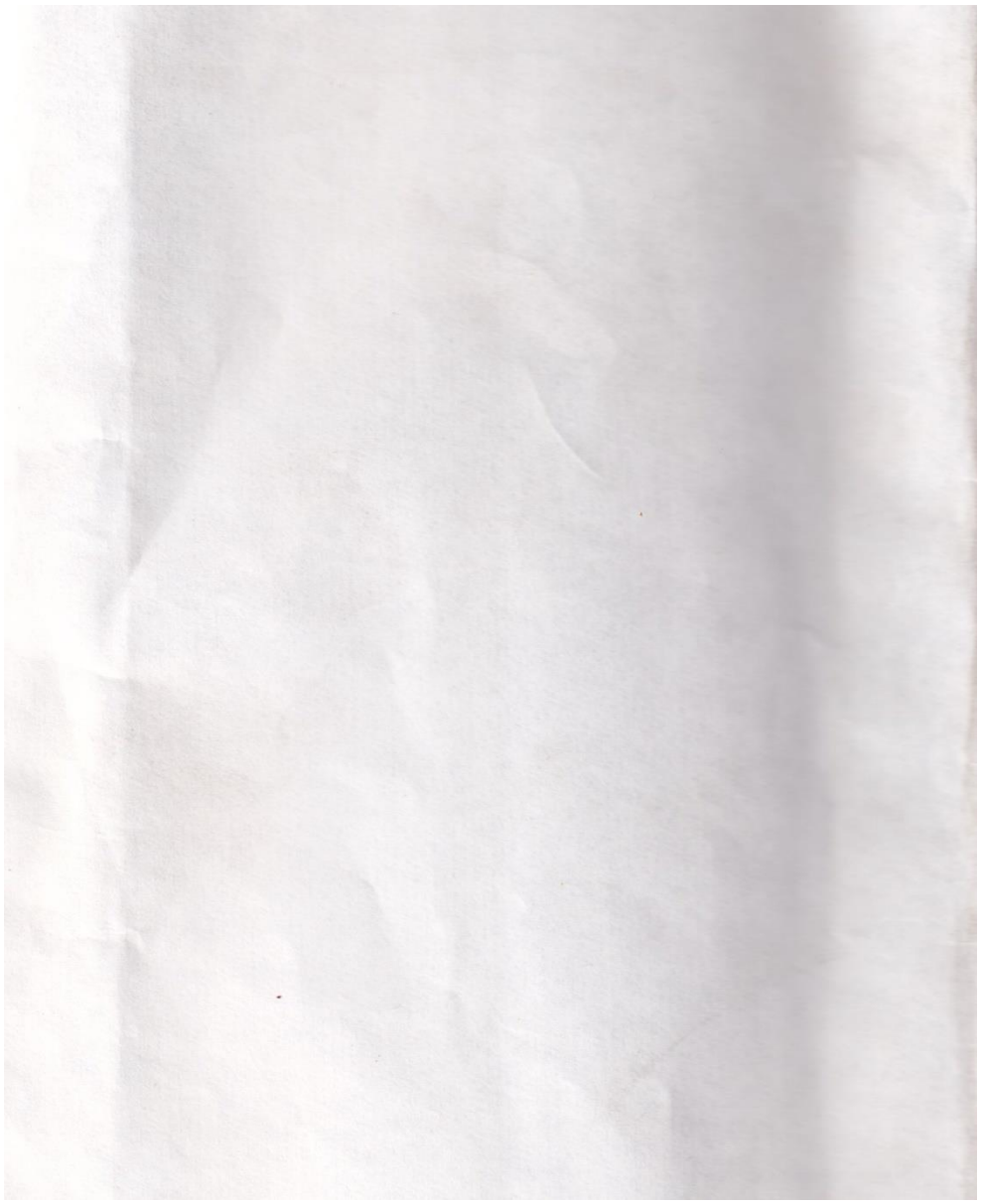

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EDITORIAL

This is the inaugural issue of the African Journal of Drug and Alcohol Studies (AJ-DAS). The Journal is published by CRISA, Inc. [The Centre for Research and Information on Substance Abuse], an international non-profit health promotion and research organization with offices in Jos, Nigeria and Baltimore, MD, USA.

Since its initial founding in Jos in 1990, CRISA has been devoted to drug abuse research and prevention activities in Africa. One of CRISA's major objectives is the advancement of knowledge in the substance abuse field. Therefore, a major focus of the Centre's activities has been on enhancing the capacity of African scholars to engage in research on different aspects of licit and illicit drugs and drug-related problems.

In 1993 the Centre published the *Epidemiology and Control of Substance Abuse in Nigeria* (Obot, 1993), a selection of papers presented at the first Biennial National Conference on Drugs and Society held in Jos in 1991. Three years later, a comprehensive bibliography on drug research in Nigeria (Obot, 1996) was published, with funding from the United Nations International Drug Control Programme (UNDCP). The Centre has also recently started a research monograph series for the publication of conference and workshop papers and invited contributions (Obot & Ibanga, in press).

The publication of this journal is another step towards the realization of the knowledge advancement goal of CRISA. Getting here has been a long process involving the contributions of many colleagues and Friends of CRISA in different parts of the world. At no point in this process did we have any serious doubts about the need for a specialized journal on licit and illicit drug issues with an African focus. Indeed, we have always believed that a forum for the regular publication of work on drugs in Africa should be

at the centre of CRISA's contributions to the advancement of knowledge and research capacity building in Africa.

In spite of many teething problems, we are happy that the inaugural issue of the Journal is finally in your hands. This issue contains three empirical contributions from Ghana, Nigeria and the Seychelles; a commentary on harm reduction; and reviews of three books relevant to substance use and the market for drugs in Africa.

The second issue, in what is initially a biannual publication, will go to press within the next four months. If you are engaged in research on any aspect of drug use or the drug trade in Africa (or by Africans outside of the continent), we hope you will come to consider us your first choice for the publication of your manuscript. The emphasis is on empirical research, especially research that tests hypotheses about associations between drug use and bio-psychosocial outcomes. However, we also solicit reviews and opinion or commentary on current issues related to tobacco, alcohol, the illicit drugs, etc.

We also continue to seek comments and suggestions on how to publish a better journal. Help us get the word out by telling your colleagues, friends or students about this publication. If you are interested in serving as a manuscript reviewer, or just to point out areas that need improvement please contact me at isobot@hisen.org or isobot@yahoo.com.

REFERENCES

Obot, I. S. (1996, ed.). *Drugs and the Nigerian Society: A Comprehensive Annotated Bibliography, 1964-1994*. Jos: CRISA.

Obot, I.S. (1993, ed.). Eoidemiology and Control of Substance Abuse in Nigeria. Jos: CRISA.

Obot, I.S., & A. J. Ibanga (in press, eds.). Perspectives on Drugs Society, Volime 1. Jos: CRISA.

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Editor, African Journal of Drug & Alcohol Studies

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EMPIRICAL CONTRIBUTIONS

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POOR PERFORMANCE OF THE CAGE QUESTIONNAIRE IN SCREENING FOR HEAVY DRINKING IN MEN IN THE SEYCHELLES ISLANDS (INDIAN OCEAN)

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The CAGE questionnaire is a four-question screening instrument which has been shown to have high sensitivity and specificity for detecting heavy drinking in

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western countries. This study examines how this easy-to-use instrument performs in men in Seychelles, a rapidly developing country with a Creole cultural background and where alcohol consumption is high among men. Data on alcohol consumption were derived from an interviewer-administered food-frequency questionnaire incorporated in a population-based health survey with 1067 subjects. The CAGE translated in Creole was applied to the subset of 258 men who reported having at least 1 drink a week (women were excluded from this study because of too few regular drinkers). No combination of dichotomized categories of alcohol intake and CAGE score yielded sensitivity and specificity values jointly higher than 70% to detect heavy drinking. The positive predictive values were subsequently low (<63%), which undermines the value of the test for reliably detecting heavy drinkers in this population. The range of scores gathered by each CAGE question taken separately varied greatly. The poor performance of CAGE and the largely different discriminative value of the components of the CAGE construct in men of Seychelles emphasize the need to devise and develop culturally sound screening instruments in non-Western countries.

KEY WORDS: alcohol, screening, Seychelles, Africa, CAGE

While many screening tests have been developed in western countries to detect heavy drinkers, few studies have been reported on the performance of such tests in other cultures. However, easy-to-use screening tests are much needed in developing countries, where alcohol consumption is often increasing and drinking is becoming a serious public-health problem (World Drink Trends, 1995), and where blood sampling is likely to be less available.

The CAGE is a short and easy-to-use four-question alcohol screening questionnaire which has been widely used for two decades in western countries and which was repeatedly shown to have high sensitivity and specificity for detecting heavy drinkers (Mayfield, McLeod, & Hall, 1974; Ewing, 1984; Bush, Shaw, et al. 1987; King, 1986; Perdrix, Decrey, et al. 1995). Since this screening test has rarely been evaluated outside of western countries, we investigated, as part of a population-based health survey, its performance in the general population of Seychelles (Indian Ocean), a rapidly developing country with a Creole cultural background and a high per capita alcohol-intake (Pinn & Bovet, 1991; Perdrix, Bovet, et al., 1999).

METHOD

The Seychelles Islands

The Republic of Seychelles consists of 115 islands in the Indian Ocean, about 1600 km east of Kenya and 1800 km north to Mauritius. The islands were first inhabited in the 18th century by French colons and Africans, joined later by smaller numbers of Chinese and Indians. A national census in 1994 indicated that the total population was 74,331inhabitants with approximately 90% living on the main island, Mahé. The ethnic descent is considered to be predominantly African in 65%, Caucasian in 10%, Indian or Chinese in 5%, and mixed in 20%. The population is mixed urban and rural, and 52% was under 25 years in 1994. Living standards have improved markedly in recent decades, which parallels a dramatic increase in the tourism industry since an international airport was opened in 1971. The gross domestic product (GDP) per capita increased from US$ 925 in 1976 to US$ 5850 in 1994 and the World Bank considers that the Seychelles has become a middle-income country. The common alcoholic beverages in Seychelles are either commercially marketed (locally produced beers, or imported beers, spirits and wines) or produced at home or in numerous semi-commercial plants (consequently called 'home brews'). Of the home brews, 'kalou' (or toddy) is made of fermented palm sap, 'baka' of fermented sugar-cane juice, and 'lapire' of fermented juice of various vegetables (potatoes, lentils) or fruit. 'Baka' and 'lapire' tend to be considered together as both are often substantially enriched with commercial sugar

Study design

A population-based health survey was conducted in 1994 to determine the levels of cardiovascular risk factors and assess related behaviors including dietary habits. Detailed methods and general findings have been published separately (Bovet, Perret, Shamlaye, Darioli, & Paccaud, 1997 ; full text available on www.seychelles.net/smdj). Briefly, a random sample stratified by age and sex was drawn from the population aged 25-64 years of the main island. Age range (25-64) was chosen to

address the main aim of the survey which was to assess cardiovascular risk factors and selected cardiovascular outcomes such as ultrasonographically assessed artery plaques (thus focusing on adults). Of the 1226 eligible subjects, 1067 (504 men and 563 women) participated in the study, an overall participation rate of 87%. Analyses were restricted to men, as only 6% of women reported taking at least one alcohol drink a week, on average.

Measures

Questionnaire. A questionnaire was administered in the local Creole language by local health professionals in a face-to-face interview of around 30 minutes. It consisted of 218 questions pertaining to sociodemographic context, education and occupation, cardiovascular risk factors, lifestyle and diet habits, as well as knowledge, attitudes and behavior with regard to health, cardiovascular risk factors and diet. Blood tests were analyzed at the Laboratory of Lipids, University Medical Policlinic, Lausanne, Switzerland. Lipids were measured by standard enzymatic methods (Roche, Basel, Switzerland). Carbohydrate deficient transferin (CDT) was measured by radioimmunoassay (CDTect, Kabi Pharmacia Diagnostics, Uppsala, Sweden). While data were collected in all subjects, CDT was available only for the subset of African men taken from an incidental separate other study (Fontana et al., 1999).

Alcohol consumption. Subjects reporting taking at least one alcohol drink weekly on average were subsequently systematically asked about their weekly consumption of bottles, glasses or measures of each type of beverage. Alcohol consumption based on average weekly consumption was decided on previous common knowledge that alcohol consumption is fairly regular throughout the year in Seychelles (although often concentrated over the week-end) and assuming that a one-week time scale for alcohol estimation by respondents would encompass much of the regular alcohol consumption. Average daily intake of alcohol was calculated on the basis of the following values for volume per drink and alcohol content: beer (0.3 liter bottle; 5.45 vol%), spirits (0.05 liter measure; 43 vol%), wine (0.2 liter glass; 12 vol%), kalou (0.75 liter bottle; 8 vol%), baka and lapire (0.75 liter bottle; 9 vol%). The alcohol content of home brews was determined at the

Laboratory of Analytic Toxicology, Institute of Legal Medicine, University of Lausanne, Switzerland, with eight samples of each of the three local brews, collected at semi-commercial plants throughout the country. The validity of the study estimates was assessed by comparing reported the annual consumption of beer extrapolated to the entire population with sales data (6.23 million liters in 1994) adjusted for the estimated consumption by tourists (0.67 million liters). Alcohol consumption in the entire population was estimated from study findings in the 25-64-year age-group, on the assumption that subjects aged up to 17 did not drink alcohol (most children aged 16-17 years attend a boarding school where alcohol is not available) and that consumption of alcohol in the population aged 18-24 and above 65 years was the same as the age-adjusted consumption in the population aged 25-64.

CAGE questionnaire. The four-question CAGE questionnaire (Mayfield, McLeod, & Hall, 1974; Ewing, 1984) was submitted to the subset of regular drinkers (≥1 drink per week). The CAGE questions are: Have you ever felt you ought to Cut down on your drinking? Have people Annoyed you by criticizing your drinking ? Have you ever felt bad or Guilty about your drinking? Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (Eye-opener)? These questions were translated into Creole as follows: *Ou'n deza santi ki ou dwatet diminyen kantite ki ou bwar?*, *Eski dimoun i'n deza annwiy ou an dizan ou bwar tro bokou?*, *Eski ou'n deza santi anbarase akoz ou bwar?*, and *Eski ou'n deza bwar premyen keksoz bomaten?*.

Statistical analysis. Statistical difference for continuous or categorical variables over two categories was tested with, respectively, the t-test and the Fischer's exact test. Trends across ordered groups were tested with a non-parametric trend test (an extension of the Wilcoxon rank-sum test). The kappa statistic was used to assess agreement between dichotomized categories of CAGE score and alcohol intake. Estimates for the actual population aged 25-64 were obtained by adjusting sex- and age-stratified estimates with weights equal to the inverse probability that an observation was sampled from population data from a national census in 1994. Analyses

were performed with Stata for Windows 4.0 (Stata Corporation, College Station, Texas). Two-sided p values <0.05 were regarded as significant.

RESULTS

Alcohol intake

Among men aged 25-64 years, 51% reported taking at least one alcohol drink a week on average (called 'regular drinkers'), 36% less than one drink (occasional drinkers), and 13% none ever. Male regular drinkers took an average of 112 ml (SD = 120) of ethanol a day. Among regular drinkers, 91% reported drinking beer, 30% spirits, 12% wine, and 49% home brews. Home brews accounted for half and beer for a third of the total reported consumption. Reported consumption per capita aged 25-64 was 12.5 l (20.7 l in men and 1.2 l in women). Calculated annual consumption per capita for the entire population (of which 47'228 of 74'331 are 18 years and over) was 7.9 l (13.2 l in men and 0.8 l in women). These estimates possibly are a 50% underestimate. Indeed, beer consumption in the entire population estimated from the self-reported consumption data in this study amounted to 3.00 million liters, or 53 % of the actual beer sales to residents, which was 5.56 million liters in 1994.

Characteristics associated with alcohol drinking

Table 1 shows the distribution of various characteristics across categories of self-reported alcohol consumption. High consumers were of lower socioeconomic status, as assessed by various social, economic, and education indices, and were mainly in low-skill occupations. A dose-dependent relation was observed between alcohol consumption and several physiological variables known to correlate with alcohol intake, such as CDT, HDL-cholesterol and blood pressure (age and body mass index did not relate to alcohol intake and could therefore not account for the observed associations). Smoking also strongly correlated with alcohol consumption.

Table 1. Distribution of Various Characteristics Across Categories of Alcohol Intake in Men

Alcohol intake (ml/day)	0†	1-99	100-199	≥200	*P*
Number of subjects	247	160	53	45	for trend
Sociodemographic					
Age (year)	44.2	44.9	45.2	45.3	ns
Married (%)	41.3	45.0	32.1	24.4	0.04
Has attended secondary education (%)	23.8	26.2	9.4	6.7	0.00
Understands well English or French (%)	69.2	70.6	57.1	44.4	0.00
Has current paid job (%)	80.1	87.5	79.2	71.1	ns
Has been abroad (%)	42.1	40.6	20.7	13.3	0.00
Has a car (%)	24.3	30.0	5.6	11.1	0.00
Job category					
Fisherman or farmer	8.3	6.3	5.7	8.9	ns
Manual with little qualification	37.1	41.3	71.7	62.2	0.00
Manual with high qualification	22.5	22.5	17.0	17.8	ns
Non manual with little qualification	11.7	13.1	3.8	8.9	ns
Non manual with high qualification	19.4	16.8	1.9	2.2	0.00
Clinical variables and smoking					
HDL-cholesterol (mmol/l)	1.42	1.52	1.76	1.87	0.00
Carbohydrate deficient transferin (U/l)‡	22.5	28.2	41.0	41.0	0.00
Average blood pressure (mm Hg)¶	103.6	107.9	110.0	111.3	0.00
Body mass index (kg/m^2)	24.1	24.3	23.9	23.1	ns
Cigarette smoking (%)	25.5	43.1	67.9	66.6	0.00

Note. †This category also includes occasional drinkers (less than one drink a week on average). ‡CDT was measured only in African men (n= 333). ¶Blood pressure was calculated as (systolic BP + 2*diastolic BP)/3.

CAGE questionnaire and self-reported alcohol intake

The CAGE score correlated fairly well with self-reported alcohol consumption (Pearson correlation coefficient = 0.43, $P < 0.001$). However, agreement between dichotomized categories of alcohol intake and CAGE score, as measured by the kappa statistic, was at best 'fair' (kappa = 0.34) in predicting a daily consumption of ≥100 ml alcohol with a CAGE score set at ≥3. For numerous heavy drinkers the CAGE score was low (lack of sensitivity) and, conversely, for a substantial number of light drinkers it was high (lack of specificity), as shown on Table 2 and Figure 1.

Table 2. Proportion (%) of Male Regular Drinkers with Specified CAGE Scores and Proportion of Male Regular Drinkers (%) Answering Positively to the Specific CAGE Questions, by Alcohol Intake

Category of alcohol intake (ml/day)	1-29 (n = 48)	30-99 (n = 112)	100-199 (n = 53)	≥200 (n = 45)
CAGE score equal to				
0 (n = 37)	31	19	2	0
1 (n = 51)	23	22	23	7
2 (n = 51)	17	25	19	11
3 (n = 74)	23	21	41	38
4 (n = 45)	6	13	15	44
CAGE questions answered positively				
Cut down (n = 202)	63	72	92	93
Annoyed (n = 139)	35	45	64	84
Guilty (n = 125)	38	45	49	68
Eye-opener (n = 89)	15	25	40	73

Note. The 4 CAGE questions are: Have you ever felt you ought to **C**ut down on your drinking? Have people **A**nnoyed you by criticizing your drinking? Have you ever felt bad or **G**uilty about your drinking? Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (**E**ye-opener)? Cage score ranges from 0 to 4, which corresponds to 0 to 4 questions answered positively.

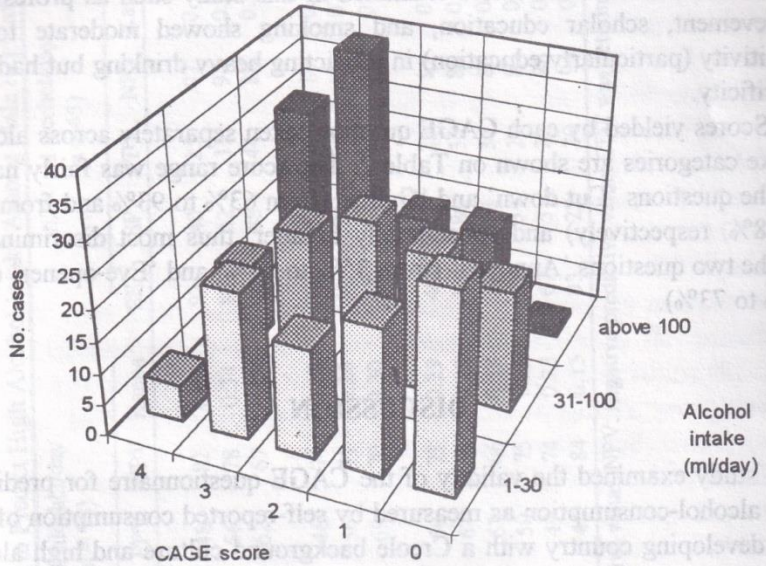

Figure 1. CAGE score in male regular drinkers by alcohol consumption

Table 3 shows the sensitivity (the probability of correctly detecting a true case), the specificity (the probability of correctly detecting a true non-case), the positive predictive value (the probability that a labeled positive is a true case), and the negative predictive value (the probability that a labeled negative is a true non-case) for various cut-off points of the CAGE score and other indices for predicting high and very high alcohol-intake. No combination of dichotomized categories of alcohol intake and CAGE score had jointly high sensitivity and specificity. A CAGE cut-off score set at ≥3 resulted in sensitivity and specificity values equal to 68% for both values. A CAGE cut-off score set equal to 4 resulted in a specificity of 89% (which could be considered as useful in usual clinical practice) but had very poor sensitivity (29%). Positive and negative predictive values of the test were

subsequently modest. In comparison, tests based on dichotomized categories of HDL-cholesterol or CDT tended to have lower sensitivity but higher specificity (particularly CDT) for predicting high alcohol-intake and resulted in predictive values not substantially different than those obtained with the CAGE index. Other indicators examined in this study such as professional achievement, scholar education, and smoking showed moderate to fair sensitivity (particularly education) in predicting heavy drinking but had poor specificity.

Scores yielded by each CAGE question taken separately across alcohol-intake categories are shown on Table 2. The score range was fairly narrow for the questions 'Cut down' and 'Guilty' (from 63% to 93% and from 38% to 68%, respectively) and substantially broader, thus most discriminative, for the two questions 'Annoyed' (from 35% to 84%) and 'Eye-opener' (from 15% to 73%).

DISCUSSION

This study examined the validity of the CAGE questionnaire for predicting high alcohol-consumption as measured by self-reported consumption of men in a developing country with a Creole background culture and high alcohol consumption. According to data obtained with similar self-reported methods and age groups, alcohol consumption per man aged 25-64 was indeed at least as high in Seychelles (20.7 l) as in Switzerland (9.4 l), a country known to have high consumption (Schmid & Gmel, 1996). The reported annual per capita consumption extrapolated to the total population of the Seychelles was 7.9 l (possibly a 50% underestimate, as suggested by the discrepancy between reported and sales data) and is comparable to sales data in the United Kingdom (7.5 l), Switzerland (9.7 l) or France (11.4 l) and higher than in Cuba (3.8 l) or Singapore (1.6 l) (World Drink Trends, 1995). Noticeably, the magnitude of underestimation between self-reported and sales data in Seychelles compares with that found in other surveys assessing self-reported consumption, which typically ranged from 40% to 60%

Table 3. Validity of the CAGE and Selected Indicators to Predict High Alcohol Intake Among Male Regular Drinkers

	Number with test		≥100 ml alcohol/day (n = 98)					≥200 ml alcohol/day (n = 45)				
	Negative	Positive	SE	SP	PPV	NPV	Kappa	SE	SP	PPV	NPV	Kappa
CAGE score												
≥2	88	170	84	45	48	82	0.25	93	40	25	97	0.16
≥3	139	119	68	68	56	78	0.34	82	62	31	94	0.27
=4	213	45	29	89	62	67	0.20	44	88	44	88	0.33
HDL-cholesterol (mmol/l)												
≥1.4	101	157	74	47	46	74	0.18	76	42	22	89	0.09
≥1.8	168	90	51	75	56	71	0.26	58	70	29	89	0.20
≥2.0	204	54	38	89	69	70	0.30	44	84	37	88	0.26
CDT (U/l)												
≥30	155	103	47	81	60	71	0.29	40	72	23	85	0.10
≥40	201	57	32	91	67	68	0.25	36	86	35	86	0.21
≥50	214	44	25	91	63	66	0.18	29	88	34	85	0.18
Unskilled manual	126	132	67	59	50	75	0.25	62	51	21	87	0.08
Smoker	123	135	67	57	49	74	0.23	67	51	22	88	0.10
No secondary education	50	208	92	26	43	84	0.15	93	22	20	94	0.06

Note. SE: sensitivity; SP: specificity: PPV: positive predictive value; NPV: negative predictive value. CDT was determined in only 180 men. All kappa values: $p < 0.01$.

(Midanik, 1982; Pernanen, 1974; Gmel, 1996). High alcohol consumption in Seychelles is consistent with other information. High alcohol consumption has been repeatedly reported since the 18th century and drinking has been traditionally part of most social events (Benedict & Benedict, 1982; Finnish Foundation for Alcohol Studies, 1977); both commercially marketed and home brews are sold in numerous outlets throughout the country; drinking accounts for high rates of medical admissions (Pinn & Bovet, 1991); and alcohol consumption accounts for as much as 20%-22% of the household budget (Benedict & Benedict, 1982; Larue, 1996).

These findings suggest high tolerance of alcohol in the Seychelles society. When assessing the validity of the CAGE index for predicting high consumption of alcohol, it should first be realized that there is no 'gold standard' for assessing alcohol intake in uncontrolled settings. However, questionnaires on food intake standardized for quantity and frequency for investigating average weekly alcohol-consumption, such as that used in this study, have been shown to be among the most reliable instruments for measuring alcohol intake (Babor, Stephens, & Marlatt, 1987). For example, a food-frequency questionnaire has been shown to measure alcohol intake reliably and validly in regular drinkers as compared with a reference method consisting of repeated 7-day dietary records (Ferraroni et al., 1996). In addition, monotonic dose-dependent relationships were found in our study between alcohol intake and physiological variables known to relate to alcohol, such as CDT (Stibler, 1991; Kapur, Wild, Milford-Ward, & Triger, 1989; Yersin, Nicolet, Decrey, Burnier, Vanmelle, & Pécoud., 1995), HDL-cholesterol (Sillanaukee, 1993; Hartung, 1990; Robinson, Ferns, Bevan, Stocks, Williams, & Galton, 1987) and blood pressure (Beilin & Puddley, 1992; Klag, He, Whelton, Chen, Quian, & He, 1993).

In Western countries, the CAGE questionnaire, in use since 1970 (Mayfield, McLeod & Hall, 1974), has been widely used for alcohol-abuse screening in hospital (Bush, Shaw, Cleary, Delbanco, & Aronson, 1987; King, 1986; Lairson, 1992) and outpatient settings (Perdrix, Decrey, Pécoud, Burnand, & Yersin, 1995), where it has been shown to have a sensitivity of 0.76 to 0.85 and a specificity of 0.95 to 0.97 for a cut-off score of two positive questions (Dombret, Godchau, & Lepine, 1990; Beresford, Blow, Hill, Singer, & Lucey, 1990). However, few reports have examined the validity of the CAGE in other countries. For men in Seychelles, it showed substantially poorer validity than in Western countries and no combination of dichotomized categories of alcohol intake and CAGE score yielded sensitivity and specificity values jointly higher than 70% (while sensitivity and specificity jointly larger than 90% would be generally found of clinical usefulness). Positive and negative predictive values were consequently fairly low, despite a high prevalence of heavy drinkers. This undermines the usefulness of the CAGE as a screening instrument in this population. One problem with the CAGE may relate to the poorly defined psychometric characteristics of the four CAGE questions, hence the difficulty of such a construct to predict complex behaviors as drinking patterns, irrespective of cultural backgrounds. Noticeably, several physiological indicators in our data appeared to have overall validity similar to that of the CAGE for predicting high alcohol intake. For example, high HDL-cholesterol and high CDT had lower sensitivity (25%-50%) but higher specificity (up to 91%), resulting in positive predictive values as high (around 60%-70%) as those obtained with the CAGE questionnaire. It should be recognized that the performance (e.g. sensitivity, specificity and predictive values) of the CAGE and other considered indicators could have been better if the data of the occasional drinkers and non-drinkers could have been included in the analysis in addition to those of the regular drinkers.

Taken separately, the CAGE questions showed largely different discriminative power, as evidenced by the largely different ranges of scores yielded by each of these questions across categories of alcohol intake. Men in the Seychelles did not feel much 'Guilt' about their alcohol consumption, as the rate of positive answers ranged only from 38% to 68%, from the lowest to the highest category of alcohol intake. This may indicate that social

acceptability of alcohol is ingrained in the local culture, which is consistent with the custom of drinking at most social events. Such culture dependency of the CAGE questionnaire has been well observed in another developing country, Malaysia, where Muslim Malays had high scores on the question 'Guilty' in contrast to those of Chinese and Tamils, among whom alcohol is not taboo (Indran, 1995; Indran, 1992). On the other hand, the question 'Annoyed' correlated better with alcohol intake in Seychelles, a finding possibly linked to the locally wide recognition that drinking causes social problems. The 'Eye-opener' question appeared the most discriminative in this population, possibly because it is less sensitive to sociocultural influences.

These findings suggest that such screening questionnaires as the Alcohol Use Disorder Identification Test (AUDIT), a short multicultural screening tool for the early detection of problem drinking developed by the World Health Organization (Babor & Grant, 1989), and the Severity of Alcohol Dependence Questionnaire (SADQ) (Drummond, 1990; Stockwell, 1979), both of which explore symptoms of physical and psychological addiction more than issues related to the sociocultural context, could be more useful in a cross-cultural setting. In a recent study among whites, African Americans and Mexican Americans of a same country, the CAGE and the AUDIT were not affected by ethnic bias but the latter test performed better than the former in all ethnic groups (Steinbauer, Cantor, Holzer, & Volk, 1998).

In conclusion, the poor performance of the CAGE questionnaire and the largely different discriminative value of its components in this population emphasize the need to identify and develop culturally sound screening instruments for use in non-Western populations.

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REFERENCES

Babor, T.F., Stephens, R.S., & Marlatt, G.A. (1987). Verbal report methods in clinical research on alcoholism: response bias and its minimization. *Journal of Studies on Alcohol, 48(5),* 410-424.

Babor, T.F. & Grant, M. (1989). From clinical research to secondary prevention: International collaboration in the development of the Alcohol Use Disorder Identification Test (AUDIT). *Alcohol Health and Research World, 13(4)*, 371-374.

Beilin, M.J. & Puddey, I.B. (1992). Alcohol and hypertension. *Clinical and Experimental Hypertension, (14)*, 119-138.

Benedict, B. & Benedict, M. (1982). *Men, Women and Money in Seychelles*. Berkeley, CA : University of California Press.

Beresford, T.P., Blow, F.C., Hill, E., Singer, K., & Lucey, M.R. (1990). Comparison of CAGE questionnaire and computer-assisted laboratory profiles in screening for covert alcoholism. *Lancet, 336*, 482-485.

Bovet, P., Perret, F., Shamlaye, C., Darioli, R., & Paccaud, F. (1997). The Seychelles Heart Study II. Methods and selected basic findings. *Seychelles Medical and Dental Journal, 5*, 8-24.

Bush, B., Shaw, S., Cleary, P., Delbanco, T.L., & Aronson, M.D. (1987). Screening for alcohol abuse using the CAGE questionnaire. *American Journal of Medicine, 82(2)*, 231-235.

Dombret, M.C., Godchau, M., & Lepine, J.P. (1990). Value of the CAGE questionnaire in the screening of alcoholism. *Presse Medicale, 19(7)*, 334.

Drummond, D.C. (1990). The relationship between alcohol dependence and alcohol-related problems in a clinical population. *British Journal of Addiction, 85(3)*, 357-366.

Ewing, J.A. (1984). Detecting alcoholism, the CAGE questionnaire. *Journal of the American Medical Association, 252*, 1905-1907.

Ferraroni, M., Decarli, A., Franchesci, S., La Vecchia, C., Enard, L., Negri, E., Parpinel, M., & Salvini, S. (1996). Validity and reproducibility of alcohol consumption in Italy. *International Journal of Epidemiology, 25(4)*, 775-782.

Fontana, P., Mooser, V., Bovet, P., Shamlaye, C., Burnand, B., Lenain, V., Marcovina, S., Riesen, W., & Darioli, R. (1999). Dose-dependent inverse relationship between alcohol consumption and serum Lp(a) levels in males of African descent. *Arteriosclerosis and Thrombosis & Vascular Biology, 19*, 1075-1082.

Finnish Foundation for Alcohol Studies. (1977). *International statistics on alcoholic beverages: production, trade and consumption 1950-1972, 27*, 209-222.

Gmel, G. (1996). Antwortverhalten bei Fragen zum Alcoholkonsum - non-response - bias in schriftlichen Nachbefragungen. *Swiss Journal of Sociology, 22(2)*, 285-301.

Hartung, G.H., Foreyt, J.P., Reeves, R.S., Krock, L.P., Patsch, W., Patsch, J.R., & Gotto, A.M. (1990). Effect of alcohol dose on plasma lipoprotein subfractions and lipolytic enzyme activity in active and inactive men. *Metabolism: Clinical & Experimental, 39(1)*, 81-86.

Indran, S.K. (1992). Quantity frequency (consumption index) versus "CAGE" in the detection of alcoholism. *Australian and New Zealand Journal of Psychiatry, 26*, 493-501.

Indran, S.K. (1995). Usefulness of the "CAGE" in Malaysia. *Singapore Medical Journal, 36(2)*, 194-196.

Kapur, A., Wild, G., Milford-Ward, A., & Triger, D.R. (1989). Carbohydrate deficient transferrin: a marker for alcohol abuse. *British Medical Journal, 299(6696)*, 427-431.

King, M. (1986). At risk drinking among general practice attenders: validation of the CAGE questionnaire. *Psychological Medicine, 16*, 213-217.

Klag, N.J., He J., Whelton, P.K., Chen, J.Y., Quian, M.C.. & He G. (1993). Alcohol use and blood pressure in an unacculturated society. *American Journal of Epidemiology, 22*, 365-370.

Larue, D. (1996). Food consumption patterns in the Seychelles between 1983 and 1993. *Seychelles Medical and Dental Journal, 4*, 16-19.

Lairson, D.R. (1992). Screening for patients with alcohol problems: Severity of patients identified by the CAGE. *Journal of Drug Education, 22(4)*, 337-352.

Mayfield, D.G., McLeod, G., & Hall, P. (1974). The CAGE questionnaire. Validation of a new alcoholism screening instrument. *American Journal of Psychiatry, 131*, 1121-1123.

Midanik, L. (1982). The validity of self-reported alcohol consumption and alcohol problems: a literature review. *British Journal of Addiction, 83*, 1019-1029.

Perdrix, J., Bovet, P., Yersin, B., Larue, D., Burnand, B., & Paccaud, F. (1999). Patterns of the alcohol consumption in the Seychelles islands (Indian Ocean). *Alcohol and Alcoholism,* in press.

Perdrix, J., Decrey, H., Pécoud, A., Burnand, B., & Yersin, B. (1995). [Detection of alcoholism in the medical office: applicability of the CAGE questionnaire by the practising physician]. [French]. *Schweizerische Medizinische Wochenschrift, 125(38)*, 1772-1778.

Pernanen, K. (1974). Validity of survey data on alcohol use. In R.G. Gibbins et al. (Eds.), *Research Advances in Alcohol and Drug Problems, vol. 2,* pp. 355-374. New York: Wiley.

Pinn, G., & Bovet, P. (1991). Alcohol-related cardiomyopathy in the Seychelles. *Medical Journal of Australia, 155(8)*, 529-532.

Robinson, D., Ferns, G.A., Bevan, E.A., Stocks, J., Williams, P.T. & Galton, D.J. (1987). High density lipoprotein subfractions and coronary risk factors in normal men. *Arteriosclerosis, 7(4)*, 341-346.

Schmid H. & Gmel G. (1996). Alcohol consumption trends in Switzerland 1975-1992. *Schweizerische Medizinische Wochenschrift, 126*, 1099-1106.

Sillanaukee, P., Koivula, T., Jokela, H., Myllyharju, H. & Seppa, K. (1993). Relationship of alcohol consumption to changes in HDL-

subfractions. *European Journal of Clinical Investigation, 23(8)*, 486-491.

Steinbauer, J.R., Cantor, S.B., Holzer, C.E. &, Volk, R.J. (1998). Ethnic and sex bias in primary care screening tests for alcohol use disorders. *Annals of Internal Medicine, 129*, 353-362.

Stibler, H. (1991). Carbohydrate-deficient transferrin in serum: a new marker of potentially harmful alcohol consumption reviewed. *Clinical Chemistry, 37(12)*, 2029-2037.

Stockwell, T., Hodgson, R., Edwards, G., Taylor, C. & Rankin, H. (1979). The development of a questionnaire to measure severity of alcohol dependence. *British Journal of Addiction, 74(1)*, 79-87.

Yersin, B., Nicolet, J.F., Decrey, H., Burnier, M., Vanmelle, G. & Pécoud, A. (1995). Screening for excessive alcohol drinking - comparative value of carbohydrate-deficient transferrin, gamma-glutamyltransferase, and mean corpuscular volume. *Archives of Internal Medicine, 155(17)*, 1907-1911.

World Drink Trends. (1995). Oxfordshire: NTC Publications Ltd.

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A PRELIMINARY STUDY OF THE ASSOCIATION BETWEEN UNEMPLOYMENT, DRUG ABUSE AND CRIME IN AFRICA: THE CASE OF GHANA

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There are two basic questions that underlie this preliminary study. The first is whether unemployment, seen as a structural problem, is related to drug use or misuse. A related question is whether there is a relationship between drug abuse and crime such as petty stealing. These questions to my knowledge have not received attention they deserve in drug studies of sub-Saharan countries. In attempting to answer these questions, I conducted a sample of 216 drug users drawn from various neighborhoods in greater Accra. The subjects consisted of 45 females and 171 males, ranging in age from 18 to 60 years, who were given a structured questionnaire. The findings of this preliminary study reveal a high degree of co-variability and positive correlation between unemployment and drug abuse, as well as between drug abuse and crime. The consequences of these correlations can be seen in the costs to the individual and to society of homelessness, dysfunctional families, increases in crime, and poor physical and mental health. Further research is needed to build on these findings so that policy makers can formulate new, more effective intervention and prevention strategies.

KEY WORDS: drugs and crime; Ghana; Africa; unemployment

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Accra has long been used as a transit point in the international drug trade, but cocaine, heroin, and psychotropic substances are increasingly being diverted for local consumption. The full extent of the problems caused by this development have yet to be documented, particularly the relationship of drug abuse to unemployment and crime in Ghana and in other sub-Saharan countries. A search of the critical literature reveals that this subject is only mentioned in passing in various generalized studies of the African drug problem. The argument of this paper is that there are statistically valid covariations between unemployment and drug abuse, and drug abuse and crime also covary together. Data collected in Accra in the summer 1997 was used to validate these hypotheses.

Existing studies of the drug problem in Ghana primarily confine themselves to detailing specific drugs in use and, in this sense, provide a valuable baseline for understanding changes in the drug scene in Ghana. Amarquaye (1967) focused on Indian hemp ingestion among the patients who were admitted to Accra Mental Hospital. The study concluded by advocating prevention. Another study, conducted by Akye-Ofori et al. (1972) among pharmacology students of the University of Ghana Medical School, showed that none of the students had any experience with opioids, cocaine, or LSD, although half had some experience with amphetamines and a quarter had used them that year. The study explained the popularity of amphetamine and amphetamine-like drugs as well as caffeine by the need of students to keep up with their studies. Nortey et al. (1990) conducted a nationwide epidemiological study of drug abuse among Ghana youth. They found the respondents knew about the existence of various psychotropic substances, but primarily confined their usage of drugs to tobacco, alcoholic beverages, and coffee. They documented some use of marijuana, valium, librium and mandrax, but the use of cocaine and other narcotics was virtually unknown.

There has, however, been a smattering of works that touch on the social consequences of drug abuse. Pioneering work on this topic was done by Asuni et al. (1986), who advocated investigating the links between drug abuse and crime. Another study by Asuni (1992) found that those who are dependent on drugs like heroin and cocaine manifested antisocial behavior in the form of stealing, burglary, and absence from home. Asuni maintained that there was no evidence as yet to assert that this antisocial and criminal behavior affected the ordinary person on the street.

Other countries are better served by the literature than Ghana. For instance, the drug problem in neighboring Nigeria has received a great deal of attention, primarily because Nigerian nationals are heavily involved in drug trafficking, (*ICPR*, No. 414, 1988; No. 420, 1989). These studies, dating as far back as 1964, cover a wide range of drugs from alcohol, tobacco, cannabis, and psychotropic substances to heroin and cocaine. The studies have used various research subjects such as secondary school students, patients at psychiatric hospitals, university students, and soldiers. The authors, representing a variety of theoretical and ideological positions, have tackled a wide range of topics including production, supply and trafficking, epidemiology, prevention, and treatment (Obot, 1996). These Nigerian studies have contributed much to our understanding of the scope and nature of drug abuse in Nigeria, but the relationship of drug use to crime, unemployment, and violence has yet to be validated.

The same situation is true of Kenya, another African nation that has been the subject of in-depth research. In 1995, the United Nations Drug Control Programme conducted a rapid assessment study of drug abuse in the country by surveying 383 drug abusers (353 males and 30 females). They ranged in age from six to 90 years, with the majority falling between 11 and 39 years. One-hundred-twenty-three were unemployed, 100 were homeless, and 80 were students. Cannabis was the main drug abused, but substances abused included *khat*, solvents, heroin, cocaine, mandrax, alcohol, hashish, pethidine, aspirin, codeine, and benzodiazipines. This well-balanced study provides an overview of drug abuse Kenya, explaining the persistence of the drug problem in terms of rapid social and economic changes that led to urbanization and marginalization of many segments of society (UNDCP,

1995). Like the studies on Nigeria, however, the UNDCP effort in Kenya did not address such issues as the connections between drug abuse and crime, unemployment, and family life.

Continent-wide studies also tend to limit their discussion of the societal effects of drug abuse. In 1987, an overview of the drug problem in Africa by the Division of Narcotic Drugs of the United Nations Secretariat noted that while cannabis remained the most widely abused drug, more dangerous drugs like heroin and cocaine had made their appearance and were spreading, particularly in Chad and Nigeria. The authors of this study did note in passing that there was a relationship between drug abuse and family problems and crime, but this relationship went unexplored.

More recent continent-wide studies have also concentrated primarily on identifying specific drugs abused, rather than their societal consequences. Preliminary UNDCP studies show that in Cameroon, locally grown cannabis is widely abused, while heroin and cocaine have become increasingly prevalent in the last decade. In addition, a native hallucinogenic, iboga, is also gaining popularity. Similar patterns of abuse were found in Burkina Faso, Chad, the Ivory Coast, Gabon, Ghana, Mali, Nigeria, and Senegal. In Lagos, for instance, heroin can now be obtained for few hundred naira. Once abused primarily by educated and affluent youth, it now has spread to unemployed young males (UNDCP, AD/RAF/94/902).

Another drawback of the existing studies is that they are limited in scope. For instance, the most recent UNDCP study has mentioned little about drug abuse among women or older individuals, although other studies suggest that drug abuse has spread beyond young males. A recent study in Cameroon, for instance, revealed that prostitutes often insert a mixture of cannabis, rock salt, and small stones in their vagina to increase the pleasure of their partners (Nouthe-Djubgang et al., 1995).

I have tried to address these issues in my preliminary work in Ghana. In the summer of 1995, I conducted an ethnographic study of drug abuse in the Tudu neighborhood of Accra. The study combined brief interviews with and observations of 26 drug abusers ranging in age from 22 to 38 years. The self-report survey elicited demographic and attitudinal information as well as data on addiction, income, employment, and

involvement in crime (Affinnih, nd) . These preliminary findings paved the way for additional research in the summer of 1996. Affinnih (1998) conducted a systematic study based on questionnaires administered to 117 drug abusers in greater Accra. Their ages ranged from 19 to 50 years and consisted of 17 female and 100 male users. This study revealed they consumed an assortment of drugs including cannabis, heroin, cocaine, pethidine, methaqualone (mandrax), valium, and alcohol. It also noted complicated patterns of drug use - users often abused several drugs in rapid succession - and noted a high correlation between drug use, unemployment, and crime. About 48 percent of the sample was unemployed, and most engaged in petty stealing and other forms of theft to support their habit. These linkages, however, required additional study.

Unemployment and crime are intimately related social problems. The personal problems and anomie associated with long-term unemployment can induce individuals to misuse drugs as a means of escape. Unemployed individuals have the time and a motive to participate in illegal activities such as stealing, selling drugs, and using drugs. Accra, like other cities in sub-Saharan Africa, has a pool of unemployed laborers, who migrated from rural areas in search of employment opportunities. The sample used in this study includes people who are unemployable because they lack the necessary skills required by a modern urban economy and those who said they were gainful employed.

METHOD

Questionnaire: The data for this current study were derived from a questionnaire administered to drug users in Accra between late July 1997 and August 1997. My previous field research in Accra in 1995 and 1996 made it easy for me to identify locations of drug trafficking and use. Before administering the questionnaires, I asked each subject to read the informed consent and confidentiality information attached to each questionnaire very carefully. Anyone who refused to read this information was disqualified from the study. The informed consent form detailed the rights of the subjects, as well as steps taken to guarantee their confidentiality and to protect their identity and anonymity. In addition, the purpose of the study was explained to each subject. Subjects were encouraged to ask any questions relating to questionnaire at any time

The questionnaire was divided into four parts. The first part focused on the subjects' demographic background, which included the subjects' age, sex, marital status, level of education, occupation, monthly income, ethnicity, and home neighborhood.. The second section focused on the subjects' patterns of drug abuse, including type of drug first used, age at first use, and type of drugs currently abused. The third part highlighted the covariation or mutual relationship between drug abuse and criminal activities, including the commission of any crime prior to drug use, commission of crimes since drug use began, crimes committed involving money and property, and the influence of drug use on criminal behavior. Finally, the fourth part covered the association between unemployment and drug abuse.

Both demographic data and drug abuse pattern data were based on dichotomy and nominal measurements, while the association between unemployment and drug abuse and crime were based on responses ranging along a five-level scale (from strongly agree to strongly disagree).

The subjects were selected from six neighborhoods in greater Accra and represent a cross-section of drug abusers. Because drug use is illegal, drug users are suspicious of outsiders and are reluctant to provide information about themselves. As a result, I used informants to provide an introduction to the drug settings where the questionnaires were administered. Seventy-two questionnaires were administered in the Dansoman, Laterbiokoshie, Korle-bu, and Korle-gonno neighborhoods. Forty-four questionnaires were administered near Nkrumah Circle, and one hundred questionnaires were administered in the Tudu neighborhood. A total sample of 216 respondents were queried. A greater number of respondents were sampled at Tudu (46%) than any other site because Tudu is a major drug center in Accra, attracting drug users from other neighborhoods. Because participants move from one drug setting to another, they were often quite knowledgeable about the different drug settings in the Greater Accra region.

These drug settings can be described using well-known concepts of structure, organization, and interactional process. The spatial arrangement of the drug setting permits the free movement drug abusers through a main alley, which also serves as a passageway for non-abusers. Informal, implicit rules governing behavior of abusers and sellers ensure the continuous functioning of the setting. In this setting, both employed and unemployed participants found drugs, the companionship of fellow drug users, and meaningful relationships.

Participants: Respondents came from virtually all of Accra's residential neighborhoods, including Dansoman Tudu, Adabraka, Korle-Gonno, Laterbiokoshie, Tesano, Salaga, Kokomelemele, Ayalolo, Mamobi, Madina, Freetown, Tema, Abossey Okai, Usher Fort, Newtown, Teshie-Nungua estates, Osu R.E., Osu Royal, Airport Residential, Airport West, Abeka Lapaz, Nima, and Akotey Lartey. These residential areas cut across class lines. Some of participants in this study are second- and third-generation city dwellers, while others are recent migrants from other parts.

The respondents were also ethnically diverse, representing the major ethnic groups in Ghana: the Akan, the Ga, the Ewe, the Dagomba, and the Krobo. Other West African ethnic groups included the Moshie, the Hausa,

the Yoruba, and the Zabrama. There were also two foreign nationals, a Lebanese and a Canadian.

The ages of the respondents ranged from 18 to 60 years, with a mean age of 31 years. Thirty-six percent fell within the ages of 25 and 30 years, 26% within the ages of 18 and 24 years, and 23% fell within the ages of 31 and 35 years. Ten percent were age 36 and older. Males outnumbered females, 79% to 21%. The majority were single (68%), while 19% were married and 13% were divorced. The respondents were not highly educated. Thirty-five percent had no schooling, 45% had some and secondary school education, 8% had post-secondary training, 2% had commercial school training, 6% had technical school training, 2% had some university education, while just 2% had earned a BA degree.

The survey revealed that a high percentage of drug users were unemployed (68%). Thirty-one percent claimed to be employed and 1% claimed to have other means of support. Among unemployed respondents were those who engaged in prostitution, pick-pocketing, shoplifting, petty stealing, selling relatives' belongings, begging, drug selling, petty thievery, and burglary, primarily to support their drug habit.

Among the 31 percent who were employed, there were nurses, porters, teachers, drivers, fishermen, butchers, traders, and car washers. The income of this group ranged from 75,000.00 to 300,000.00 cedis a month.

RESULTS

To gain a greater sense of the change in drug use patterns over the years, as well as the movement of drug users to harder drugs as they became available, I asked the respondents to indicate the drug they first used (see Table 1). Marijuana was by far the first drug used by confirmed drug abusers.

Table 1. Type of drug used first

Type of Drug	n	%
Marijuana	179	83
Cocaine	9	4
Heroin	20	9
Other	8	4
Total	216	100

Note: Percentages have been rounded

As time passed and new drugs became available to users, they switched to more potent substances. As Table 2 shows, marijuana use declined from 83% to 17%, while cocaine use increased from 4% to 7% and heroin use also increased from 9% to 23%. Another significant change portrayed in Table 2 is the growth of poly-drug users, which accounted for 54% of respondents. These trends have been influenced by the internationalization of drug trafficking.

Table 2. Drugs currently used

Type of Drug	*n*	%
Marijuana	37	17
Cocaine	24	11
Heroin	33	15
Cocaine and heroin	49	23
Marijuana, cocaine and heroin	67	31
Other	6	3
Total	216	100

Note: The percentages have been rounded

Taking drugs occupies a great deal of a drug abusers time, as Table 3 shows. Sixty-seven percent of respondents use drugs between one and four times daily, while 18% respondents use drugs more than six times daily. A small but significant group takes drugs almost constantly. Fifteen percent of the respondents use drugs more than ten times daily, including 5% who use it more than 14 times a day. From respondents' daily drug use one can calculate weekly and monthly use. Although Table 3 simply shows daily drug use, simple calculations reveal that the respondents use drugs as often as 19 hours out of 24 hours a day. Although even drug users must sleep at some point, these numbers provide a rough indication of how much of their lives are taken over by the need to satisfy their craving for drugs.

Table 3. Daily drug use

Daily Drug Use	*n*	%
1-3 times	81	37
4-6 times	66	30
7-9 times	38	18
10-11 times	15	7
12-13 times	6	3
14 times and over	10	5
Total	216	100

Note: The percentages have been rounded

In order to consider some of the behavioral issues pertaining to drug abuse and crime I performed a number of statistical analyses to test several hypotheses. It should be noted that the correlation coefficients presented in Table 4 (as well as in Table 5) provide an index of covariability, but do not imply cause and effect. Rather, the variables have a common characteristics, which means that the variables depend on one another or covary together. Furthermore, all of the correlation coefficients are positively correlated, which means that there is a degree of covariability among the hypothesized variables between drug abuse and crime.

The first overall hypothesis is that being addicted to drugs is likely to influence one to engage in stealing (ADTDGS). The correlation is $r = 0.77$, $p < 0.001$. In other words, drug abuse and crime are strongly and positively correlated, consistent with the hypothesis. Drug abuse shares common characteristics with criminal behavior or covary with crime. Restated, this hypothesis suggests that addicts consciously and unconsciously engage in criminal activities in order to finance their habit (ADTMFH). The correlation, $r = 0.66$, $p < 0.001$, is moderately and positively correlated. Again this assertion is consistent with the overall hypothesis of a relationship between drug abuse and crime. Restated a third time, this hypothesis supposes that the craving for drugs can force one to sell one's personal property (CRVPTY). The correlation is $r = 0.83$, $p < 0.001$, which is the strongest and most positively correlated among the variables in Table 4. This means that drug abuse covaries with addicts' personal behavior. This behavior can include selling personal belongings to support one's habit (SLDBLG) and selling the property of other people for the same reason (ADTPTY). The SLDBLG hypothesis has a correlation of $r = 0.73$, $p < 0.001$, while the ADTPTY hypothesis has a correlation of $r = 0.70$, $p < 0.001$. Both correlation indices are more than moderately and positively associated with drug abuse, which in turn covaries with crime. This conclusion is consistent with the hypothesis that drug abuse and crime vary together.

Table 4. Correlation Coefficients Matrix of Covariation Between Drug Abuse and Crime

Variables	ADTDGA	ADTMFT	SLDBLG	CRVPTY	ADTPTY
ADTDGA	1.0000	0.7715	0.6643	0.5936	0.5641
ADTMFT	0.7715	1.0000	0.7366	0.7423	0.6506
SLDBLG	0.6643	0.7366	1.0000	0.8326	0.7008
CRVPTY	0.5936	0.7423	0.8326	1.0000	0.7514
ADTPTY	0.5641	0.6506	0.7008	0.7514	1.0000

n =215 (one missing case), 2-tailed test, $p < 0.05$

Table 5 presents correlation coefficients of an index of covariability between unemployment and drug abuse. All of the correlation coefficients presented in Table 5 vary from moderately to strongly correlated among the variables under study.

The two hypotheses, unemployment leads to drug abuse (UNEMDG) and unemployment can result in drug abuse (UNERDA) both strongly and positively co-vary together. The coefficient of correlation for both variables is $r = 0.83, p < 0.001$.

Three additional hypotheses that pertain to the relationship of unemployment and drug abuse were tested. These are that unemployment can contribute to the use and abuse of drugs (UNEMCD), that unemployment has something to do with the use and abuse of drugs (UNEMND), and that people who are unemployed abuse drugs (PEMPDR). The correlation coefficients for the three are $r = 0.85$, $p < 0.001$ for the UNEMCD hypothesis, $r = 0.76$, $p < 0.001$ for the UNEMCD hypothesis, and $r = 0.69$, $p < .0.001$ for the UNEMCD hypothesis. All five conclusions are consistent with the hypothesis that drug abuse and unemployment vary together.

This investigation of the relationships between drug abuse and unemployment and drug abuse and crime is extremely strong. It produced a better than moderate, positive correlation in all cases

Table 5. Correlation Coefficients Matrix Between Unemployment and Drug Abuse

Variables	UNEMDG	UNERDA	UNEMCD	UNEMND	PEMPDR
UNEMDG	1.0000	0.8304	0.6996	0.6324	0.6008
UNERDA	0.8304	1.0000	0.8315	0.7675	0.6782
UNEMCD	0.6996	0.8315	1.0000	0.8548	0.6263
UNEMND	0.6324	0.7675	0.8548	1.0000	0.6681
PEMPDR	0.6008	0.6782	0.6263	0.6681	1.0000

$n = 216$, 2-tailed significance, $p < 0.05$

DISCUSSION

A review of the literature reveals a pressing need to develop a better understanding of the effects of drug use on crime and unemployment in Ghana and other sub-Saharan countries. This study represents an effort to fill this gap. The drug problem in sub-Saharan Africa cannot be seen as isolated phenomenon, but as part of the larger narcoscape, which partakes of the fluid yet disjunctive qualities of Appadurai's landscapes. In this volatile environment, the transformation of sub-Saharan nations from transit points in an international drug network to consumer countries was inevitable. Accordingly, imported heroin and cocaine are steadily gaining ground among a certain age cohort in major cities in sub-Saharan Africa, adding to the existing locally grown marijuana. This shift in consumption patterns is having a far-reaching effect on the social fabric of these countries. At the same time, unemployment is a critical factor. It affects an individuals' chances in life, hopes and aspirations, and standard of living. In addition, unemployed individuals become more likely candidates for a variety of illegitimate activities, including selling drugs, panhandling,

prostitution, and drug abuse. An urban socio-demographic environment such as we find in Accra provides ample opportunities for unemployed individuals to pursue illegitimate activities.

These characterizations fit the respondents of this study. We have seen that 69 percent of these drug abusers were unemployed and that there is a strong, statistically significant association between unemployment and drug abuse. It is likely that the frustrations of dealing with the problem of unemployment predispose these individuals to drug abuse, which becomes a way of ignoring their social and economic reality. Ironically, drug dependency often renders these individuals totally unemployable.

The relationship of drug abuse to crime is only heightened by their unemployment. The vast majority of the respondents have at one time one or another engaged in criminal activities such as pick-pocketing, petty stealing, burglary, selling the property of others, extortion, and other criminal behavior. Because they are unemployed, they have no other means to finance their drug habit.

There are other behavioral consequences of drug abuse that stem from the nature of addiction. Generally speaking, drug abusers tend to lose their intimate connection with family members. Even when they retain this relationship, they often compromise it by stealing from relatives. Many of the respondents had stolen money and valuable property such as jewelry from parents and relatives to procure drugs. Many families try to seek rehabilitation for relatives who become drug users, but most families do not have the money to seek the services that are available and ultimately sever their relationship with the drug user. As a result, one sees many homeless drug addicts in Tudu and other drug settings.

This preliminary investigation, therefore, hints at the substantial social costs for families and society of drug abuse. Policy makers should not turn a deaf ear to these problems but should work to find a long-term solution. Unemployment is often associated with drug abuse, and a person who is both unemployed and a drug user is likely to be homeless, engaged in criminal activities, and in poor physical and mental health.

CONCLUSION

In the United States, the relationship between drug abuse and crime was demonstrated several decades ago. In Africa, this relationship has not been tested. This study, based on the investigations in drug neighborhoods in greater Accra, is an attempt to remedy this omission. A unique feature of this study is the inclusion of unemployment, which is revealed as a factor that is related to drug use and compounds its effects, both for the individual and society.

These effects are heightened further by the changing nature of drug abuse in Ghana and in the rest of sub-Saharan Africa. In the past, the drug of choice in this area was marijuana. Today, sub-Saharan Africa is no longer a transit point on a route from producer to consumer countries for such substances as heroin and cocaine, but a consumer region in its own right.

The ultimate goal of this study is to serve as a benchmark for further research and to encourage other investigators to apply a broader perspective to evaluating drug abuse. Such research will help encourage countries in this region to formulate a realistic drug policy and to develop effective strategies to combat drug abuse. Currently, these nations rely almost exclusively on punitive measures. The criminal justice system must find innovative ways to address these emergent drug phenomena in the context of effective educational and prevention strategies. Although such measures may seem costly, the alternatives are worse. Given the economic and political reality in many of these nations, they can ill afford to lose the contributions of so many potentially productive members of society that may fall victim to drug abuse.

REFERENCES

Affinnih, Yahya H. (1999). A review of literature on drug use in sub-Saharan Africa (SSA) countries and its economic and social implications. *Journal of Drug Use and Misuse*, 34, 3.

Affinnih, Yahya H. (1999). Drug use in Greater Accra: a pilot study. *Journal of Drug Use and Misuse*, 33, 2.

Affinnih, Yahya H. (nd). A preliminary study of drug abuse and its mental health and health consequences among addicts in Greater Accra, Ghana. (forthcoming in the *Journal of Psychoactive Drugs*).

Akye-Ofori et al. (1972). Drug abuse among Ghanaian medical students. *Ghana Medical Journal,* December.

Amarquaye, F. K. (1967). Indian hemp ingestion in Ghana. *Ghana Medical Journal.* (December).

Asuni, Tolani. (1992). Drug trafficking and drug abuse in Africa. In T. M. Mushanga.(ed.), *Criminology in Africa.* Rome: United Nations Interregional Crime and Justice Series, Number, 47.

Asuni, Tolani and O. A. Pela. (1986). Drug abuse in Africa. In *United Nations Bulletin on Narcotics*, 37(1), 2.

Dupont, L. Robert. (1978). International challenge of drug abuse: a perspective from the United States. In *The International Challenge of Drug Abuse*. NIDA Research Monograph 19. Washington, DC: U.S. Government Printing Office.

Fottorino, Eric. (1992-92). Abstracts. In *Politique Internationale,* 58.

Halfani, M. (1996). Marginality and dynamism: prospects for the sub-Saharan African city. In Cohen et al. (eds.), *Preparing for the Urban Future: Global Pressures and Local Forces*. Washington, DC: The Woodrow Wilson Center Press.

Mushanga, T. (1992). Introduction. In *Criminology in Africa*. Rome: United Nations Interregional and Justice Series, Number 47.

Nouthe-Djubgang et al. (1995) The cultural and social consequences and effect on families of women's involvement in drug trafficking in Cameroon: crime and imprisonment. *United Nations Bulletin on Narcotics*, 47:1, 2.

Obot, I. S. (1996). *Drugs and the Nigerian Society: A Comprehensive Annotated Bibliography, 1964-1994*. Jos: Centre for Research and Information on Substance Abuse.

Interpol Publications

Interpol General Secretariat (1986). The Drug Problem: The Situation in Africa (1982-1984). *International Criminal Police Review*, Number, 396.

Interpol General Secretariat. (1986). The drug problem -trends in 1985. *International Criminal Police Review*, Number 400.

Interpol General Secretariat (1988). The Gulf route. *International Criminal Police Review*, Number, 414.

Interpol General Secretariat: (1989). Heroin trafficking in Africa." In *International Criminal Police Review*, Number, 429.

Learmy, Walter. (1986). the drug problem: disturbing aspects of drug trafficking and abuse in the world today. *International Criminal Police Review*, 394.

Seck, L. (1989). Trafficking in psychotropic substances in Africa. *International Criminal Police Review*, 429.

U.N. Reports

Analysis of the World Situation. *Reports of the International Narcotics Control Board*, 1983, 1986, 1987, 1988, 1990, 1994, and 1995.

Drug Abuse Among African Youth. United Nations Drug Control Programme.1994.

General Debate: Examination of the World Situation with Respect to Drug Abuse, Illicit Demand, Illicit Trafficking and Illicit Supply. United Nations Economic and Social Council: Commission on Narcotic Drugs, Thirty-seventh Session, 1994.

Illicit Traffic and Supply, Including Reports From Subsidiary Bodies and Evaluation of Their Activities. United Nations Economic and Social Council: Commission on Narcotic Drugs, Thirty-eighth Session, 1995.

United Nations Drug Control Programme (1994). *Money-laundering. Report of the Nineteenth Meeting of Heads of National Drug Law Enforcement Agencies, Asia and the Pacific.* Held at Wellington, NZ, November 1994.

United Nations Drug Control Programme (1995). Rapid Assessment of Drug Abuse in Kenya: A National Report.

Review of Drug Abuse and Measures to Reduce the Illicit Demand for Drugs By Region. *United Nations Bulletin on Narcotics*, 39:1, 1987.

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TREND ANALYSES OF SUBSTANCE USE AMONG UNDERGRADUATES OF UNIVERSITY OF ILORIN, NIGERIA, 1988 - 1998

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Using a self-report 117-item questionnaire based on the WHO guidelines for student substance use surveys, data were collected from 994 university students in 1998. Substances investigated include cigarettes, alcohol, cannabis, mild stimulants, hypnosedatives, antibiotics, cocaine and heroin. The data were compared with those from two previous surveys conducted in 1988 and 1993 among samples from similar populations. Findings showed that There was a decrease in the use of cigarettes among males and alcohol intake for both males and females; there was an increase in

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current use of mild stimulants among males and current use of antibiotics among males and females. Some substances such as mild stimulants and hypnosedatives recorded significant increase in their usage over the three data waves, while the current use rates were generally low for the commonly used substances (cigarettes and alcohol). These findings would suggest the need for continued monitoring of trends in substance use. This will enhance policy formulation that will reduce substance use among Nigerian undergraduates.

Key words: substance use; university students; trends

Epidemiological surveys conducted in the last 30 years on substance use among undergraduates in Nigerian Universities have reported diverse findings. Among the pioneering studies in this area were those of Ogunremi and Okonofua (1977), Nevadomsky (1985), Ebie and Pela (1981) and Ihezue (1988). For example, Ogunremi and Okonofua (1977), in the 1970s, investigated the extent of drug abuse among a group of undergraduates at the Obafemi Awolowo University, Ile-Ife (formerly University of Ife). They found that at least 26% of their respondents had during their secondary school period used amphetamine and cannabis. Nevadomsky (1985), in a survey conducted in 1985, reported on the prevalence of self-reported use and attitude to use of drugs among 295 students of the University of Benin, Benin-City. He found that alcohol, hypnosedatives, cigarettes, cannabis and mild stimulants were the most commonly used substances. These findings were largely similar to those reported by Ebie and Pela (1981) in another group of undergraduates in the same university. Ihezue (1988) surveyed drug use among medical students of University of Nigeria, Nsukka in 1983. He found that substances most commonly abused were alcohol (60%), minor tranquilizers (48%), tobacco (35%) and narcotics (29%).

Whilst the above studies provided the much needed baseline data on substance use among Nigerian undergraduates, all of them employed the one-point *snapshot* cross-sectional design. This design does not allow for monitoring of trends. However, a group of researchers based at the University of Ilorin, Nigeria began a series of substance use epidemiological surveys among undergraduates of the institution in 1988. The idea was to

repeat such cross-sectional surveys among the same study populations at 5-yearly intervals with the aim of predicting trends.

The first report on the Ilorin series (Adelekan, Abiodun et al. (1992) found that the most currently used substances, with their current use rates, were salicylate analgesics (78%), alcohol (42%), stimulants (35%), hypnosedatives (18%) and cigarettes (11%). Majority of the current users used the substances on an occasional basis, except for cigarettes for which more than 50% reported weekly and daily use. The use of cannabis, organic solvents, cocaine, heroin and hallucinogens was low.

The second in the series of surveys was conducted by Adelekan , Ndom and Obayan, 1996) in 1993. The comparison of the data with the 1988 series gave some indication of trends. For example, there was a significant decrease in the current use rate of alcohol, salicylate analgesics, stimulants and cigarettes in 1993. The reduction was observed equally in both genders. They also noted a significant increase in the current non-medical use of antibiotics, and in the lifetime use of organic solvents. However, usage rates were stable for the low-use substances such as cannabis, cocaine and heroin. The pattern of use for the commonly used substances remained largely occasional, with a shift towards less frequent smoking in 1993.

The findings from these two earlier surveys underscore the significance of trends monitoring. First, it has provided an avenue to monitor changes in the extent and pattern of substance use in the study population. The latter information has informed the direction for the design and implementation of substance use prevention programmes in the institution. A third possible advantage is that trends monitoring could provide an opportunity for investigating the effectiveness of interventions, particularly when these are included as an integral part of the study design. We hope to implement such a study design in our future surveys.

This report presents the third (1998) data waves and compares these with the 1998 and 1993 data for the purpose of examining the trends.

METHOD

Sample: Similar to the previous surveys, only second and final year students were involved in the survey. This was done to enable the involvement of students who were just settling down in the university, as well as those who have matured through the system. The total sample size of 1200 was derived based on 10% of the total undergraduate enrolment for the 1998/99 academic year, which was approximately 12, 000 students. The original intention was to involve the seven Faculties in the university that participated in the 1988 and 1993 surveys (Agriculture, Arts, Business and Social Sciences, Education, Engineering and Technology, Health Sciences and Science). However, it was not possible to include the final year students in the Faculty of Engineering and Technology as they were away on Industrial Training Programme during the period of survey. Thus, a total of 1020 questionnaire were completed and returned.

Instrument: A 117-item questionnaire designed based on the World Health Organization (WHO) guidelines on student drug-use surveys (Smart, Hughes et al. 1980) was employed for the 1998 survey. The same questionnaire was used in the 1988 and 1993 surveys. The instrument has been shown to possess high psychometric properties (Adelekan & Odejide, 1989). Apart from eliciting information on basic socio-demographic variables, the questionnaire also sought information on the use of the following substances: cigarettes, alcohol, mild stimulants, antibiotics, hypnosedatives, Indian hemp, heroin and cocaine. For antibiotics and hypnosedatives, 'use' was defined to include only use outside medical prescription.

Procedure: The procedure adopted for the administration of the questionnaire followed the pattern employed in the two previous surveys. Permission to conduct the study was obtained from the Student Affairs Unit. Thereafter, the Deans of the various faculties were contacted to work out the logistics for the survey. Only students who were willing to participate in the study were involved. The number of participants needed in each of the

faculties per school was derived by means of stratification and weighting for the enrolled student population in each subgroup. The final sample was selected using a simple random sampling technique of balloting. The lecturers were not allowed to remain in the lecture rooms during the period of completing the questionnaire. The exercise was supervised by the researchers and research assistants. Respondents were not allowed to discuss their responses with one another throughout the period of completing the questionnaire. Above all, confidentiality was assured verbally and a clear statement to this effect was also written on the front page of the questionnaire. In addition, anonymity was ensured, as respondents were not required to write their names on the questionnaire.

Data analysis: Data was analyzed using Epi-Info Version 5.0 computer programme (Dean, Dean et al., 1990) to generate frequency tables and the relevant cross-tabulations. Statistical significance was set at the 0.05 level.

RESULTS

Out of a total of 1,020 questionnaire completed, 994 (97%) were considered valid for analysis. Twenty-six questionnaire forms were rejected based on the set criteria that they contained four or more inconsistent or missing data.

Table 1 shows a comparison of the socio-demographic characteristics of the respondents in the three data waves. Although students in the Faculty of Engineering were not included in the 1998 survey, the sample size for that year was still higher than for the 1988 and 1993 surveys. This is probably the result of increased student enrolment in the university over the years. An increase was also recorded in the female gender participation from approximately 30% in 1988 to 40% in 1998. About a half of the respondents in the three data waves belonged to the low socio-economic class based on father's occupation. Sixty percent of the respondents were males. The ages of respondents ranged from 16 to 47 years with a mean of 23.8 years and standard deviation of 3.4.

Table 1. Socio-demographic characteristics of respondents in the 3 data waves

Characteristics	1988	1993	1988
Sample size	649	859	988
Sex			
% Male	14	10	
Age (S.D)			
Mean	23.0	23.7	23.8
SD	3.3	3.3	3.4
Father's Occupation (%)			
High	33	34	26
Low	11	15	24
Medium	56	51	50
Faculty (%)			
Agriculture	12	15	15
Arts	10	9	16
Social sciences	14	9	16
Education	20	19	13
Sciences	22	21	17
Health Sciences	8	16	25
Engineering	14	10	-

Note: It was not possible to include the final year students in the Faculty of Engineering as they were away on Industrial Training Programme during the period of survey.

A comparison of the prevalence rates of substance use over the three data waves in presented in Table 2. Significant reductions were noticed in.

Table 2. Comparison of substance use prevalence rates in the 3 data waves

Substance	Current Use			Past Use			Life time Use		
	1998	1993	1998	1988	1993	1998	1988	1993	1998
Cigarettes (n^1=620;n^2=846;n^3=991)	65 (11)[c]	61 (7)	34 (3.4)	167 (27)[c]	113 (13)	123 (12)	232 (37)[c]	174 (21)	157 (16)
Alcohol (n^1=635;n^2=845;n^3=991)	268 (42)[c]	239 (28)	184 (18.5)	221 (35)[c]	162 (19)	246 (25)	489 (77)[c]	40 (48)	184 (48)
Mild Stimulants (n^1=629;n^2=848;n^3=992)	222 (35)	296 (35)	337 (40)	213 (34)[c]	182 (22)	283 (29)	435 (69)[c]	478 (56)	337 (40)
Antibiotics (n^1=624;n^2=849;n^3=992)	220 (35)	406 (48)[c]	348 (35)	175 (28)[c]	136 (16)	266 (27)	395 (63)	542 (64)[c]	348 (35)
Cannabis (n^1=619;n^2=841;n^3=992	8 (1.3)	13 (1.5)	25 (2.5)	37 (6)[c]	15 (1.8)	29 (3)	45 (7.3)[c]	28 (3.3)	25 (2.5)
Sedatives (n^1=631;n^2=843;n^3=993)	113 (16	185 (22)	209 (21)	199 (32)[c]	119 (14)	267 (27)	312 (49)[c]	304 (36)	209 (21)
Heroin (n^1=622;n^2=844;n^3=992	4 (0.6)	9 (1)	3 (0.3)	11 (1.7)	4 (0.4)	11 (1.1)	15 (1.8)	13 (1.6)	11 (1.1)
Cocaine (n^1=622;n^2=844;n^3=992	4 (0.6)	13 (1.5)	8 (0.8)	6 (1)	6 (0.7)	10 (1)	10 (1.6)	19 (2.2)	10 (1.0)

[a]$p<0.05$; [b]$p<0.01$; [c]$p<0.001$

Note: n^1, n^2, n^3 = number of respondents in 1988, 1993, 1998, respectively, on each substance, with their respective percentages in row brackets.

Table 3: **Current usage pattern of commonly used substance in the 3 data waves**

Substance	Monthly Use			Weekly Use			Daily Use		
	1988	1993	1998	1988	1993	1998	1988	1993	1998
Cigarettes (n^1=65;n^2=61;n^3=34)	23 (35)	30 (49)	17 (50)	30 (19)	12 (12)	3 (9)[c]	30 (46)	24 (39)	14 (41)
Alcohol (n^1=268;n^2=239;n^3=184)	211 (79)[a]	196 (82)	164 (89)	50 (19)	35 (15)	14 (8)[b]	7 (2.7)	8 (3.4)	6 (3.3)
Mild Stimulants (n^1=222;n^2=406;n^3=337)	174 (78)	236 (80)	274 (81)	35 (16)	49 (17)	48 (14)	13 (6)	11 (3.8)	15 (5)
Sedatives (n^1=113;n^2=185;n^3=209)	98 (87)[a]	173 (94)	198 (95)	12 (11)	7 (4)	8 (4)[a]	3 (2.7)	5 (2.7)	3 (1.4)
Antibiotics (n^1=220;n^2=185;n^3=348)	191 (87)[a]	367 (90)	324 (93)	28 (13)	35 (9)	23 (7)[a]	1 (0.5)	4 (1)	1 (0.2)

[a]$p<0.5$ [b]$p<0.01$ [c]$p<0.001$

Note: Monthly use is 2-3 times per month; weekly use is 2-3 times per week.

the current use rates for cigarettes (x^2=32.2; df=2; p<0.001) and for alcohol (x^2=107.4; df=2; p<0.001). Similarly, significant reductions were noticed in the lifetime use of cigarettes (x^2=104.6; df=2; p<0.001), alcohol (x^2=1007.8; df=2; p<0.001) and mild stimulants (x^2=207.7; df=2; p<0.001). For antibiotics, significant reduction was observed in the lifetime use (x^2=193.4; df=2; p<0.001), while for hypnosedatives and Indian Hemp, there were significant reductions of (x^2=143.7; df=2; p<0.001) and (x^2=23.9; df=2; p<0.001) respectively in their lifetime use. Heroin and cocaine use remained generally low throughout the period under consideration

The current usage pattern of the commonly used substances was compared over the years as shown in Table 3. There was a significant shift from weekly use of cigarettes, alcohol, hypnosedatives and antibiotics, to less frequent (i.e. monthly or occasional) use. Although the use of mild stimulants recorded a similar shift, the difference failed to reach statistical significance.

In Table 4, the current use of the commonly used substances for each gender (inter-sample) were compared over the three data waves. A significant reduction was noticed in the use of cigarettes over the years (x^2=18.1; df=2; p<0.001) only among males. Significant reductions in alcohol intake were recorded for males (x^2=59.0; df=2; p<0.001) and females (x^2=19.4; df=2; p<0.001). In the case of mild stimulants, there was a significant increase in current use of the substance among males (x^2=7.4; df=2; p<0.05), while the reverse was the case for females. The significant increase in current antibiotics use recorded for both males and females in 1993 showed significant reductions (x^2=14.5; df=2; p<0.001) (x^2=7.3; df=2; p<0.05) respectively in 1998. There was a trend towards an increase in the use of hypnosedatives among males (x^2=7.8; df=2; p<0.05), and females (x^2=2.2; df=2; p>0.05), over the years.

A comparison is made in Table 5 of current use by gender (intra-sample) for some commonly used substances over the three data waves. Cigarettes and alcohol use remained significantly a male affair over the years (Yates corrected x^2=16.9; df=1; p<0.001) (Yates corrected x^2=7.1; df=1; p<0.05) respectively. While a significant difference existed for the female gender in mild stimulant use in 1988, this had fizzled out in both 1993 and 1998. The use rates of antibiotics and hypnosedatives over the years were fairly balanced for both males and females.

Table 4. Current use by gender for the commonly used substances in the 3 data waves (inter-sample comparison)

	Male			Female		
Substance	1988 *n*=440	1993 *n*=619	1998 *n*=509	1988 *n*=196	1993 *n*=227	1998 *n*=359
Cigarettes	60 (14)c	54 (8.7)	32 (6.3)	5 (2.6)	4 (1.8)	2 (0.6)
Alcohol	204 (46)c	177 (29)	123 (24)	64 (33)c	55 (24)	59 (17)
Mild Stimulants	141 (32)a	212 (340	204 (40)	81 (41)	75 (33)	130 (37)
Antibiotics	158 (36)	294 (48)c	209 (41)	63 (32)	102 (45)a	137 (38)
Sedatives	78 (18)	130 (21)	128 (25)a	35 (18)	53 (23)	81 (22)

[a] $p<0.05$ [b] $p<0.01$ [c] $p<0.001$

Table 5. Current use by gender for the commonly used substances for the 3 data waves (intra-sample comparison)

	1988		1993		1998	
Substance	Male *n*=440	Female *n*=196	Male *n*=619	Female *n*=227	Male *n*=509	Female *n*=359
Cigarettes	60 (14)[c]	5 (2.6)	54 (8.7)[c]	4 (1.8)	32 (6.3)[c]	2 (0.6)
Alcohol	204 (46)[c]	64 (33)	177 (29)	54 (24)	123 (24)[b]	59 (17)
Mild Stimulants	141 (32)[a]	81 (41)	212 (34)	75 (33)	204 (40)	130 (37)
Antibiotics	158 (36)	63 (32)	294 (48)	102 (45)	209 (41)	137 (38)
Sedatives	78 (18)	35 (18)	130 (21)	53 (23)	128 (25)	81 (22)

[a] $p<0.05$ [b] $p<0.01$ [c] $p<0.001$

DISCUSSION

An examination of the trends in substance use over the three data waves shows some interesting findings. First, a significant reduction was noticed in the current and lifetime use of cigarettes and alcohol, which are the commonly available substances. Even the less commonly available substances such as hypnosedatives and cannabis recorded a reduction in their use over the last ten years. In addition, the reductions cut across both genders in fairly similar ways. This is a welcome development as it suggests that majority of the students in the university could be gradually avoiding the use of substances as a coping mechanism. Oftentimes, the university authorities had always suspected that the use of substances such as cannabis, heroin and cocaine, and to some extent alcohol had a lot to do with growing menace constituted by a small group of students who belong to secret cults.

Although the authors could not ascertain that the surveys have reflected the use situations among such student groups, it is nonetheless reassuring that the use of these substances had remained low or was reducing significantly among the study groups. It is also possible that economic, social and religious reasons were responsible for the general reduction in the pattern of substance use. Of late, a good percentage of the populace has experienced economic downtown such that what is provided for the youth is barely sufficient for their upkeep in school. This then pushes the consumption of drugs down the priority line. In addition, religious organizations have begun to spring up on campuses and the focus has been to convert others to the 'pious' way.

The slight rise in current use rate of mild stimulants in both males and females over the years is consistent with findings from previous studies Adelekan, Ndom & Obayan, 1996). This can be explained in terms of the desire of students to keep awake and study for long hours during examinations. The tendency for students to delay studying until a few weeks to examinations seems to have persisted over the years. The current use rates of hypnosedatives among males went up from 16% in 1988 to 22% in 1993, and 21% in 1998. This increase cannot be readily explained. Meanwhile, the significant reduction in antibiotic use could be due to the relatively increased restriction of sales of antibiotics by chemists and patent medicine stores. This seems to be a fallout of the national conference of the pharmaceutical society of Nigeria held in Ilorin in 1996. There was a consistent pattern in low rates in both genders for substances such as cannabis, heroin and cocaine over the period of study. These findings have various implications. First, the most commonly used substances have remained the targets and focus for drug education campaigns. Secondly, the youths have continued to be guided and educated concerning the potential ills that these substances constitute to them as individuals and the society at large. This process has focused on the need to adopt drug free attitude. The third thing is that youths are being encouraged to form drug-free clubs which through various organized activities, a process of inculcating in them the habit of abstinence from drugs. The trend in the frequency of use cigarettes and other commonly used substances (alcohol, mild stimulants, hypnosedatives and antibiotics) over the 10-year period indicates significant shift to a less frequent pattern of use. This finding would probably suggest that the campaigns and other activities against substance use has begun to yield positive results. The campaigns are frequently being organized by Ministry of Health at all levels of government. These campaigns include the restriction in force against

smoking in public spaces, which is contained in the Anti-Smoking Decree of 1990. In addition, there are jingles on radio and television that cigarette smoking is dangerous to health, and more recently, that 'smokers are liable to die young'. Other factors that could have contributed to a decline in frequency of use include the activities of Drug Free Clubs and non-drug free clubs such as 'Jaycees', 'Rotaract' groups. These organizations organize public lectures, symposia, seminars at which experts and relevant agencies on drug abuse are invited. The side effects of mild stimulants, alcohol and non-prescription use of hypnosedatives and antibiotics are also covered in such organized fora.

While these likely factors seem to have been effective thus far, further reduction in use of these drugs could be possible if information, education and education activities are further intensified, especially in terms of frequency..

This study has revealed significant reduction in the use of cigarettes over the years among males and for alcohol use in both genders over the years. There was on the other hand, a significant increase in current use of mild stimulants among males, while the reverse was the case for females. The significant increase in current antibiotics use recorded for both males and females in the 1988 and 1993 data showed a reverse trend in 1998 A trend was noticed towards an increase in the use of hypnosedatives among males over the years.

The findings from this study provide necessary guide for policy formulation and planning of intervention strategies based on emerging trends. They also provide cues for policy shifts, and for constant reviews of intervention strategies. The data generated from this study could assist in the development of a national database on substance abuse in Nigeria. Finally, it is imperative that more researches on substance use among youths are encouraged and funded in order to sustain trends monitoring in all tiers of education in the country.

REFERENCES

Adelekan, M. L., Abiodun, O.A., Obayan, A. O., Oni, G., & Ogunremi, O.O. (1992). Prevalence and pattern of substance use among undergraduates in a Nigerian University. *Drug and Alcohol Dependence, 29*, 255-261.

Adelekan, M.L., & Odejide A.O. (1989). The reliability and validity of the WHO drug-use questionnaire among Nigerian students. *Drug and Alcohol Dependence*, 24, 245-249.

Adelekan, M.L., Ndom, R.J.E., & Obayan A. I. (1996). Monitoring trends in substance use through a repeat cross-sectional survey in a Nigerian University. *Drug Education, Prevention and Policy*, 3, 239-247.

Dean, A.G., Dean, J.A., Burton, A.H., & Dicker, R.C. (1990). Epi Info Version 5.0: A Word processing Database and Statistical System for Epidemiology on Microcomputers. USD Incorporated, Stone Mountain, Georgia.

Ebie, J.C., & Pela, O.A. (1981). Some aspects of drug abuse among students in Benin City, Nigeria. *Drug and Alcohol Dependence, 8*, 265-231.

Ihezue, U.H. (1988). Drug abuse among medical students at a Nigerian university: Part 1. Prevalence and pattern of use. *Journal of National Medical Association, 80*(1), 81-85.

Nevadomsky, J.J. (1985). Drug use among Nigerian university students: prevalence of self-reported use and attitude to use. *Bulletin on Narcotics*, 37, 31- 42.

Ogunremi, O.O., & Okonofua, P.E. (1977). Abuse of Drugs among Nigerian Youths: a University experience. *African Journal of Psychiatry, 3*, 107-112.

Smart, R. G., Hughes, P.H., Johnston L.D., Anumonyé A., Khant U., MedinaMora M.A., Navaratnam, V., Poshyachinda, V., Varma, V.K., Wadud, K.A. (1980). A methodology for student drug use surveys. *WHO Offset Publications*. Geneva: WHO.

OPINION/COMMENTARY

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HARM REDUCTION IN NIGERIA: A NEW APPROACH TO DRUG CONTROL POLICY FOR A DEMOCRATIC GOVERNMENT

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Policy implementation is always a reflection of the principles and the ethics of the government which has formulated them. The return of democracy to Nigeria provides an excellent chance to promote public health, community safety and social development at all levels. In few other policy areas do all these concerns come as neatly together as in the arena of drug control. Hitherto, the Nigerian government has concentrated upon repressive measures, which while yielding the occasional spectacular haul, has been an overall failure in the promotion of public health, and has been accompanied by a terribly high price in terms of human rights abuses and violence. The supporters of this strategy often make out that this is the only way to combat the drug menace. In fact, there is a far more credible alternative developed mainly in Europe, but also in parts of the US, known as Harm Reduction. Some of he most effective schemes in Nigeria already apply these principles, whether or not consciously. What is required is a strategic rethink of drug control, to get away from the idea of using the prohibition of certain substances as means of punishing the poor, and to engage instead in activities which enable and empower them. This means in the first place education and rehabilitation. But in the mid-term social problems from

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substance abuse can only be contained by coming to grips with the root causes.

A medical analogy, once made about the development efforts about the colonial regime in Nigeria, can be suitably applied to Nigerian drug control policies: a patient in a coma interrupted by fits Nicholson, 1969). For the first half of the last century there was no policy as such, only the adoption of prohibitions which had been agreed to by Great Britain at international level - the opium bans agreed at The Hague in 1912, the convention on liquor traffic in Africa at Saint Germain-en-Laye in 1919, and the series of treaties signed under the auspices of the League of Nations at Geneva in the 1920s and 30s (Bruun, Pan, & Rexed, 1975). The resulting resolutions were subsequently introduced into the legislative framework governing the colony of Nigeria. Excluding the legislation relating to alcohol, most of the laws bore little relation to social and medical issues in Nigeria. Nor were they responsive to perceived local problems, or drafted in consultation with any of the parties concerned. In the colonial era, when authority was based upon the right of conquest, backed up by cultural arrogance and military force, this was not in itself considered amiss. Prohibitions on morphine, opium, heroin, cocaine, and later cannabis were added to an expanding text of legalese that stretched from primary health to industrial relations into every part of life. Two important elements in the legal framing which continue to be of relevance in contemporary Nigeria need to be considered as pace setting , however. First the fact that drug related legislation came from up on high, with little consideration of local concerns, no consultations, and typically in response to international pressures. Secondly, they represent part of the massive expansion of the state in the 20th century, which in the case of substance misuse prohibitions, disqualified its citizens from taking decisions about consumptions themselves. It is equally noteworthy that the prime agents behind the moves towards the prohibition of mind and mood altering substances have traditionally been found in those countries which normally pride themselves in their democratic traditions - the US and Britain.

When Nigerians first began to encounter substances such as cannabis (Indian hemp) in the late 1940s, heroin and cocaine in the 1970s, crack in the 1980s, they found that their legal status had been defined long before they could be analysed, debated and assessed within the local context by Nigerian experts. The exception to the rule - and one of the spasmodic fits of government led activity in the drug field - the 1965 Ibadan conference under the aegis of Professor Lambo opened the field for such an initiative. Though

it resulted in the promulgation of the Indian Hemp Decree (1966), and the Amphetamines and other Drugs (Control) Decree of 1968, funding problems stopped short independent research in the country. This left Nigeria's scientific establishment in the role of a vector for imported ideas on drug treatment. Over the next decades work on drug issues was confined to the psychiatric hospital at Aba, and the research interests of individual scientists, including A. Borrofka, T. Asuni and A.O. Odejide. These efforts have been paralleled by micro outbreaks of sensationalist reporting in the popular press, where the fabulous tales of rich drug barons and drug crazed killers have been used to sell papers. A better informed, but passionate debate surrounded a further 'fit' in 1983, when the military regime of Buhari introduced the death penalty for drug trafficking offences and executed three convicts held at Krikri prison. Following Buahri's overthrow two years later, death penalties were commuted to imprisonment by the subsequent Babangida administration, and the zeal of the prosecuting agencies tapered off, once again. In response to intense international pressure to act against the increasing number of Nigerian traffickers apprehended internationally the government formed the NDLEA in 1989 (Klein, 1994; Green, 1998). For the first four years this organisation was too caught up in its own organisational confusion to make a significant impact on the drugs scene, and by the mid 1990s, heroin and crack were openly available in many of the urban areas, and particularly Lagos.

With the appointment of General Bamaiyi as chairman of the NDLEA things changed dramatically. The organisation was completely overhauled, hundreds of agents sacked, dozens prosecuted for corruption, and a strict regime introduced. Agents were equipped with vehicles and weapons and increasingly likely to resort to violence, a fact reflected in the rising death toll in NDLEA related incidents. Though the agency maintained a Drug Demand Reduction Unit (DDRU) this consisted in reality of a small office, which churned out an occasional batch of posters and leaflets. The focus of the operation fell upon supply reduction with security clamp downs at the various international points of entry to the country, principally Murtala Mohamed and the Apapa port facilities, check points on the main national motor roads, and with para-military raids into cannabis growing rural areas.

Following the appointment of Bamaiyi arrests of drug suspects rose exponentially, while seizures went up sharply. More important still, was that the internal discipline cut back the diversion of seized exhibits held in NDLEA storage, and eliminated the organisation as a player in local retail markets. In many parts of the country drugs hitherto peddled openly by the

roadside went underground. Yet in spite of these rigorous efforts they did not disappear. Cocaine and heroin is still available to those who want it, while cannabis is becoming a regular part of Nigerian popular culture. Proponents of the supply reduction approach to drug control have argued that this is a resource factor, which could be remedied if the NDLEA was provided with proper equipment: X-ray machines, computer systems, mobile telephones, vehicles to patrol land borders, speed boats for the marine borders, helicopters, telephone tapping equipment, realistic salaries for staff, training courses.

The list of preconditions reveals how unfeasible this approach is. Only countries with massive technological resources and a crass disregard for civil liberties succeed in supply reduction - principally the Soviet Union, which denied its citizens the right to travel and closed its borders to international trade and traffic. As a result, the sudden spread of heroin consumption introduced by soldiers returning from Afghanistan (1979-1988) overwhelmed both medical services and the law enforcement establishment (Cooley, 1999; Wisely, 2000).

A better parallel can be established with the US, which has hitherto served as the model for Nigeria's drug control policy. The creation of a the NDLEA, was a clear departure of Nigeria's traditional adherence to the British model of policing (Ahire, 1991) when it carved out a special force in the image of the US Drug Enforcement Agency (DEA). Serving as the archetype of drug agencies, the history of the DEA is without parallel in modern administrative history in the developed world, as the extraordinary accumulation of powers and budgets, are mirrored by the spectacular indifference of the US drugs market to all such efforts. Since the war on drugs was re-launched by the Nixon administration, expenses have been rising to, reach a spectacular $18.9 bn in the financial year 2001. Though the bulk of this sum, almost two thirds of Nigeria's foreign debt, is devoted to law enforcement, the availability of cocaine, heroin and marihuana in the US have been increasing steadily, while street prices have been falling (Betram, Blachman, Sharpe, & Andreas, 1996). In the light of such colossal efforts at enforcement, the chances of the NDLEA, with a comparatively paltry budget of 630 million naira, seem doomed to fail. One way of intensifying the effectiveness of the campaign is of course to make up the shortfall of means by increasing the brutality of the campaign. In the US there is growing criticism against the current policy even from among prominent conservatives, because they threaten some of the very civil right the country is build upon (Miller, 1960). Nowhere is this more spectacularly

borne out than in the prison population: in the US there are close to 2 million people behind bars a large proportion of whom on account of drug offences (Bauer, 1990).

HARM REDUCTION: THE FORMULATION OF A NEW A NEW APPROACH

These considerations - economic cost, strategic failure and human rights abuses lie behind a shift in policy outlook that is rapidly gaining ground among practitioners, policy makers, and researchers. It has become known as Harm Reduction, and is based upon a fundamentally different conceptual outlook at the entire issue of drugs and drug use.(It could be said that Harm Reduction became official in 1990 with the holding of the First International Conference on the Reduction of Drug Related Harm was held in Liverpool) (Erickson, Riley, Cheung, & O'Hare, 1997). Initially driven by medical practitioners, the resurgence of harm reduction marks a closure of a circle. In the 19th century opium and opiate-based medicines were widely available in Europe and America. Only under pressure from professional associations of doctors and pharmacists were restrictions imposed by the government authority, culminating in the severe prohibitions agreed at international level (Berridge & Edwards, 1987). As legislation and the policing apparatus that was called into being on its back developed momentum, the medical profession lost the control over the dispensation of these substances which had been its initial aim. Though the assessment by a qualified medical council, is one of the planks of substance prohibition, the management of drug control is largely in the hands of the criminal justice system. And with the introduction of mandatory sentencing, this means in the hands of the enforcement agencies.

What the proponents of harm reduction have argued, however, is that the issue at stake is neither the organisational significance of the drug baron nor the magnitude of the seizure, but the medical condition of the drug user. One of the first principles of harm reduction is that drug problems are a medical issue and only secondly a criminal justice issue. Many doctors and specialised clinics therefore combine treatment for drug and alcohol problems, because from a medical perspective there is no categorical difference between these problems. Furthermore they both overlap, reinforcing he argument that legal definitions are social constructs which are of only minor relevance for the purpose of treatment and healing. Once the

medical commonalities have been accepted it allows researchers a more detached view at the issue of drugs themselves. Historical analysis reveals that opium and cocaine were widely available in the 19th century; morphine was available on prescription and heroin over the counter drugs in the early 20th century. Alcohol, on the other hand, was banned for over a decade in the US. The point is that the status of particular substances is defined by culture and politics.

THE ROLE OF DRUGS IN HUMAN SOCIETY

These reflections on a century of drug control, have encouraged many thinkers to redefine the relationship of humanity and so called drugs. A rafter of laboratory observations of wide range of monkeys and rodents, plus numerous reports of animals in the wild, allow us to assert that human beings are not the only mammals to resort to plant based substances for the simple purpose of getting out of their heads. While animals indulge only when the opportunity arises, humans place the production and consumption of such substances at the core of their culture. In southern Nigeria, for example, the giving and chewing of kolanuts extends hospitality, expresses status differential, is a mark of respect, and an offering to the deities. In southern Europe wine serves to lubricate the passage to heaven when poured at the altar, and to cement social solidarity when drunk in a toast at table. In neither case would the substance be classified as a drug, though its powers are acknowledged and celebrated. As these two examples show, the communal consumption of privileged substances is not merely recreational or mundane, but falls instead into the realm of the sacred. And as the centrepiece of religion is invariably the ritual, and with ritual being always about entering a different state, the consumption of mind and mood altering substances is not only about culture but indeed about religion. Dancing, singing, chanting, meditation, pyrotechnics, abstinence from food, sleep or sex can all produce these forms of ecstasy (Eliade, 1964), which according to the Durkheimian school forms the basis of 'society' (Durkheim, 1915). In the light of psychoactive substances being the most potent vehicle for reaching that altered state some writers (McKenna, 1992) have even equated the discovery and systematic use of drug with the beginning of religion. The very fact that such a proposition will be regarded as an affront by members of some modern religions is indicative of the highly charged relationship between the religious sensibility and drugs. A casual glance at Islam's

relationship with alcohol, and the attitude of Christian countries towards cannabis suggests that the rivalry between religions is carried out with particular ferocity in their approaches to the other's respective drug of choice. (It maybe objected that many Pentecostal churches also ban drinking and smoking, and that abstinence from these two substances is not peculiar to Islam; I would argue that the ban on these substances is partly the outcome of secular campaigns and the correlation of religious organisation with popular agitation. And partly, the underlying principle of such a ban is to set up a contrast for the new religion; in this sense the Pentecostal churches are not too different from early Islam). One priests' manna is another mullahs' poison.

Yet, these debates were fore a long time restricted to academic circles, particularly among anthropologists, whose analytical point of departure, the comparative method, predisposed them towards a liberal approach. Anthropologists' tended to relativise drug taking behaviour as peculiar to society and part of the general cultural pattern (see for instance the long discussion about *kava* and betel nut cultures in the analysis of Polynesian cultures by Rivers, 1914). Not only was it part of the mission of the discipline to understand the 'other' and to make what at first seems strange and peculiar reasonable, but the use of drugs that in recent years had been declared illegal, was at the centre of many rituals. The use of *ibogaine* in the Mwiti ceremony of the Fang in Congo, is one such example (Fernandez (1982). But the impact of such debates was limited to the narrow circles of academics and social researcher. Anthropologists were influential in changing Western perceptions of the other, particularly in the debates surrounding decolonisation in the 1950s and 60s, when notions of the primitive, of the irrationality of indigenous religion and witchcraft ideas, were successfully challenged and deconstructed. But they had little bearing on the outcome of policy debates in the West itself, however compelling, the *aperçus* of their arguments.

HARM REDUCTION IN PRACTICE

One of the key causes behind the shift in attitudes, came in the 1980s with the rapid spread of HIV among drug injecting users. Though there were off-the-record comments by some extremists among the drug warriors that this was a form of divine retribution, it became quickly apparent that drug injectors formed a direct conduit to the whole population. Suddenly the

condition of the drug injecting community was no longer a marginal concern of an ostracised minority, drug addicts and gay men, but a major public health issue. Fears for the wellbeing of the general population took priority over any reservations concerning the legal status of the substance. In the United Kingdom, the Advisory Council on the Misuse of Drug was instrumental in bringing about a major change in policy, with a series of innovative public health measures introduced between 1988-1993 (Stimson, 1995; Berridge, 1999). In the UK, as well as other European countries, the medical establishment had regained the initiative from law enforcement for the first time since World War II. This had a direct impact on the professions concerned, as new polices were implemented on the ground. To provide the readers with a brief overview some of the main areas of intervention will be summarised below.

Outreach Work

These measures included the dramatic expansion of out-reach work, with the opening of both statutory and voluntary sector drug agencies working in the community. The intention behind these was to access the hidden population of injecting users, a policy which since the spread of crack has been extended to other drug users. Participating agencies were set up as 'low threshold', that is, easy to access, with nominal bureaucratic requirements. It was recognised that many drug users were both highly reluctant to come into contact with any kind of institution, and extremely chaotic in their lifestyle. Hence, even primary health care measures had to be low key, emphatically independent from any law enforcement agency and had to guarantee confidentiality. Clinics were opened in neighbourhoods, as it soon transpired that problem users, especially young ones, were unlikely to travel.

Another change affected the classification of the people using the new facilities, who were now referred to as 'clients'. In part this was a sign of the times, illustrating the evolution of the British National Health Service which had once been conceived of as a solid all-encompassing part of the welfare state, that would look after the citizens from the 'cradle to the grave'. Dismantled by conservative regimes in the 1980s, a much leaner NHS was now providing a service to its clients.

Prescription Regimes and the Stable Drug User

Referring to drug users as clients marked an important shift in attitude towards a marginal group. It emphasised their humanity and the fact that in a comprehensive health service, drug users also have rights. But it also opened the door for another policy change, by acknowledging the concept of the stable drug user. In practice this led to the reopening of the debate on heroin prescriptions, and a massive expansion of the methadone programme. In both cases a registered client - it used to be a registered addict - will go to a drug dependence unit, a drug agency or his doctor, and obtain a dose of the drug. By providing the substance through an official channel addicts do not need to resort to crime in order to feed their habit, and can be assured of high quality substance. It needs to be added at this stage that in both the US and Europe, a large proportion of deaths attributed to drug abuse are caused by adulterating agents, not the drug in question. Providing 'clients' with an assured supply of quality 'gear' has therefore positive consequences for both the safety of the community and public health.

In the UK up until the 1970s, heroin was prescribed with relative ease. This has since been replaced with methadone, though in some countries, including Switzerland and Germany, heroin prescription as part of a range of community strategies have recently been introduced (ECDP Co-ordination Bureau). The attractions of methadone are dubious. Though an opiate based substance, it does not deliver the euphoria which the user finds in heroin, morphine and opium. As a result it has little market value, and diversion of administered substance is small. Most importantly it allows opiate dependent people to live stable lives, hold families together, and to stay in employment. Increasingly, drug dependent people have begun to form organisations with such catchy names as Addaction or Mainline, and are vociferous in demanding a health service geared towards their requirements as tax payers and citizens.

Even more controversial than the idea of the stable user is that of the occasional user of class A drugs. Here sections of the medical establishment join the law enforcement community in outright denial of the claim. One team of researchers (Reinarman, Murphy, & Waldorf, 1994) for example, reported that "long-term, controlled use we had among most of the follow-up group was fairly common in the larger sample of heavy users." This was met with heavy scepticism among established researchers, and ran counter to an established orthodoxy. But as the authors point out, the majority of studies on problem drug users are carried out on prison and treatment population,

after the negative outcomes had taken effect. A closer look suggests "that addictiveness is property of neither pharmacology nor personality" but related to the social organisations, the resources and the cultural practices of their world.

Syringe Exchanges

One of the most controversial scheme to emerge out of the new public health oriented approach to dealing with drug problems were the syringe, or needle exchanges. In principle these constituted outlets of needles for drug injectors. The process varies between different schemes, in some cases drug users could only obtain fresh needles in return for old ones, but it has been found that most drug users are so chaotic that any conditionality is counterproductive. In short, needles are available in return for some basic pieces of information to enable the department of health to build up an idea of the constituency and track developments. Needle exchange was provided in order to discourage needle sharing, one of the fastest conduits for the spreading of HIV infections. It has been attacked for coming close to subscribing to drug injection, and to furthermore facilitate this praxis with public funds. Ancillary problems revolve around the practise of many 'clients' to inject in the vicinity of the exchanges, resulting in public spaces becoming littered with the potentially lethal debris of individual addiction.

Most practitioners contend, however, that as a result of needle exchanges the rate of infection has fallen substantially - as shown by comparative HIV prevalence rates in London (low) and New York (high), where no such schemes have been put into place. Moreover, they have established a high level of awareness among injectors to beware of certain practices, and result in greater health levels. Currently concern over HIV has been replaced by infection with Hepatitis B and C, signalling an extension of health services to this particular client group.

Drug Education

Some of the biggest transformations triggered by the adoption of the Harm Reduction paradigm were in the field of education. Traditionally drug education had consisted either of simplistic messages, such as the notorious 'just say no' campaign, or relied on shock. In Nigeria the latter method still looms large, as teachers and educational leaflets go into loving detail to explain the health hazards associated with substance use. These approaches

may have proven effective with middle aged learners, but are wasted upon young people and children, to whom the possibility of developing cancer in their thirties does not appear like an acute threat. Many schemes, most egregiously perhaps the US scheme Drug Abuse Resistance Education (DARE), rely overly on didactic, teacher centred methods, which once again, make little use of the knowledge base of the students. Coupled with the tendency to exaggerate the impact of drug taking - one student on a Nigerian university campus reported being taught that cannabis use would accelerate the growth of pubic hair - this easily leads to ridicule. One of the problems with reliance on the 'shock - horror' approach to drug education came to light in a recent study on heroin outbreaks in the UK. "If we imply that cannabis and heroin are both equally dangerous yet focus on cannabis we should not be surprised if young people underestimate the potency of heroin use since most hold a benign view towards cannabis" (Parker, Aldridge,& Measham, 1998). Educational institutions seeking ways of coming to terms with increasing drug use among its students ignore the existing body of knowledge at their peril.

The introduction of new guidelines by Harm Reduction personnel combined both the new pragmatism in dealing with drugs, with a new attitude to teaching and teacher-student relationships. One of the key texts used in the UK therefore stipulates that teachers assess the knowledge of students, their skill and experience, and take into account their current feelings about drugs (Joyce & King, 1999). From this understanding a relationship of mutual respect between teacher and students has to develop if constructive learning is to take place. This also means that ground rules are established, regarding respect for different opinions, a policy on interruptions, aggression and ridicule. As drug education is part of the 'life skills' training it should be enjoyable and transparent, meaning that students are aware of the aims of the intended learning outcomes of the lessons. Most importantly, didactic teaching has to be matched with interactive methods, and in as many cases as possible should involve outsiders. One possibility, with all-round benefits, is to invite former drug users to give presentations. They usually enjoy authenticity and credibility which presentations by the more familiar faces of regular teachers may lack. At all times, however, information provided on drugs must be accurate and up to date.

Characterised by pragmatism, the wider intention is to minimize the harm of a drug culture which is taken for granted. The information is provided to raise the confidence of young people in both avoiding drugs if they so wish, and of minimizing the potential danger where they choose to do

so. This marks a radical point of departure from traditional programmers which were ideologically rigid in not countenance the possibility of drug use.

Vocational Rehabilitation

One of the perennial problems plaguing all countries with endemic drug user populations is sustainable rehabilitation - how to get drug users off their substance and back into a stable life. Until recently the position of most drug services was that with the completion of a detoxification programme their responsibilities were over. The client was left to his/her own devices to continue as best as possible. However, the high rates of relapse after very short periods of time and the high cost of detoxification have since encouraged a rethink on rehabilitation. It has been realised increasingly that drug users need to have a life if they are to be fully reintegrated into society, which presupposes a range of skills educational attainments and work. There have been a number of schemes in the US (Platt, 1995) and in Europe (Uchtenhagen, Schaf, & Berger, 2000) working with mixed results. The high failure rate of reintegrating drug users adds some grist to the mill of those who argue in favour of tough supply repression. It has been pointed out, however, that one of the principal reasons for the high rate of relapse is that most patients released from detox have very little to return to, that problem drug users are educational underachievers with low skill levels, and poor career prospects. These were often the reasons why drug use became problematic in the first place.

Rehabilitation must therefore focus upon providing sustainable career developments for ex-users. Though low threshold jobs, including farm work - or in Lagos state, gardening and beautification - are good for bringing ex-users back into the fold, they quickly lead to a frustrated sense of underachievement and renewed vulnerability. A novel way of approaching the issues therefore has been developed in Ireland, where a number of agencies are presenting the problem ex-users face in similar terms to those experienced by the unemployed. In a fast changing working environment all people need to continuously update their skills and retrain, which implies a long-term engagement with the educational institutions. Taking this approach to the training of ex drug users also helps in removing the stigma of addiction.

Arrest Referral

The punitive regime governing drug misuse is primarily supported by a public concerned over the associated criminality, primarily acquisitive crime committed by drug users in order to feed their habit. Though there are no definite figures, researchers estimate that between 20-30% of property crime in the UK is drug related. Arrest referrals, therefore, seek to cut the link between drugs and crime by providing drug using criminals with treatment opportunities. This is not an alternative to the judicial process, but means that the period in incarceration can be used constructively by the prisoner to rid himself off his habit and escape the cycle of drug use and crime.

HARM REDUCTION IN NIGERIA

Practitioners working in the field may point out that many of the measures discussed above have already been taken and applied in Nigeria. The previous military governor of Lagos State. Colonel Marwa, for example introduced an arrest referral scheme. Any drug user picked up during the periodic police sweeps was transferred to a social worker who introduced him to a rehabilitation scheme, the well known Dolphin project (Ekpo et al., 1995). Also in Lagos State, juvenile offenders are taken to a residential centre at Isheri where vocational training in various crafts has been offered. As far as out reach work goes, the Yaba Psychiatric Hospital, pioneered working in the community during the 1990s. And there are several initiatives aimed at providing a learner centred, experiential approach to education in housing estates in Surulere. There are theatre groups experimenting with different genres, and musicians incorporating a health conscious message. It is ironic, perhaps, that one of the most vociferous campaigners against heroin and cocaine was the late Fela Kuti, himself a devoted user of *Cannabis sativa*.

The fact is that Harm Reduction is already practised in a myriad of different initiatives in Nigeria. What it lacks, at present, is strategic coherence and policy recognition. The continued combination of enforcement and prevention/rehabilitation function under one roof, the continued use of the rhetoric of the war on drugs, the concentration on supply side issues, and the continued obsession with drug barons, all point away from the underlying issues. And these are that in most cases the problems emanating from drugs and drug use are primarily social problems, the solution to which

lies not in arrests and seizures, but in social, economic and human development.

This is one of the key realisations for a drug strategy which is serious about tackling addiction and crime in the long term. Policy makers must not be allowed to reassign responsibility for the failures of development on a batch of vegetable and synthetic substances. In the US with a proud history of individual self-reliance, there is a lot of room for putting the responsibility for his/her health problems on the drug user him/herself. In Nigeria, however, the state has historically acknowledged a far greater responsibility for the well being of its citizens. Right from the outset at independence the state declared itself as the main motor for development, in charge of modernisation, and in charge of all the central functions required for the running of a modern society. Though it may not have succeeded in achieving all these aims, the state in Nigeria, as in most African countries, has not conceded any of these claims. It continues to so from the realisation that at present civil society and the informal sector remain simply too fragile for moving the entire development project forward. Furthermore, concentrating powers in the organs of the state, however, flawed these may, is also a form of defending national sovereignty. For once these points are put at disposal external bodies and powers may well appropriate them, ushering in a new era of colonialism. Nevertheless, it is increasingly realised that the Nigerian state needs to work in partnership with the community and the civil society organisations that have in many cases provided some of the most effective services in recent years. In the present atmosphere of goodwill and hope, drug control could be transformed into an veritable engine of development at the grassroots.

A MODEST PROPOSAL

This is the stage where radical analysis leaves off, having overthrown conventional wisdom and established practice, it normally settles into smug pose of reflective superiority which refuses to be muddied by engagement with practicalities. There are, however, moves afoot to break this tradition of intellectual helplessness, in the guise of an intervention programme currently being considered by the Nigerian authorities. The programme is designed as a correction to the bulk of development interventions, which are economic in outlook, and aim at work and working relationships. In most cases the idea is to provide additional income opportunities, to put into place infra-structural

facilities or to raise productivity. Rarely do planners acknowledge the need to play, the importance of leisure activities, the right to a joyful life, as if this was a frivolous distraction form the serious project of development. Yet the importance of play links up with another major development concern: health. For nothing serves as effective a safeguard for personal health and well-being as physical fitness.

These considerations link up two of the main concerns of the anti-drugs campaign, dealing respectively with the medical implications of drug misuse, and seeking to curtail the criminal activities of peddling and couriering. There are few ways better of providing young people with a chance to exercise and thus improve their personal health, and to gain in the process some of the experience, discipline and life skills which contribute positively to their employability, than organised sports, especially of games. The new approach to drug control should therefore centre on a programme of public sport events organised, for the pilot, in one of the most deprived neighbourhoods in three Nigerian cities. These would take place on school sports grounds, rehabilitated with external assistance, and thus providing a dual bonus for community and school alike. As football enjoys such as huge following in the country it seems like the logical game to organise a number of neighbourhoods into teams along age ranges. The participants would practice during the week, with matches taking place at weekends, under supervision of project staff. Referees and coaches would be recruited for the purpose, perhaps young people still in training, who would welcome the experience. Central to the programme, however, would be off the pitch sessions of instruction around the subject of drugs provided partly by specialists and partly by teachers and members of the local community. These local educators would themselves be trained on drug issues at the programme's teaching and research centre. Participation in the sessions would be a condition for participation in the games, and registered by each teams supervising officer. To maximise the impact, and minimize the risk of alienation, such sessions would be short and snappy, but frequent, in contrast to the mammoth assembly sessions which have characterised so much of Nigeria's drug education.

Instead of inducing the students to repeat meaningless slogans, they would invite the young people to participate in the discussion and build on their own experience. They would combine information on the effects and dangers of particular drugs with general basic health information. They would also cover the legal status of such substances, and familiarise young people with the criminal justice system, the law, rights, and legal process. It

is desirable that short presentations are made by different practitioners, including NDLEA officers and former drug users.

The project outlined here provides for multiple benefits in terms of public health, social development and crime prevention. These will, in the mid term, far outweigh the moderate investments in salaries, repairs, equipment and prizes. They all rest on the assumption that the necessary expertise on drug issues, education, out reach work etc. can be found in Nigeria. And at this point support is required to nurture and maintain a centre of excellence where research, training, publications and dissemination all come together. As with most serious development measures the expansion of such an institute would provide multiple benefits, in raising research capacity, teaching standards, and related human capital indices.

The drug issue, then, must be seen as an opportunity for rethinking and reformulating a range of approaches to development issues in general. All professionals concerned, whether the drug warriors or the legalises mentioned at the opening of this article, are concerned over the issues of social dysfunction, the deterioration of public health, public disorder and crime. Drugs policy subsumes an entire range of problems under a single heading of illicit substances. What really needs to be tackled, however, are ignorance, poverty, disease and injustice. There are far better ways forward than prison cells and burning fields. But first it must be accepted that drugs are a part of life which will not go away because the government issues a decree. The real concern then, should be how to contain the fallout from substance use and misuse, without falling into the trap of killing of the patient with the wrong, and overly strong medicine.

REFERENCES

Ahire, P.T. (1991). *Imperial Policing: the emergence and role of the police in colonial Nigeria, 1860-1960*. Milton Keynes.

Banton, R. (1989). *The Abandoned Narcotic. Kava and cultural instability in Melanesia*. Cambridge: CUP.

Bauer, M. (1990). *Young Black men and the criminal justice system*.New York: The Lindesmith Centre.

Berridge, V. (1999). Histories of Harm Reduction: Illicit Drugs, Tobacco and Nicotine. *Substance Use and Misue*: Special Issue on harm Reduction, *34(1)*, 35-47.

Berridge, V., & Edwards, G. (1987). *Opium and the People. Opiate Use in Nineteenth-century England.* New Haven, CT: Yale University Press.

Bertram, E.,M. Blachman, K. Sharpe and P.Andreas. 1996 *Drug War Politics: the Price of Denial*. Berkely: University of California Press.

Bruun, K., Pan, L., & Rexed, I. (1975). *The Gentleman's Club. International Control of Drugs and Alcohol.* Chicago: The University of Chicago Press.

Cooley, J. (1999). *Unholy Wars*. London: Pluto Press. Also reflected in the sharp rise of HIV prevalence.

Durkheim, E. (1915). *The elementary forms of the religious life (translated from the French by Joseph ward Swain* (fourth impression) 1957). London: Allen & Ubwin.

Ekpo, M., Adelekean, M.L., Inem, A.V., Agomoh, A., Agboh, S., & Doherty, A. (1995). Lagos Area boys and Girls' in Rehabilitation: their substance use and psychological profiles. *East African Medical Journal*, 72 (5).

Eliade, M. (1964). *Shamanism: archaic techniques of ecstasy*. New York: Pantheon.

Erikson, P., Riley, D., Cheung, Y., & O'Hare, P. (Eds.) (1997). *Harm Reduction: A New Direction for Drug Policies and Programs*. Toronto: Toronto University Press.

ECDP Co-ordination Bureau. *European Cities on Drug Policy City Reader*. Frankfurt: Author.

Fernandez, J. (1982). *Bwiti: An Ethnography of the Religious Imagination in Africa*. Princeton, NJ: Princeton University Press

Green, P. (1998). *Drugs, Trafficking and Criminal Policy: The Scapegoat Strategy*. Winchester, UK: Waterside Press.

Joyce, R., & King, A.(1999). *The Right Approach. Quality Standards in Drug Education*. London: SCODA.

Klein, A. (1994). Trapped in the traffick: The growing problems of drug consumption in Lagos. *Journal of Modern African Studies*, 32 (4).

McKenna, T. (1992). Food of the gods: A *radical history of plants, drugs and human evolution*. New York: Bantam.

Miller, R.L. (1996). *Drug Warriors and their Prey. From Police Power to Police State.* Westport, Connecticut: Praeger.

Nicholson, I.F. (1969). *The Administration of Nigeria 1900-1960. Men, Methods and Myths*. Oxford: OUP.

Parker, H., Aldridge, J., & Measham, F. (1998). *Illegal leisure: the normalisation of adolescent recreational drug use*. London: Routledge.

Platt, L.L. (1995). Substance misuse in special populations. *Curr Opin Psychiatry, 8(3)*, 189-194.

Reinarman, C., Murphy, S. & Waldorf, D. (1994). *Addiction Research, 2(1)*, 21-36.

Rivers, W.H.R. (1914). *The history of Melanesian Society*. Cambridge: CUP.

Stimson, G.V. (1995). Aids and injecting drug use in the United Kingdom, 1987-1993: the policy response and the prevention of the epidemic. *Social Science & Medicine, 41 (5)*, 699-712.

Uchtenhagen, A., Schaf, S. & Berger, C. (2000). *Vocational Rehabilitation of Drug Users and Drug Dependent persons : The State of the Art and on the Results of a Survey in all member States.".* Strasbourg, France: Pompidou Group.

Wisely, C. (2000). The price of freedom. HIV in the Russian Federation. *Druglink, 15 (2)*.

BOOK REVIEWS

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Alcohol and Emerging Markets: Patterns, Problems and Responses. Marcus Grant, editor. Brunner/Mazel: Philadelphia; 1998; 364 pages; ISBN 0-87630-978-3.

Alcohol and Pleasure: A Health Perspective. Stanton Peele and Marcus Grant, editors. Bunner/Mazel: Philadelphia; 1999; 419 pages; ISBN 1-58391-015-8.

Reviewer: **David Jernigan**, The Marin Institute[2]

These two publications from the alcohol industry-funded International Center on Alcohol Policies (ICAP) have a clear common purpose. As ICAP President Marcus Grant writes in his forward to the second, it is to "turn a new page in the long story of alcohol and society" (1999). Gone is the "weary preoccupation with per capita consumption figures" (1998), to be replaced by reliance solely on survey and other data describing patterns of drinking. Instead of trying to reduce drinking across entire populations, according to these books, public health should focus on the one hand on reducing harmful consumption or consumption in risky situations, and on the other on "how negative images of alcohol may cause the problems said to be the reasons for fearing this substance" (1999).

This point of view employs the rhetorical device of exaggerating the position of the opposition in order to debunk it. Stanton Peele accuses the public health field in his chapter in *Alcohol and Pleasure* as seeing "all

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alcohol consumption as inherently problematic, in that greater consumption leads to greater problems" (1999). Yet numerous articles and summaries of a public health approach to alcohol-related problems from the mid-1980s, when the approach was first gaining adherence in the US, echo Mosher and Jernigan in setting as one of the goals of such an approach the promotion of "an environment *conducive to low-risk drinking* and abstention" (Mosher and Jernigan, 1988 [emphasis added]; see also, e.g., Council on Alcohol Policy, 1987; Mosher, 1987).

As for the "weary preoccupation with per capita consumption," while a review by 17 distinguished alcohol researchers found strong evidence of the relationship between population-wide consumption levels and the extent of alcohol-related problems (Edwards et al. 1994), it is commonplace in alcohol research (as in other fields) to rely on the most specific data available to assess a problem. In this context, per capita consumption is crude and abstract, but often the most reliable statistical data available on trends in consumption (particularly in developing countries). Ideally, of course it is combined with drinking surveys as well as ethnographic and other qualitative data to arrive at an accurate understanding of how drinking cultures may lead to drinking problems. Individual chapters in each of these volumes underscore this point. For instance, Stockwell and Single write in *Alcohol and Pleasure*: "Prevention policies for alcohol-related problems should focus on high-risk drinking patterns – and drinking to intoxication in particular – as well as on overall levels of drinking." (1999)

As for Peele's argument that negative views of alcohol are the source of alcohol problems, chapters within the *Alcohol and Pleasure* collection point to the reverse, namely the role of positive views of alcohol in contributing to alcohol related problems. Odejide and Odejide describe the marketing of alcohol as a "blood tonic" in Nigeria (1999), while Asara writes that in Ghana, there is a "dangerous trend" of increasing alcohol advertisements that "do not encourage moderate drinking. Their main motive is to get more people to drink" (1999). A careful reading of the text thus leads to the conclusion that balanced images of alcohol are needed, an often difficult task when the resources of alcohol advertisers routinely dwarf those of public health.

A larger problem in both collections lies in the fact that conclusions of the editors are often not mirrored in the individual chapters. Of particular relevance to developing countries, in the volume *Alcohol and Pleasure*, MacDonald and Molamu write of drinking among the Basarwa of Botswana: "In this context, alcohol does not convey pleasure as it is typically

understood but is predominantly used as a means to relieve pain and despair" (1999). Many of the chapters in *Alcohol and Emerging Markets*, summarizing rising alcohol consumption and growing alcohol problems in a wide range of "emerging" nations, would also have been at odds with the overall tenor of *Alcohol and Pleasure*.

Although the latter book includes careful and creditable reviews of the scientific literature showing potential health benefits of drinking at low levels for some populations, these chapters fail to note how culturally-bound such findings are. Indeed, in a volume arguing for the primacy of patterns of drinking in determining problem rates, omission of the importance of culture, both in determining such patterns and thus in the transferability of findings of benefits (as well as costs) from drinking across cultures, is ironic.

The backbone of the argument of *Alcohol and Pleasure* is that moderate us of alcohol is good for mental and physical health. Regarding mental health, the individual authors again fail to agree. Brodsky and Peele write that "there is substantial evidence that moderate drinking is an indicator and perhaps a cause of good mental health," (1999), while Lowe reviews research in the UK and concludes "that alcohol is an inherently positive (or pleasurable) reinforcer is not clear" (1999). Regarding physical health, the main evidence comes from large epidemiological studies in developed countries showing that alcohol may be preventive of myocardial infarction. Yet an analysis of the figures used for the landmark *Global Burden of Disease* study (Murray & Lopez 1996) shows that this benefit only approaches offsetting alcohol's costs in the rich countries. In developing regions, Murray and Lopez estimate that lives saved by alcohol use amount to only 22 percent of the deaths caused by alcohol (as compared to 68 percent in developed regions).

Of the two collections, *Alcohol and Pleasure* is the stronger book scientifically. *Alcohol and Emerging Markets* includes chapters by authors whose primary affiliations with the alcohol industry seem not to have fitted them for the production of scholarly work. Aside from interesting and useful chapters on China and Russia, *Alcohol and Emerging Markets* contains little that has not been written about before (and often better) in other works. Several of its chapters would not have passed peer review in a scholarly journal.

In contrast, many of the contributions to *Alcohol and Pleasure* are of fairly high quality. These otherwise creditable scientific works are marred principally by their inclusion in a book whose rhetorical purpose so clearly reflects the interests of its funders. The editors claim that the book is

arguing "for a radical rethinking of alcohol policy" (1999). Grant writes in his conclusion that "public policy needs to accept and accentuate...that drinking is in the main accepted, benign, and enjoyable" (1999).

Greenfield and colleagues, however, have found that 75 percent of drinking occasions in the US involve consumption of quantities at levels higher than those that epidemiology as defined as of low risk (Rogers & Greenfield 1997), while heaviest drinking five percent of the population accounts for approximately 40 percent of the alcohol consumed (Greenfield & Rogers 1999) . This suggests that among certain populations (often the alcohol industry's best customers), the predominant use of alcohol is at risky levels. This is the heart of the conflict between the alcohol industry and public health: a truly healthful approach to alcohol would, at least in the US, likely entail dramatic reduction in the industry's sales. Many US researchers have elected not to participate in industry-funded publications such as these. While they may contain interesting information and exchange, they also advance the chimera of meaningful collaboration with an industry whose profitability is at odds with the goals of public health.

REFERENCES

Council on Alcohol Policy. *Alcohol Policy Bill of Rights*. Burlington VT: National Association for Public Health Policy, 1987.

Edwards G. et al. (1994). *Alcohol Policy and the Public Good*. Oxford: Oxford University Press.

Greenfield, T.K, Rogers, J.D. (1999). Who drinks most of the alcohol in the U.S.? The policy implications. *Journal of Studies on Alcohol* 60(1), 78-89.

Mosher, J.F. (1987). Alcohol policy, a call for action. *The Bottom Line on Alcoholism in Society* 7(4):10-14

Mosher, J.F., Jernigan, D. (1988). Public action and awareness to reduce alcohol-related problems. *Journal of Public Health Policy* 9(1),17-41.

Murray, C.J.L., Lopez, A.D. (1996). *The Global Burden of Disease*. London: Oxford University Press.

Rogers, J.D., Greenfield, T.K. (1997). Beer drinking accounts for most of the hazardous alcohol consumption reported in the U.S. American Public Health Association, Indianapolis, IN, November 9-13.

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Alcohol Policy and Public Health in South Africa. Charles D. H. Parry and Anna L. Bennetts. Oxford University Press, 1998.

Reviewer: **Etannibi. E.O. Alemika**, Universitry of Jos [3]

Over the past two decades, several African countries have identified alcohol abuse and drug trafficking as emerging serious social economic and political problems. South Africa and Nigeria, in particular, have experienced increasing participation of their citizens in international narcotic trade. Moreover, increasing cases of misuse of and dependency on drugs and locally brewed substances along with the attendant socioeconomic and health consequences have been reported in both countries. While drug control policies have been introduced, their effectiveness have not been adequately demonstrated. Their ineffectiveness may be attributed to the poor conception of the drug problem, inadequate research and inappropriate legal, institutional and policy frameworks for the prevention and management of drug supply and demand problems (Alemika, 1998; Obot, 1992).

The book *Alcohol Policy and Public Health in South Africa*_by Charles Parry and Anna Bennetts, is a valuable contribution to the analysis of alcohol-related problems in South Africa. The book contains wide-ranging policy recommendations for the prevention and management of alcohol misuse in that country. It contains a lot that can serve as lessons for developing countries in the prevention and control of drug and substance abuse. The aim of the authors is largely to stimulate and inform the policy process around alcohol and public health (p.12) by synthesizing "research findings on the nature and extent of alcohol use and misuse" (p 20). The book contains nine chapters.

Chapter1 of the book discusses the social, political, historical and economic contexts of alcohol production, distribution, consumption and misuse in South Africa. The authors contend that " Alcohol has featured prominently" in South Africa's " social and political history" (p.3). They

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traced the cultural and religious ceremonial uses of alcohol which made the substance widely available, tolerated and abused. Parry and Bennetts, however, noted that, traditional African beer was a healthier product than those produced after the arrival of white settlers in the territory. In traditional African society, the authors observe drinking norms also served as control over abuse. However, under colonial and apartheid rule in South Africa, such norms lost their efficacy.

The authors highlighted the link of colonialism and apartheid to the problem of alcoholism in South Africa. They pointed out that "Since the advent of colonialism in South Africa, protracted conflict between white and black people... over the production, distribution and use of alcohol has occurred. (p.4). According to them, colonial and apartheid governments at different period " used alcohol as a means of social and economic control over non-white population groups" (p.4). The control was effected through racial segregation of production, sales and consumption of alcohol Parry and Bennetts underscore the use of alcohol in South Africa as a tool of oppression and exploitation of non-white population groups:

> to keep the South African colonialist and later apartheid economies running at a profit, alcohol became a powerful means of controlling the black labor force which provided the cheap labor required to mass produce the agricultural and mineral products fueling these economies. For example, alcohol was utilized as partial payment for labor and built dependency in black, colored, and Indian laborers. Dependency prevented laborers from leaving their employment even though conditions of employment were grossly exploitative (p.5).

This is a lucid application of political economy analytic framework to the analysis of alcohol. The framework has greater utility for the understanding of alcohol and drug production and problems and for formulating more comprehensive policy than narrow "biologistic' and 'pyschologistic' explanations of alcohol and drug dependence.

The authors also pointed out the contradictory role and meaning of alcohol trade in South Africa. They argue that for the white colonialists and apartheid rulers, alcohol was an instrument of exploitation and oppression. But for the '[B]lack, Indian, and colored South Africans, "brewing and using alcohol became a potent form of deviance against white, colonial and apartheid rule" (p.5). Following the important and lucid discussion of the historical, political, economic and socio-cultural dynamics and consequences

of alcohol in South Africa, the authors discussed 'politics and alcohol policy' and observe that alcohol abuse is rampant in South Africa. They also note that until recently alcohol policy was the preserve of the State, without the involvement of civil society and organizations. However, since the end of apartheid rule, Parry and Bennetts, reported increasing involvement of State and non-state institutions in alcohol policy formulation and implementation.

Chapter 2 "outlines the nature and extent of alcohol use in South Africa with particular attention to problem drinking. Data from a wide variety of sources are presented to indicate drinking patterns" (p.23). Based on the extensive review of literature and research findings, the authors show that problem or risky drinking is rampant among the various groups in South Africa.

In chapter 3, the authors examined the consequences of alcohol misuse. While not denying limited health benefits from alcohol consumption, they nonetheless argued that such benefits have only "been established for limited populations' (p.57). They warned that "it should be noted that any health benefits associated with alcohol are in general reproducible by other means (e.g. diet, exercise, quitting smoking) without increasing the risks associated with alcohol use" (p.57). Parry and Bennetts identified the economic benefits of alcohol trade to include "informal and formal employment," as well as increased government revenue from sales tax and excise duties, and personal income of alcohol industry employees. These benefits are insignificant compared to the numerous negative health, social, economic, and personal consequences of alcohol. They reported:

- "150% increase in the per capita consumption of alcohol beverage in South Africa" between 1978 and 1994. (P.59).
- That 25% hospital admissions are directly and indirectly related to alcohol use in South Africa" (p.59).
- That alcohol use is responsible for about one-half of fatal and non-fatal trauma (p.59-61).
- High problem drinking in South Africa estimated at "36% of Xhosa speaking and 57% Afrikaner speaking tuberculosis patients in a hospital in Cape Town" (p.52).
- That alcohol is associated with 67.4% of domestic violence in Cape Town metropolis in 1994; 76.4% of domestic violence in rural areas in the South-western Cape in 1992 (pp. 67-68).

The authors argue that cost benefit analysis of alcohol will show that the cost of alcohol is far greater than its benefit.

Chapter 4 discusses that factors contributing to the misuse of alcohol. This chapter is more or less a review of the literature. Consequently, the chapter merely reviewed the numerous factors associated with alcohol and drug abuse. For example, they stated that:

> At the individual level alcohol misuse is likely to be associated with factors such as personality, gender, anxiety, stress, power-needs, age, intelligence, psychological health, life events, predisposition to take risks, hedonism, self-destructiveness and curiosity (p.79).

They also discussed environmental, community, occupational, market and biological factors associated with alcohol misuse. The chapter does not provide theoretical framework for the analysis of alcohol misuse. The authors failed to explain the relative significance of each factor and the processes linking them to alcohol abuse.

In chapter 5, the authors discussed measures for 'reducing per capita consumption and high-risk behavior". They identified and discussed the following crucial measures:

1. Improving the quality of treatment for alcohol abuse and dependence.
2. Improving access to treatment for those under-served.
3. Prevention.

Parry and Bennetts discussed three components of prevention:

- Regulatory strategies (laws) concerning driving under influence; warning labels; advertisement; drinking in public, underage drinking, sales restriction.
- Structural intervention (socio economic development of community)
- Health education

Several other measures including taxation of alcohol products, community mobilization, media advocacy were advocated as prevention measures.

Chapter 6 focuses on early intervention, treatment, and rehabilitation. The authors offer an interesting suggestion that early intervention action be incorporated into primary health care system. Consequently, they advocated

that nurses, doctors, pharmacists and other relevant health care personnel be sensitized to identifying patients presenting drug-related problems. The health personnel can then initiate intervention or referral. Parry and Bennetts discussed the various treatment programs that are available in South Africa. Such programs include detoxification, withdrawal symptom management; in and out-patient care. The existence and activities of non-governmental agencies involved in alcohol problems management were also discussed.

In chapter 7, Parry and Bennetts discussed research and training in the field of alcohol. They classified focus of research in South Africa, into six areas: 1. Basic research; 2. Epidemiology; 3. Evaluation research in relation to consequences of alcohol 4. Clinical research; 5. Evaluation of treatment outcomes, and 6. Action and intervention research (p.179). The authors observed that finding for research in South Africa is inadequate, this is true of most African countries, including Nigeria. They presented strong argument for adequate research finding, proper management of funds, better and wider dissemination and implementation of research findings. The authors suggested the introduction and implementation of alcohol and other drugs sentinel surveillance system, and training of relevant professionals – doctors, nurses, social workers, teachers, police, personnel officers to recognize abuse and dependence among those they serve.

Chapter 8 focuses on "Translating Policy into Action." In the chapter the authors review past government's efforts, which emphasized law enforcement, while under-funding for treatment was inadequate. Parry and Bennetts discussed the initiatives by post-apartheid regime. A major effort in this respect in the formulation of the *National Substance Abuse Strategy* to " prevent and combat substance abuse, through the intervention of all concerned parties in order to improve quality of life and thereby promote peace and development in South Africa"(p.201). They identified the threefold goals of the *Strategy* as (I) substantial reduction in drug related crimes; (2) reducing acceptability and availability of drugs to young people, and (3) reducing the cost of health, welfare, crime and other social problems associated with drugs. In order to translate drug policy into action, the authors recommend multi-level, trans-sectoral integrated approaches.

In chapter 9, the concluding chapter, Parry and Bennetts discuss "Alcohol policy and public health in South Africa" drawing together the issues, concerns and recommendations in the previous chapters.

Overall, the book is written in very lucid language and readable style. Critical issues were raised and addressed. Scholarship and policy concerns were well integrated throughout the book. Although the entire book was not

guided by any explicit framework, nonetheless, in chapter one, the authors explained the source, dynamics and consequences in relation to the history, cultural, pluralism, and colonial and apartheid rule in South Africa. They offer a broad explanation of the drug problem in South Africa as opposed to *blaming the victims* models that explain alcohol problems solely in terms of moral and psychological aberration of individual abusers. The book is highly recommended for scholars, drug policy makers, health and social workers, religious leaders and comparative drug policy researchers. In future edition, the author may, however, consider a more adequate theoretical organization of the materials in chapter 4, on the factors contributing to misuse. The book is relevant to drug policymaking and implementation in other African and developing countries.

REFERENCES

Alemika, E.E.O. (1998). *Narcotic Drugs Control Policy in Nigeria.* (Ibadan: Development Policy Centre.

Obot, I.S. (1992). Ethical and legal issues in the control of drug abuse and drug trafficking: the Nigerian case. *Social Science and Medicine, 35*(4), 481–493.

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