

**VOLUME OF ALCOHOL CONSUMPTION, PATTERNS OF DRINKING
AND BURDEN OF DISEASE IN SUB-SAHARAN AFRICA, 2002**

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ABSTRACT

The aim of this study was to provide an overview of the volume of alcohol consumption, type of beverage, patterns of drinking and alcohol-attributable burden of disease among adults in sub-Saharan Africa (SSA) for the year 2002. Exposure data were taken from surveys, the World Health Organization (WHO) Global Status Report on Alcohol and the WHO Global Alcohol Database. Mortality and disability data were obtained directly from WHO. The results showed that adult per capita alcohol consumption (population 15 years and above) in SSA was higher than the global consumption rate (7.4 L vs. 6.2 L) and that alcohol consumption per adult drinker was 42% higher than the global rate. Alcohol was responsible for a considerable disease burden: 2.2% of all deaths and 2.5% of all DALYs could be attributed to this exposure. Intentional and unintentional injuries accounted for 53% of all alcohol-attributable deaths and almost 57% of alcohol-attributable disease burden. Among men 70% of all alcohol-attributable injury deaths occurred among 15-44 year olds (52% among women). This first attempt to quantify the health burden attributable to alcohol in SSA provides evidence of the direct health costs associated with drinking in the continent. In light of known effective and cost-effective measures, there is urgent need to implement interventions aimed at reducing levels of risky drinking and the high burden of alcohol-related harm in African countries.

KEY WORDS: alcohol consumption, patterns of drinking, sub-Saharan Africa, burden of disease

INTRODUCTION

Alcohol consumption is an important risk factor for burden of disease and social harm worldwide (Rehm et al., 2004; Rehm et al., 2003b). Being a causal factor for more than 60 diseases and conditions, alcohol consumption

globally accounted for 3.2% of all deaths and 4.0% of all disability adjusted life years (DALYs) in 2000, with considerable variation in consumption and related harm by region (Rehm et al., 2004).

The World Health Organization (WHO) Comparative Risk Assessment Study in 2000

(CRA 2000; Rehm et al., 2004; Rehm et al., 2003b) showed that alcohol plays a significant factor in determining burden of disease in Africa. Despite high abstention rates in some parts, Africa showed the highest average alcohol consumption per drinker worldwide, and detrimental drinking patterns second only to Eastern Europe (Rehm et al., 2004). Being traditionally part of the culture in many African countries for a long time, alcohol consumption and resulting damage seem to have increased recently, especially among youths (Morojele, Flisher.A.J., & Parry, 2005; Obot, 2005).

Compared to Western Europe and North America, psychoactive substance use (especially alcohol) epidemiology is a recent research tradition in most African countries, and one that is still lacking in many ways. Though interest in different categories of psychoactive substances has grown in recent years, most attention has traditionally been devoted to alcohol, with a focus mainly on surveys of drinking among young people (especially students in secondary or tertiary institutions) and clients of psychiatric or general hospitals (Obot, 2005). These studies and a few surveys in the general population have helped to confirm the observations that high proportions of sub-Saharan Africans abstain from drinking (e.g., Obot, 1993; Obot, 2007); of those that use psychoactive substances, alcohol is the most used of all psychoactive substances (Gureje et al., 2007; Parry, 2005), and those who drink often drink to intoxication (Obot, 1993; Pan, 1975; Partanen, 1990). This pattern of heavy episodic drinking, often associated with

negative impact on population health, remains the defining feature of alcohol consumption in most of Africa today. Yet lacking in the literature on the culture of drinking in Africa are studies that relate this deleterious drinking pattern to health and social problems. In terms of specific health and social consequences of harmful consumption, reports from a few countries point to links with problems like crime, injury, violence and chronic disease conditions (Gureje et al., 2007; Obot, 2007; Parry, 2005). However, with South Africa being the exception (Schneider et al., 2007), little is known about the nature and strength of these associations and reliable population level estimates are sorely lacking.

Based on an update of the Global Burden of Disease Study estimates (Rehm et al., 2004), this study reports the latest estimates of alcohol consumption and attributable harm in terms of mortality, years of life lost (YLLs) and disability adjusted life years (DALYs) in sub-Saharan Africa in comparison to worldwide estimates for the year 2002 (Rehm et al., 2006).

METHOD

Definition of Regions

The regional distribution used in this study was defined by the WHO (2000) on the basis of very high, high, low, or very low levels of adult and of infant mortality. The relevant regions for sub-Saharan Africa are displayed in Table 1.

Table 1. Classification of countries in WHO African sub-Saharan regions by childhood and adult mortality (WHO, 2000)

| Africa D | Africa E |
|--|---|
| <i>high child mortality and high adult mortality</i> | <i>high child mortality and very high adult mortality</i> |
| Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Comoros, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Mauritius, Niger, Nigeria, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Togo | Botswana, Burundi, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe |

Note: The regional sub-groupings used were defined by WHO (World Health Report 2000) on the basis of high, medium or low levels of adult and of infant mortality; sub-Saharan region excludes Algeria.

Within Africa, only categories D (high child and high adult mortality) and E (high child and very high adult mortality) are relevant here, as WHO categorized Africa into these two sub-regions (World Health Organization, 2002). Due to heterogeneity within African sub-regions, this paper deals only with countries in sub-Saharan Africa, therefore excluding Algeria, which is part of WHO African sub-region D.

Exposure Estimates: Key Indicators of Alcohol Consumption at Country and Regional Levels

There are three principal sources of data for adult (people 15 years old and above) per capita estimates: national government data, data from the Food and Agriculture Organization of the United Nations (FAO) and data from the alcohol industry (Rehm et al., 2003a). Where available, the best and most reliable data generally stem from national governments, usually based on sales figures, tax revenue, and/or production data. Generally, sales data are considered the most accurate, provided that sales of alcoholic beverages are separated from sales of any other possible items sold at a given location, and that sales data are beverage specific. One of the drawbacks of production data is that they are always dependent on accurate export and import data, as otherwise the production figures will yield an under- or an overestimation. The main preferred beverage and its volume of recorded consumption were obtained from the Global Alcohol Database (GAD; World Health Organization, 2006). Beverage information for unrecorded consumption was taken from the Global Status Report on Alcohol (country profiles; World Health Organization, 2004). Unrecorded consumption stems from a variety of sources: home production of alcoholic beverages; illegal production and sale of alcoholic beverages; illegal and legal import of alcoholic beverages; other production and use of alcoholic beverages, not taxed and/or part of the official production and sales statistics (Giesbrecht, Greenfield, Lemmens, & Österberg, 2000).

Two dimensions of alcohol with relevance to disease outcome were included: average volume of alcohol consumption - using age- and sex-

specific estimates - and a summary score for patterns of drinking. Sex-specific estimates of drinking pattern scores were not available for the present study. The exact procedures used to estimate exposure to alcohol are described in detail elsewhere (Rehm et al., 2004; Rehm et al., 2001; Rehm et al., 2003a).

In brief, prevalence of average volume of drinking was estimated in four sex-specific drinking categories by age and country. These were defined as: abstainer; drinking category I: women 2.5 to <20g/day; men 2.5 to <40g; drinking category II: women 20 to <40g; men 40 to <60g; drinking category III: women >40g; men >60g. Average volume of alcohol consumption prevalence rates were estimated by country using a triangulation of adult per capita data and general population survey results (Rehm et al., 2004; Rehm et al., 2001; Rehm et al., 2003a), mostly taken from the GAD (World Health Organization, 2006).

Overall, we had the following data available on exposure: per capita consumption data from all countries, mainly based on FAO estimates from statistics on production, export and import (Rehm et al., 2003a; Rehm, Klotsche, & Patra, 2007). Survey data were available at least on abstinence and some indicator of drinking volume for 55% on the countries covering 62% on the population. Pattern data from surveys which allowed optimal scaling (see Rehm et al., 2004), were available from 11% of the countries covering 29% of the population. Expert judgments on patterns of drinking were available from more of the countries for a total of 39% of the population. Data on unrecorded consumption was estimated based on surveys for about 1/4 (24%) of the countries. A score reflecting riskiness of cultural drinking pattern was calculated for each country using triangulation of general population results and key informant surveys relating to the extent that alcohol was consumed in heavy drinking occasions, without meals and in public places (Rehm et al., 2004; Rehm et al., 2001; Rehm et al., 2003a). Uncertainty of the estimates for each dimension was also quantified (World Health Organization, 2002), consistent with the general approach of the GBD in 2000 (Rehm et al., 2004)

Disease Outcome Categories and Estimates

Three main outcomes were considered: number of deaths and burden of disease as measured in years of live lost due to premature mortality (YLLs) and disability adjusted life years (DALYs). The latter measure combines years of live lost because of premature death with years of life lived with a disability (YLD) to obtain a summary measure (for general definitions see Murray, 1996). To give an example: if a male dies at age 40, one would assign the number of years up to his expected life expectancy as YLLs, where for reasons of comparability the life expectancy of Japan was used. Similarly, if a person had an accident and would be paraplegic for the rest of his life, he would lose every year 0.5 DALYs, based on the specific disability weight for this disease. Estimates for mortality and direct disease burden for the year 2002 were directly obtained from WHO Headquarters (Dr. C. Mathers) and population data were obtained from United Nations (2004).

Health outcome categories followed the definitions used in the CRA 2000 and were defined to be consistent across several risk factors (Ezzati, Lopez, Rodgers, & Murray, 2004). They corresponded to the causes used for the 2000 GBD Study (Mathers, Vos, Lopez, Salomon, & Ezzati, 2001; Rehm & Gmel, 2001). The 2000 GBD disease categories used were broader than the International Classification of Diseases (ICD) codes.

Risk Relations

Alcohol consumption was found to be related to the following GBD categories: low birth weight, mouth and oropharyngeal cancer, oesophageal cancer, liver cancer, breast cancer, unipolar major depression, epilepsy, alcohol use disorders, hypertensive disorders, ischemic heart disease (IHD), cerebrovascular disease, diabetes mellitus, cirrhosis of the liver, motor vehicle accidents, drownings, falls, poisonings, self-inflicted injuries, and homicide (Mathers et al., 2001; Rehm et al., 2004; Rehm et al., 2003b).

For most chronic disease categories, alcohol-attributable fractions (AAFs) of disease were derived from combining prevalence of exposure

and relative risk estimates based on meta-analyses (Cho et al., 2004; Corrao, Bagnardi, Zambon, & La Vecchia, 2004; English et al., 1995; Gutjahr, Gmel, & Rehm, 2001; Rehm et al., 2003a; Ridolfo & Stevenson, 2001). The following formula was used to calculate the attributable fraction (Walter, 1976; Walter, 1980):

$$AF = \left[\frac{\sum_{i=1}^k P_i(RR_i - 1)}{\sum_{i=0}^k P_i(RR_i - 1) + 1} \right]$$

Where

i: exposure category with baseline exposure or no exposure $i=0$

RR(i): relative risk at exposure level i compared to no consumption

P(i): prevalence of the i^{th} category of exposure

Sex and age-specific prevalence of exposure to alcohol consumption for each disease were multiplied with the excess risk for disease derived from meta-analyses. The number of cases (deaths, YLLs or DALYs) were then summed up and divided by the number of all cases of a disease to derive the fraction of deaths, YLLs or DALYs attributable to alcohol exposure. As derived from the formula above, AAFs can be interpreted as reflecting the proportion of disease that would disappear if there had been no alcohol consumption. For depression and injuries, AAFs were taken from the CRA 2000 study (see Rehm et al. (2004) for a detailed description of underlying assumptions and calculations). Beneficial effects of alcohol consumption on ischaemic heart disease, strokes and diabetes were not estimated for African sub-regions due to the evidence that the pattern of drinking for most alcohol consumption is not beneficial in these regions (for physiological mechanisms: McKee & Britton, 1998; Puddey, Rakic, Dimmitt, & Beilin, 1999; Rehm, Sempos, & Trevisan, 2003; for epidemiological evidence: Gmel, Rehm, & Kuntsche, 2003; Rehm et al., 2004).

RESULTS

There was considerable variation in levels of overall per capita alcohol consumption among

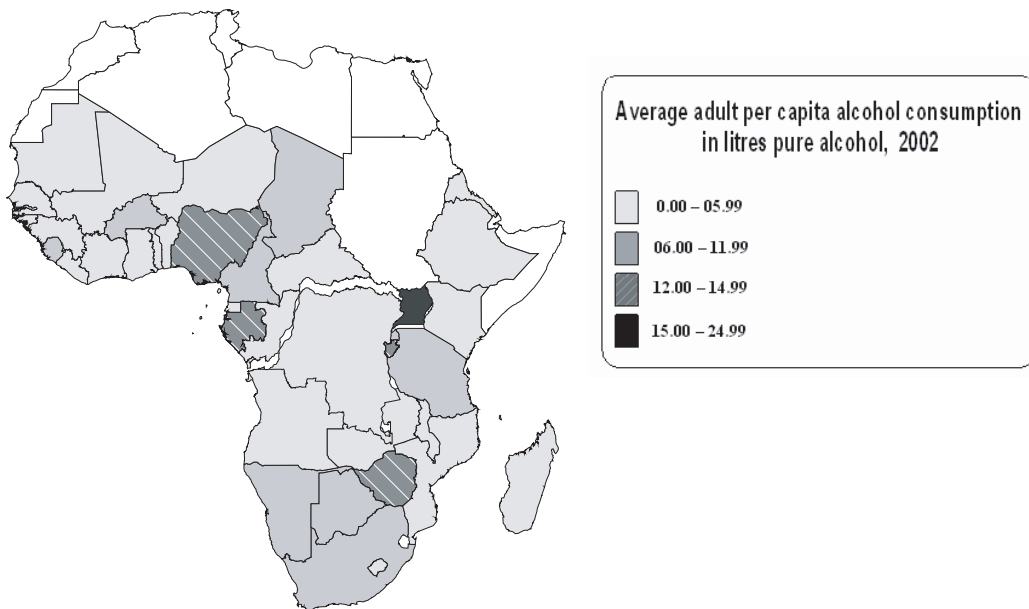


Figure 1. Adult per capita recorded and unrecorded alcohol consumption in litres of pure alcohol, sub-Saharan Africa, 2002

Note: Blank countries are not part of sub-Saharan Africa.

sub-Saharan African countries. As shown in Figure 1, the highest overall adult per capita recorded and unrecorded alcohol consumption for the year 2002 was estimated in Uganda (18.6 L) followed by Nigeria (14.1 L), Burundi (14.0 L), Zimbabwe (13.5 L), and Gabon (12.2 L). This contrasts with the lowest levels of alcohol consumption which were estimated in countries such as Mauritania (0.01 L), Niger (0.1 L) and Guinea (0.2 L).

Table 2 gives an overview of recorded and unrecorded per capita alcohol consumption and main type of beverage in the two African sub-regions comprising sub-Saharan Africa (SSA).

The population-weighted average per adult capita alcohol consumption in SSA was 7.4 L, slightly above the global value of 6.2 L. However, in terms of average consumption per drinker, SSA was far above the worldwide estimate (19.5 and 13.9 L, respectively). Unrecorded adult per capita consumption was relatively high in both sub-regions. A substantial portion of the alcohol consumed was

made up of home-made fermented beverages not consumed in other parts of the world. The estimated consumption of unrecorded alcohol was 2.5 L in Africa D (31% of total adult per capita alcohol consumption) and 2.7 L in Africa E (39% of total adult per capita alcohol consumption). Globally, the proportion of unrecorded consumption was estimated at 27%. Hence, on average, more unrecorded alcoholic beverages are consumed in sub-Saharan African countries than the global average.

The average drinking pattern score was typically high in both regions, that is, more detrimental. However, Africa D had a slightly lower estimate (2.9) compared to Africa E (3.1). This highly prevalent detrimental drinking pattern (e.g., heavy episodic drinking, drinking outside of meals) was the reason why no beneficial effect of alcohol consumption was estimated for SSA. Only one country had a pattern score of two, most were classified as three, and Zimbabwe had the highest score with four.

Table 2. Characteristics of adult alcohol consumption in sub-Saharan Africa (SSA) and the world in 2002 (population weighted averages across countries)

| WHO Region (Definition see above) | Adult Population (in '000) | Beverage type mostly consumed | Total consumption ¹ | % unrecorded of total ² | % male heavy drinkers ³ | % female heavy drinkers ³ | % abstainer males | % abstainer females | Consumption per drinker ⁴ | Average drinking pattern ⁵ |
|-----------------------------------|----------------------------|-------------------------------|--------------------------------|------------------------------------|------------------------------------|--------------------------------------|-------------------|---------------------|--------------------------------------|---------------------------------------|
| Africa D | 149,050 | Other fermented beverages | 8.1 | 30.9 (2.5/8.1) | 27.7 | 20.8 | 55.0 | 64.2 | 20.0 | 2.9 |
| Africa E | 208,662 | Other fermented beverages | 6.9 | 39.1 (2.7/6.9) | 30.1 | 17.6 | 55.4 | 73.3 | 19.4 | 3.1 |
| SSA (Africa D and E) | 357,712 | Other fermented beverages | 7.4 | 35.1 (2.6/7.4) | 28.9 | 19.1 | 55.2 | 68.8 | 19.5 | 3.0 |
| World | 4,388,297 | Spirits (53%) | 6.2 | 27.4 (1.7/6.2) | 22.2 | 10.1 | 44.8 | 65.6 | 13.9 | 2.6 |

Note: Data presented are own estimates, based on surveys data for specific countries (see Method section), adjusted for adult per capita consumption. One standard drink equals 10-14 grams of pure alcohol, depending on the country.

¹ Estimated total alcohol consumption per resident aged 15 and older in litres of absolute alcohol (recorded and unrecorded)

² Percentage of total adult per capita consumption (= column 4) which is estimated to be unrecorded

³ Estimated % of heavy drinking (males \geq 40g and females \geq 20g) among population 15 years and above

⁴ Estimated total alcohol consumption (in litres of absolute alcohol) per adult drinker aged 15 +

⁵ Estimated average pattern of drinking (1-4 with 4 being the most detrimental pattern)

Table 3. Deaths attributable to alcohol consumption in WHO sub-Saharan African Region (SSA), 2002 ('000)

| Disease Category | AFR D ² | | AFR E | | SSA | | World | | | | | |
|---|--------------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------|
| | M ¹ | W | M | W | M | W | %M | %W | M | W | %M | %W |
| Maternal and perinatal conditions (low birth weight) | 0 | 0 | 0 | 0 | 1 | 0 | 0.4 | 0.9 | 1 | 1 | 0.1 | 0.3 |
| Cancer | 8 | 4 | 12 | 4 | 20 | 9 | 11.1 | 17.8 | 361 | 105 | 18.7 | 25.0 |
| Diabetes mellitus | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.4 | 0 | 1 | 0.0 | 0.2 |
| Neuropsychiatric disorders | 7 | 3 | 9 | 4 | 16 | 7 | 8.9 | 14.4 | 106 | 25 | 5.5 | 5.9 |
| Cardiovascular diseases | 7 | 4 | 13 | 3 | 20 | 7 | 10.8 | 13.7 | 452 | 77 | 23.3 | 18.2 |
| Cirrhosis of the liver | 10 | 4 | 11 | 5 | 21 | 9 | 11.8 | 17.8 | 293 | 77 | 15.2 | 18.2 |
| Unintentional injuries | 24 | 5 | 45 | 7 | 69 | 12 | 38.0 | 23.8 | 501 | 96 | 25.9 | 22.7 |
| Intentional injuries | 8 | 2 | 26 | 4 | 35 | 6 | 19.1 | 11.2 | 220 | 40 | 11.4 | 9.6 |
| Total 'detrimental effects' attributable to alcohol | 65 | 23 | 116 | 27 | 182 | 50 | 100.0 | 100.0 | 1,934 | 421 | 100.0 | 100.0 |
| Diabetes mellitus | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -8 | -5 | 7.7 | 3.5 |
| Cardiovascular diseases | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -90 | -130 | 92.3 | 96.5 |
| Total 'beneficial effects' attributable to alcohol | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -98 | -135 | 100.0 | 100.0 |
| All alcohol-attributable net deaths | 65 | 23 | 116 | 27 | 182 | 50 | 100.0 | 100.0 | 1,836 | 287 | 100.0 | 100.0 |
| All deaths | 2,281 | 2,202 | 3,045 | 2,963 | 5,326 | 5,165 | | | 29,891 | 27,138 | | |
| Percentage of all net deaths attributable to alcohol | 2.9% | 1.0% | 3.8% | 0.9% | 3.4% | 1.0% | | | 6.1% | 1.1% | | |

Note: Numbers are rounded to the nearest thousand. Zero (0) indicates fewer than 500 alcohol-attributable deaths in the disease category

¹ M=men, W=women

² excludes Algeria

The distribution of average alcohol consumption across countries in both sub-regions was heterogeneous. In Nigeria, the most populous country in Africa D with almost 40% of the total adult population in this sub-region, adult per capita alcohol consumption (14.1 L) was almost twice as high as the regional average (8.1), and more than twice as high as the global average (6.2 L). Overall, similar regional abstention rates were estimated for Africa D (59% for men, 69% for women) and Africa E (55% for men, 73% for women). However, the variation in abstention

rates in the sub-regions was quite high. For example, compare Nigeria (46% of men and 55% of women were abstinent), which had a very high consumption even when applying global standards, with Mali and Senegal, with abstention rates well above 90%.

With regard to the most populous countries in Africa E, average adult per capita alcohol consumption was lower in the Democratic Republic of the Congo (3.2 L) compared to Ethiopia (5.5 L) or South Africa (9.1 L). However, the proportion of unrecorded alcohol consumption was markedly higher in Ethiopia

(more than 80%). The proportions in South Africa and the Democratic Republic of the Congo were 24% and 39%, respectively.

Despite relatively high abstention rates, alcohol consumption caused considerable mortality and disease burden in sub-Saharan Africa. In total, 182,000 men and 50,000 women in SSA were estimated to have died prematurely due to alcohol consumption in 2002. Compared to the worldwide mortality burden due to alcohol consumption the two African sub-regions had proportionally lower estimates for men (about half the size of the global estimate) but showed similar estimates for women (Table 3). Men accounted for about three times as much mortality burden due to alcohol compared to women in Africa D, and more than four times in Africa E. These differences were mostly driven by intentional and unintentional injuries, the categories with the most deaths attributable to alcohol among men in both sub-regions. Both types of injuries combined accounted for about half the mortality burden due to alcohol in each sub-region for men. In women, the relative importance of injuries is much less pronounced. The relative contribution of alcohol-attributable injury death estimates in SSA as a whole compared to the world was markedly higher for men and almost equal for women. The relative estimate for cardiovascular disease deaths due to alcohol for men is lower than in the rest of the world, presumably due to the lower life expectancy in SSA. In addition, the lower life expectancy in Africa is reflected in lower mortality burden due to cancer, which also mainly occurs later in life.

Alcohol-attributable YLLs for SSA are shown in Table 4. Sex differences among the two sub-regions for YLLs were slightly more pronounced compared to mortality estimates. Proportionally, YLLs among men were three times higher than for women in Africa D, and five times higher in Africa E. Nevertheless, the proportion of alcohol-attributable YLLs of all YLLs in SSA was about half of those seen worldwide for both sexes. Similar to alcohol-attributable mortality, unintentional and intentional injury categories among men

were twice as high in Africa E as in Africa D. The main differences for both sexes between the two sub-regions and also compared to worldwide estimates were the high proportion of intentional injuries in Africa E, more so among men than women. These differences were greatest when considering YLLs, because these deaths occurred at a relatively young age. In addition, premature mortality due to neuropsychiatric disorders in Africa was markedly higher among women from both sub-regions compared to the global proportion of all alcohol-attributable YLLs.

Table 5 shows the distribution of alcohol-attributable DALYs in the sub-Saharan African sub-regions in 2002. The proportion of alcohol-attributable neuropsychiatric disorders among all DALYs attributable to alcohol in both men and women was much higher in comparison to YLLs, resulting from the fact that alcohol use disorders (e.g., alcohol dependence) and to a lesser degree epilepsy, both of which constitute the majority of alcohol-attributable neuropsychiatric disorders, are less fatal than other chronic disease categories.

Intentional and unintentional injuries accounted for almost 53% of all alcohol-attributable deaths, 64% of YLLs, and 57% of DALYs in SSA. The population between 15-44 years was especially affected by alcohol-attributable injury deaths. In 2002, more than two-thirds (70%) of the all alcohol-attributable injury deaths in men and more than half in women occurred in this age group (see Table 6).

DISCUSSION

The average adult per capita consumption rate in SSA is slightly higher than the global rate, but lower compared to Western Europe. However, taking into account the relatively high abstention rates, average consumption per drinker in SSA (19.5 L) is among the highest in the world. Clearly, what distinguishes SSA from the world average is a detrimental drinking pattern and a high proportion of alcohol-attributable intentional injuries, but more so

Table 4. Years of life lost (YLLs) attributable to alcohol consumption in WHO sub-Saharan African Region (SSA), 2002 ('000)

| Disease Category | AFR D ² | | | AFR E | | | SSA | | | World | | | |
|--|--------------------|--------|--------|--------|---------|---------|-------|-------|---------|---------|-------|-------|------|
| | M ¹ | W | %W | M | W | %W | M | W | %M | M | W | %M | %W |
| Maternal and perinatal conditions (low birth weight) | 8 | 6 | 14 | 10 | 21 | 15 | 0.5 | 1.5 | 13.2 | 4,510 | 1,368 | 13.5 | 20.4 |
| Cancer | 126 | 69 | 181 | 68 | 307 | 137 | 7.5 | 13.2 | 4,510 | 1,368 | 13.5 | 20.4 | |
| Diabetes mellitus | 0 | 2 | 0 | 2 | 0 | 3 | 0.0 | 0.3 | 0 | 12 | 0.0 | 0.2 | |
| Neuropsychiatric disorders | 161 | 77 | 190 | 82 | 350 | 159 | 8.5 | 15.4 | 2,005 | 484 | 6.0 | 7.2 | |
| Cardiovascular diseases | 97 | 53 | 158 | 49 | 255 | 102 | 6.2 | 9.9 | 5,003 | 791 | 15.0 | 11.8 | |
| Cirrhosis of the liver | 162 | 71 | 187 | 73 | 349 | 144 | 8.5 | 13.9 | 4,403 | 1,118 | 13.2 | 16.7 | |
| Unintentional injuries | 679 | 136 | 1,200 | 188 | 1,879 | 325 | 45.7 | 31.4 | 11,910 | 1,963 | 35.6 | 29.3 | |
| Intentional injuries | 226 | 47 | 725 | 102 | 951 | 149 | 23.1 | 14.4 | 5,540 | 934 | 16.6 | 13.9 | |
| Total 'detrimental effects' attributable to alcohol | 1,458 | 460 | 2,654 | 573 | 4,112 | 1,034 | 100.0 | 100.0 | 33,417 | 6,707 | 100.0 | 100.0 | |
| Diabetes mellitus | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -85 | -41 | 9.8 | 3.8 | |
| Cardiovascular diseases | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -779 | -1,041 | 90.2 | 96.2 | |
| Total 'beneficial effects' attributable to alcohol | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -864 | -1,082 | 100.0 | 100.0 | |
| All alcohol-attributable net YLLs | 1,458 | 460 | 2,654 | 573 | 4,112 | 1,034 | 100.0 | 100.0 | 32,553 | 5,625 | 100.0 | 100.0 | |
| All YLLs | 59,872 | 58,991 | 78,459 | 77,632 | 138,331 | 136,623 | | | 496,059 | 426,418 | | | |
| Percentage of all net YLLs attributable to alcohol | 2.4% | 0.8% | 3.4% | 0.7% | 3.0% | 0.8% | | | 6.6% | 1.3% | | | |

Note: Numbers are rounded to the nearest thousand. Zero (0) indicates fewer than 500 alcohol-attributable YLLs in the disease category

¹ M=men, W=women

² excludes Algeria

Table 5. Disability-adjusted life-years (DALYs)* attributable to alcohol consumption in WHO sub-Saharan African Region (SSA), 2002 ('000)

| Disease Category | AFR D ² | | AFR E | | SSA | | World | | | | | |
|--|--------------------|-------------|--------------|-------------|--------------|--------------|--------------|--------------|---------------|---------------|--------------|--------------|
| | M ¹ | W | M | W | M | W | M | W | | | | |
| Maternal and perinatal conditions (low birth weight) | 8 | 6 | 15 | 10 | 23 | 17 | 0.4 | 1.2 | 52 | 42 | 0.1 | 0.4 |
| Cancer | 127 | 71 | 182 | 68 | 309 | 139 | 5.4 | 9.9 | 4,593 | 1,460 | 8.2 | 12.9 |
| Diabetes mellitus | 0 | 3 | 0 | 2 | 0 | 5 | 0.0 | 0.3 | 0 | 20 | 0.0 | 0.2 |
| Neuropsychiatric disorders | 389 | 120 | 829 | 207 | 1,218 | 327 | 21.4 | 23.3 | 19,393 | 3,722 | 34.6 | 32.9 |
| Cardiovascular diseases | 105 | 59 | 171 | 54 | 276 | 113 | 4.9 | 8.1 | 5,711 | 887 | 10.2 | 7.8 |
| Cirrhosis of the liver | 206 | 97 | 241 | 100 | 447 | 197 | 7.9 | 14.0 | 5,415 | 1,468 | 9.7 | 13.0 |
| Unintentional injuries | 849 | 189 | 1,475 | 253 | 2,323 | 442 | 40.9 | 31.4 | 14,499 | 2,647 | 25.9 | 23.4 |
| Intentional injuries | 267 | 53 | 823 | 115 | 1,090 | 168 | 19.2 | 11.9 | 6,366 | 1,051 | 11.4 | 9.3 |
| Total 'detrimental effects' attributable to alcohol | 1,952 | 698 | 3,735 | 810 | 5,687 | 1,408 | 100.0 | 100.0 | 56,029 | 11,297 | 100.0 | 100.0 |
| Diabetes mellitus | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -225 | -86 | 21.3 | 6.7 |
| Cardiovascular diseases | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -834 | -1,205 | 78.7 | 93.3 |
| Total 'beneficial effects' attributable to alcohol | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | -1,059 | -1,291 | 100.0 | 100.0 |
| All alcohol-attributable net DALYs | 1,952 | 598 | 3,735 | 810 | 5,687 | 1,408 | 100.0 | 100.0 | 54,970 | 10,006 | 100.0 | 100.0 |
| All DALYs | 77,835 | 77,088 | 99,984 | 100,977 | 177,819 | 178,065 | | | 772,912 | 717,213 | | |
| Percentage of all net DALYs attributable to alcohol | 2.5% | 0.8% | 3.7% | 0.8% | 3.2% | 0.8% | | | 7.1% | 1.4% | | |

Note: Numbers are rounded to the nearest thousand. Zero (0) indicates fewer than 500 alcohol-attributable DALYs in the disease category

¹ M=men, W=women

² excludes Algeria

Table 6. Age and sex distribution (%) of alcohol-attributable injury deaths in WHO sub-Saharan African Region (SSA) and the world, 2002

| Region | Age group | | | | | | | Total alcohol-attributable injury deaths ² |
|--------------------|-----------|---------|----------|----------|----------|----------|------|---|
| | 0 to 4 | 5 to 14 | 15 to 29 | 30 to 44 | 45 to 59 | 60 to 69 | 70+ | |
| Men | | | | | | | | |
| AFR D ¹ | 3.6 | 7.8 | 38.9 | 31.4 | 12.4 | 3.6 | 2.3 | 33 |
| AFR E | 3.1 | 5.1 | 40.7 | 28.9 | 14.3 | 4.9 | 3.0 | 71 |
| SSA | 3.2 | 6.0 | 40.1 | 29.7 | 13.7 | 4.5 | 2.8 | 104 |
| World | 1.2 | 1.8 | 32.6 | 31.1 | 19.5 | 7.6 | 6.2 | 721 |
| Women | | | | | | | | |
| AFR D ¹ | 5.8 | 15.9 | 30.0 | 23.5 | 14.7 | 5.4 | 4.6 | 7 |
| AFR E | 6.8 | 14.9 | 27.3 | 23.2 | 15.5 | 6.4 | 5.9 | 11 |
| SSA | 6.5 | 15.3 | 28.3 | 23.3 | 15.2 | 6.0 | 5.4 | 17 |
| World | 2.4 | 3.5 | 21.0 | 24.1 | 20.9 | 10.4 | 17.8 | 136 |

Note: ¹ excludes Algeria

² Numbers are rounded to the nearest thousand.

unintentional injury death, in particular among young men. Our finding that African youth are particularly affected by alcohol-related-harm has also been found in other studies (Parry, 2005; Peltzer, 2003). On the other hand, the relative importance of alcohol-attributable burden of cancer and cardiovascular diseases was not as pronounced as in other regions due to a lower life expectancy generally observed in Africa. The effect of alcohol-related injuries is greatest when measured in YLLs (64%). It is higher compared to death alone (53%) because injury deaths usually occur earlier in life. When looking at DALYs (57%), the proportion is reduced compared to YLL because disease categories that result mostly in morbidity rather than mortality, such as neuropsychiatric disorders, have a stronger effect on DALYs than on YLLs.

The estimates presented in this analysis have several strengths and limitations which should be examined. Clearly, the major strength of the analysis is the standardized methodology developed originally for the CRA, as well as the use of standardized mortality and morbidity estimates (for general methodology to derive these statistics see Mathers et al., 2003). The resulting comparability between risk factors differentiates CRA-based risk factor analyses from other risk factor estimates, including the

estimates of the 1990 Global Burden of Disease Study, where results could not be compared between risk factors (Ezzati et al., 2004; for 1990 estimates see Murray & Lopez, 1999). On the negative side, however, caution should be used when interpreting details of alcohol consumption in SSA. The quality of African estimates was not as reliable as for other regions of the world. Mortality and disability data were taken from WHO, and the quality of these data has been discussed extensively in the literature since the first Global Burden of Disease Study (Cooper, Osotimehin, Kaufman, & Forrester, 1998). While the overall data availability improved since then, SSA certainly still is the part of the world with the highest uncertainty of data based on lack of birth and child registers in many countries (Mathers et al., 2006; Mathers, Lopez, & Murray, 2006). For many countries, only partial information on exposure to alcohol was available. Furthermore, the proportion of unrecorded adult per capita alcohol consumption was among the highest estimated worldwide. Unrecorded consumption in Africa is typically made up of traditional homemade alcoholic beverages, in this study mostly labelled as 'other fermented beverages'. These beverages can be produced from a number of agricultural products, including, for example, *burukutu*, made out of sorghum grains and fermented guinea corn

in the northern part of Nigeria, and palm wine produced from the sap of the palm tree in the southern part. These types of beverages are not comparable to the categories (beer, wine and spirits) usually used in other parts of the world; they are also mostly consumed by the poor, and vary greatly from region to region within Africa in terms of strength and ingredients (Obot, 2007). Estimates of this alcohol production are usually not covered by official statistics and this adds some uncertainty. For example, survey data on abstention rates in South Africa do not match well with recorded and unrecorded production figures (Schneider et al., 2007). Despite the long history of alcohol use in Africa, epidemiological and clinical data on alcohol consumption and related harm are still scarce (Obot, 2007; Obot, 2000). The risk relations on which we based our estimates of burden of disease (mainly taken from studies conducted in North America and Europe), may not hold true in Africa due to several reasons. First, the effect of alcohol on injuries may be over- or underestimated. These estimates were taken directly from the CRA 2000; however, it seems that these estimates can be quite influenced by culture and context (Rehm et al., 2004). Secondly, for some diseases, such as alcohol-attributable liver cirrhosis, the risk might be different from what it is in other parts of the world due to malnutrition (Bergheim, McClain, & Arteel, 2005; Caregaro et al., 1996; Everitt, Patel, & Tewfik, 2007; Isichei, Ikwuagwu, & Egbuta, 1994). In addition, we did not take into account the role of alcohol on the burden due to infectious diseases, for example HIV. Although alcohol does not play a role in the biological pathway, it seems to be a mediating factor in risky sexual behaviour and therefore enables the transmission of HIV (Mbulaiteye et al., 2000). In addition, heavy drinking may lead to people in HIV treatment not taking their medication properly (Talbot et al., 2002).

The amount per drinker and the pattern in which alcohol is consumed is a major public health concern in Africa that needs more attention than it has received in the past. The detrimental pattern of alcohol consumption common in SSA (and observed elsewhere in the developing world), presents a problem because

it also is an indicator of harm to a society and accounts for the fact that no beneficial effect of alcohol consumption was estimated in SSA. In light of the substantial diseases burden due to alcohol in SSA, prevention and treatment of alcohol-related harm should be a major public health priority in this region, and evidence-based interventions should be implemented where possible (see also Room, Babor, & Rehm, 2005). Parry & Bennetts (1998) already suggested policies to reduce alcohol-related burden of disease for South Africa. Otherwise, in agreement with economic development, alcohol consumption and its health and social consequences will most likely increase in the future (Room et al., 2003). Research in North America and Western Europe has shown that public policy measures such as tax increases, developing and enforcing drinking-driving laws, restricted licensing of outlets, or brief interventions in the primary care setting are effective and cost-effective interventions (Babor et al., 2003). Some of these measures might produce similar results if implemented in African countries, but because of data quality and availability issues, more research is warranted to guide and evaluate the implementation of intervention measures in SSA.

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A STUDY OF DRUG USE IN FIVE URBAN CENTRES IN KENYA

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ABSTRACT

Few studies have addressed the reasons for substance use in Kenya, with most focusing on prevalence rates in school-based and general population samples. None have been carried out among people already using drugs. This study, based on five samples of drug users, aimed to identify patterns of, factors contributing to and consequences of substance use; compare socio-demographic characteristics; document help-seeking behaviours of substance abusers as well as their family and social dynamics. Active or former substance abusers (N = 1,420) were interviewed using a structured questionnaire format. The peak age for substance abuse was between 21 and 30 years and most abusers were male. Leisure, stress and peer pressure were the most common reasons given for abusing substances. There were negative economic and work-related impacts of abusing substances. Risky sexual behaviour may have been a consequence of abusing substances. Substance abusers need assistance as most of them could benefit from programmes for treatment and rehabilitation.

KEY WORDS: substance abuse, Kenya, urban, peri-urban

INTRODUCTION

In 1999, out of 134 countries in which drug injecting had been confirmed, 114 reported a relationship between substance abuse and human immuno-deficiency virus/acquired immune deficiency syndrome (HIV/AIDS) (Joint United Nations Programme on HIV/AIDS [UNAIDS], 1999). In 1995, it was estimated that 5-10% of all HIV/AIDS cases

worldwide were due to the use and sharing of contaminated needles and syringes to inject drugs of abuse (Weekly Epidemiological Record, 1995). A multi-centre seroprevalence study at needle exchange sites in Canada found an overall HIV prevalence rate of 6.9% among intravenous drug users (IDUs). Needle sharing occurred among 36% – 46% of the participants (Alary, 1999; Health Canada, 1997). Follow-up studies showed a 2-3% increase in HIV

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incidence (Tannenbaum, 1999; Lamothe, 1999; Wallace, 1999; Millson, Myers, Calzavara, Major, Fearon, Rea, & Wallace, 2000; Patrick, Schechter Strathdee, Cornelisse, Rekart, Cook, Montaner, & O'Shaughnessy, 1998; Tyndall, 1999; Archibald, Remis, Farley, & Sutherland, 1998; Health Canada, 2000).

New HIV cases among IDUs in the United States increased in 2000 (United Nations Office for Drug Control and Crime Prevention [UNODCP], 2000) and those who injected drugs, together with their sex partners, represented about one-third of all those who had been infected with HIV since 1981 (www.HIVdent.org). For these populations, programme strategies emphasised preventing drug abuse, treating drug abusers and decreasing needle sharing (Centres for Disease Control and Prevention [CDC], 1998a, 1998b). In Kenya, Ndetei, Kathuku, & Othieno (1997) found a wide range of drugs of abuse including narcotics, being used in combination, but none was being used intravenously. They established that the most vulnerable group was in the 16-20-year age range.

There have been five school surveys that specifically addressed drug use and abuse in Kenya (Dhadphale, Mengech, Syme, & Acuda, 1982; Yambo, & Acuda, 1983; Kuria, 1996; Ndetei et al., 1997; The National Agency for the Campaign Against Drug Abuse [NACADA], 2004). Two of the earliest school surveys on drug abuse found that secondary school students in Kenya rarely used opiates and cocaine (Dhadphale et al., 1982; Yambo & Acuda, 1983) and that cannabis and *khat* (a psycho stimulant) were the major illicit drugs used. Yambo and Acuda's study (1983) sampled from both rural and urban populations while Dhadphale et al. (1982) noted that illicit use of social drugs (alcohol, tobacco) and inhalants among Kenyan secondary school students was an urban/peri-urban problem.

In a Rapid Situational Assessment (RSA) of the linkages between illicit drug use and HIV/AIDS, Ndetei's (2004) study included various stakeholders, and used both primary and secondary data with a view to finding intervention entry points. . Age of first drug

use was reported in the range of 0-9 years, starting with volatile hydrocarbons. The incidence of drug use increased within the 10-15-year age group and apart from volatile hydrocarbons (40%), cannabis (31.4%) was also being used. Use of cocaine (11.4%), mandrax, amphetamines and heroin also began at this age. Those who initiated drug use at 16-20 years chose cannabis, mandrax and amphetamines. None of the previous studies reported intravenous drug use in schools, although in 1997, Ndetei et al (1997) recommended that it should be the subject of a study. The authors noted the following as important factors associated with drug abuse and suggested possible intervention entry points: (i) Biological factors – a biological basis for dependence; (ii) Psychological factors; and (iii) Social/environmental factors.

The NACADA in Kenya (2004) reported the findings of a national survey on drug use (data collected in 2001/2002), including tobacco and alcohol use. In the survey, only information on schooling was collected and the youth (10 – 24 years) were grouped into those who were attending school and those who were not. The study reported data on lifetime and current (within the last 30 days) use of only five drugs – alcohol, tobacco, bhang (cannabis), *miraa* (*khat*) and inhalants – for each of the eight provinces of Kenya. However, without information on the numbers studied, it is not possible to evaluate whether or not the variations between the provinces were significant or, if they were mere trends or simply artefacts.

This study aimed to fill the gaps left by the NACADA study. It also aimed to build on Ndetei et al.'s (1997) study by providing scientific evidence for policies on possible entry points for intervention, while at the same time replicating epidemiological surveillance data to monitor changing and emerging trends. This is in conformity with emerging global trends that drug abuse even in youth is co-morbid with certain psychological and social pathologies (Smart, Hughes, & Johnson, et al., 1980; Boys, Farrell, & Taylor, et al., 2003). This study assessed differences in patterns of drug use in five urban centres of Kenya, and

the association between injecting drug use and positive HIV status.

METHOD

This was a descriptive cross-sectional study of substance users (N=1,420) in five major urban and commercial centres in Kenya, namely Mombasa (n = 350), Malindi (n = 183), Nairobi (n = 364), Nakuru (n = 264) and Kisumu (n = 277). The study centres were cosmopolitan and had good transport linkages both within and outside Kenya. Nairobi is the capital city located in the central part of the country; Mombasa is a port city on the Indian Ocean and Kisumu is the largest city in the western part of Kenya. Nakuru is located in a largely farming area within the Great Rift Valley. Malindi is a coastal resort situated about 170 kilometres north of Mombasa. All these centres apart from Malindi, are on the major transport route from the coast to Central Africa. Urban centres were chosen because worldwide findings have reported that the highest levels of substance use and abuse were found in major urban centres (Patrick et al., 1998; UNODCP, 2000).

The study population included active and former substance abusers who were recruited from rehabilitation and treatment centres, streets, hospitals and in substance abuse dens within the geographical study areas. Data collection in all the centres was carried out over a twelve-week period between September and December 2003. The sampling procedure included purposive, quota and open-street

sampling as well as snowballing. Field guides assisted in recruitment. Structured, semi-structured and open-ended questionnaires were used in face-to-face (one on one) interviews. The information elicited included socio-demographic data, drug use patterns, sexual practices, patterns of intravenous drug use and related behaviour and socio-economic support systems.

RESULTS

The results are summarised in table and narrative format. There were 14 substances of abuse recorded: alcohol, nicotine, cannabis, *Catha edulis*, cocaine, heroin, sedatives, pethidine, *kuber*, morphine, inhalants such as glue, phencyclidine, pills like *piriton* and amphetamines. Regional comparisons revealed that alcohol abuse was reported with the highest frequency (54.5%) in Kisumu with the lowest prevalence being reported in Malindi (6.6%). Alcohol (36.3%) and cocaine (2.2%) were the most and least frequently abused drugs nationally.

The major reasons reported for taking drugs included leisure, stress (defined as a state of mental or emotional strain or suspense that caused worry or emotional tension), peer pressure, accidental and addiction. In all regions except in Malindi, leisure was given as the most important reason for taking drugs. Stress was the second most important reason for taking drugs except in Nakuru and Kisumu. Accidental taking of drugs was reported at minimal levels.

Table 1. Concerns raised by relatives/friends of drug users in different regions (%)

| Problem areas | Mombasa | Malindi | Nairobi | Nakuru | Kisumu |
|---------------------|---------|---------|---------|--------|--------|
| Medical health | 6.93 | 8.6 | 16.9 | 4.1 | 18.0 |
| Marital | 1.5 | 8.7 | 11.0 | 1.3 | 15.9 |
| Other family issues | 8.2 | 4.7 | 7.3 | 7.5 | 5.4 |
| Financial | 1.5 | 1.0 | 1.0 | 1.8 | 0.5 |
| Work-related | 1.0 | 1.1 | 4.4 | 1.2 | 4.3 |
| Legal | 1.9 | 1.2 | 1.7 | 0.5 | 1.0 |
| Social | 2.7 | 0.7 | 2.5 | 1.0 | 3.7 |
| Others | 14.0 | 2.6 | 4.7 | 9.8 | 1.5 |

When asked who else in the family was abusing drugs, the most commonly mentioned members were brothers and fathers. In Nairobi, brothers as fellow drug users were reported with the highest frequency (39.6%). Mothers (2.8%) and sisters (3.8%) were also reported to be drug users even though at very low frequencies.

Drug use affected the users' feelings towards other family members, friends and towards workmates/employment. Kisumu recorded the highest frequency of drug abusers who felt less caring towards their children (16.4%) and spouses (13.2%) and this was nearly twice as high as that reported for all centres combined (8.4% and 7.2%, respectively).

A wide range of concerns was raised by relatives and friends concerning the drug users' habits as shown in Table 1. These were related to health, family, finances, legal as well as social problems. Drug users suffered poorer health status and this may have led to them making repeated visits to hospitals or taking medication to treat their symptoms. This in turn may have affected family finances as money that was allocated to other uses was redirected to the treatment of drug users. Relationships within the family may also have been affected as drug use habits led to feelings of resentment among those family members who had to accommodate them. In terms of legal and social problems, drug users were more likely to get into trouble with law enforcement agencies as a result of their habits. Performance at work may also have been affected as drug users were not able to work at optimal levels. Relationships with community members may also have been affected as drug users were stigmatised as most people perhaps out of fear, did not want to be seen to associate with them.

More than half of the drug users in Mombasa (53.1%) reported having lost a friend through death as a consequence of substance abuse and this was notably higher than the 32.7% average reported for all centres. The other centres reported frequencies ranging from 14.8% in Kisumu to 37.8% in Nakuru. Most of those who had died were fellow substance abusers or friends of the opposite sex.

On average, the most common source of money for the purchase of drugs reported by drug users was personal income (43.2%). Other means of sourcing money for drugs included stealing, which was reported with the highest frequency in Nairobi (17.3%), begging and borrowing. In Kisumu, 21.7% of the respondents reported gave gifts in exchange for money for drugs.

Less than one third of the drug users reported that they sought help in dealing with their drug problem. The highest and lowest frequency of those seeking help was recorded in Mombasa (30.6%) and in Kisumu (9.4%), respectively. Help was sought from family members, friends and counsellors or health workers. Parents were approached for help with the least frequency (2.6%) while up to 13.6% of the drug abusers reported having sought help from counsellors or health workers. The overall mean age for the respondents was 29.2 years: in Nairobi, it was 27.9 years, Mombasa 28.5 years, Kisumu 33.8 Years, Nakuru 25.3 years and Malindi 31.9 years.

Drug users obtained referrals to treatment/rehabilitation centres through family members, work colleagues and private professional and religious organisations as well as health facilities. Schools, social and correctional services also served as referral sources. Overall, family members and friends played a big role and in Kisumu, at least 14.1% of the drug users reported having used them as sources of referrals to treatment centres. The proportion of those who sought treatment for their drug habits across all the centres was however very low (37.4%).

Table 2 illustrates intravenous drug use patterns. The lowest percentage of non-IDUs was reported in Nairobi (44%) while the highest was reported in Malindi (89.6). Overall, 76.7% of all drug users were non-IDUs. Among those who were using drugs intravenously, the highest rates of daily needle use were reported in Mombasa and Malindi, while the lowest rates were reported in Kisumu. Sharing of needles was common despite the fact that majority of the drug users reported that they did not clean or bleach the needles after or before use.

Table 2. Patterns of intravenous drug use in different regions (%)

| Drug Use | Mombasa (n=350) | Malindi (n =183) | Nairobi (n =364) | Nakuru (n =246) | Kisumu (n = 277) |
|---|--------------------|---------------------|---------------------|--------------------|---------------------|
| <i>Annual prevalence rates of IDU</i> | | | | | |
| Once a week | 1.1 | 0.5 | 12.9 | 6.1 | 4.3 |
| More than once a week | 1.7 | 9.3 | 34.9 | 3.3 | 11.2 |
| Once a day | 2.9 | 0.5 | 4.4 | 2.0 | 0 |
| More than once a day | 17.1 | 10.4 | 3.8 | 0.4 | 0 |
| <i>Injecting self/alone? Yes</i> | 12.9 | 0.5 | 12.9 | 4.9 | 2.2 |
| <i>Use of needle after others in the past 12 months? Yes*</i> | | | | | |
| Once | 5.1 (35.3) | 9.3 (0) | 26.1 (17.1) | 3.7 (13.3) | 12.6 (0) |
| Up to 5 times | 3.7 (17.5) | 0 (0) | 3.8 (14.3) | 1.2 96.7) | 0 (0) |
| More than 5 times | 4.3 (0) | 0.5 (100) | 7.1 (31.4) | 3.7 (6.7) | 0 (0) |
| <i>Use of needle after others? Yes*</i> | | | | | |
| One person | 4.6 (26.7) | 0 (0) | 3.0 (12.0) | 4.1 (26.7) | 0.7 (0) |
| Up to 5 people | 3.7 (26.7) | 0 (0) | 3.0 (8.0) | 0.4 (0) | 0 (0) |
| More than 5 people | 3.7 (0) | 0.5 (100) | 6.6 (36.0) | 2.4 (0) | 0 (0) |
| <i>Dispensing used needle to others in past 12 months? Yes*</i> | | | | | |
| Once | 3.7 (6.7) | 2.7 (0) | 17.0 (20.0) | 2.0 (20.0) | 32.5 (0) |
| Up to 5 times | 2.9 (26.7) | 0.9 (0) | 3.3 (14.3) | 1.6 (13.3) | 0 (0) |
| More than 5 times | 4.3 (0) | 0.5 (100) | 6.6 (25.7) | 3.7 (0) | 0 90) |
| <i>Cleaning needles before re-use in 12 months? Yes*</i> | | | | | |
| Always | 8.9 (7.1) | 1.6 (100) | 3.8 (18.5) | 2.0 (13.3) | 1.1 (0) |
| Sometimes | 9.1 (28.6) | 0 (0) | 8.8 (29.6) | 1.6 (0) | 2.9 (0) |
| Never | 4.3 (42.9) | 0 (0) | 11.3 (33.3) | 14.6 (73.3) | 1.1 (0) |
| <i>Bleaching needle in the last 12 months. Yes*</i> | | | | | |
| Always | 1.7 (0) | 1.6 (0) | 10.2 (16.2) | 3.7 (0) | 24.2 (20.0) |
| Sometimes | 2.3 (0) | 5.5 (0) | 23.6 (35.1) | 2.4 (13.3) | 15.2 (0) |
| Never | 20.3 (100) | 2.7 (100) | 30.8 (48.6) | 19.9 (86.7) | 24.9 (80.0) |
| <i>Equipment cleaning in ways other than aforementioned</i> | | | | | |
| Explain: | | | | | |
| Boiling | 4.9 | 0.5 | 3.6 | 4.9 | 0.4 |
| Disinfectant | 0.9 | 0 | 1.9 | 3.3 | 0 |
| Direct heating | 0 | 0 | 0.5 | 0.4 | 0 |
| Other | 10.6 | 0 | 0.5 | 0.8 | 0 |

*Percentages in brackets represent HIV positive drug users

For those drug users who knew they were HIV positive (19.4%, n = 276 out of 1420), at least 47.5% reported that they had never used a needle after someone else, 52.8% reported that no one had used a needle before them while 50.7% reported that no one had used a needle after them within the past 12 months. In Kisumu, there was no sharing or re-use of

needles reported but only 30.6% of the HIV positive drug users reported that they cleaned needles before re-use. Other equipment, apart from needles, was shared by drug users in all centres except in Nakuru and in Kisumu.

Overall, 56.0% of the drug users in all the centres reported that they were sexually active. In Kisumu, at least three quarters of the drug

Table 3. Patterns of reported sexual behaviour (%)

| Sexual Behavioural | Mombasa | Malindi | Nairobi | Nakuru | Kisumu |
|--|----------------|----------------|----------------|---------------|---------------|
| <i>Sexual relationship with girlfriend/boyfriend? Yes</i> | 70.0 | 37.2 | 55.5 | 68.3 | 49.1 |
| Daily | 15.1 | 36.1 | 38.2 | 9.3 | 75.1 |
| Weekly | 33.4 | 14.8 | 28.6 | 37.0 | 12.3 |
| Monthly | 22.3 | 7.1 | 8.5 | 18.0 | 4.3 |
| Yearly | 5.7 | 22.4 | 4.9 | 12.2 | 1.1 |
| <i>Number of sexual partners during the last 12 months</i> | | | | | |
| 1 | 26.3 | 35.5 | 40.9 | 36.6 | 20.9 |
| 2 | 2.6 | 30.1 | 29.9 | 15.9 | 42.6 |
| 3 | 14.3 | 15.8 | 11.5 | 13.4 | 30.7 |
| 4 | 20.3 | 9.8 | 6.6 | 19.5 | 2.2 |
| <i>Preferred sexual orientation</i> | | | | | |
| Man to woman | 86.3 | 50.3 | 66.5 | 86.2 | 39.4 |
| Man to man | 4.0 | 18.0 | 18.4 | 1.2 | 31.8 |
| Woman to woman | 1.7 | 24.6 | 6.0 | 0 | 25.3 |
| Masturbation | 2.3 | 1.1 | 3.0 | 1.6 | 0.4 |
| <i>Age at first sexual encounter (years)</i> | | | | | |
| 10-15 | 48.8 | 21.1 | 40.5 | 41.2 | 41.2 |
| 16-24 | 62.2 | 46.4 | 42.7 | 43.8 | 29.8 |
| 25-34 | 0.6 | 24.0 | 1.4 | 2.4 | 13.8 |
| 35+ | 1.2 | 0 | 2.7 | 3.2 | 0 |
| <i>Frequency of anal sex</i> | | | | | |
| Always | 6.3 | 33.3 | 24.2 | 4.2 | 47.7 |
| Sometimes | 14.6 | 20.8 | 28.6 | 10.6 | 35.7 |
| Rarely | 11.1 | 5.5 | 3.3 | 2.8 | 1.7 |
| <i>Use of condom during sex*</i> | | | | | |
| Never | 32.0 (40.0) | 26.8 (0) | 22.5 (8.0) | 31.7 (38.9) | 40.4 (16.7) |
| Sometimes | 39.1 (16.0) | 39.9 (0) | 43.1 (36.0) | 39.4 (38.9) | 19.1 (33.3) |
| Always | 25.7 (44.0) | 13.1 (0) | 11.0 (56.0) | 18.7 (22.2) | 4.0 (50.0) |

*Percentages in brackets represent HIV positive drug users

users reported that they had daily sex with a boy/girlfriend. Homosexuality was reported by males and females in all centres except in Nakuru, and was most frequently reported in Kisumu. Sexual activity was initiated as early as at 10 years of age, and majority of the drug users reported having already engaged in sex by the time they were 20. A very small proportion of the drug users reported condom use during all sexual encounters. Awareness of risky sexual behaviour in relation to HIV/AIDS transmission was not reflected in the sexual practices of the drug users (see Table 3). The percentages of drug users who were HIV positive and who had had sexual encounters without protection ranged from 8.0% in Nairobi to 40.0% in Mombasa.

Only 43.1% overall reported that they always used a condom during a sexual encounter when they were under the influence of drugs, while up to 25.9% reported that they always had sex without a condom. In this study, 38.2% of all the respondents (n = 542) knew their HIV status (Nairobi – 11.3%, Mombasa – 10.6%, Malindi – 5.6%, Nakuru – 8.4% and Kisumu – 2.2%). It was only in Mombasa that 120 respondents were recruited and tested for HIV and Hepatitis C (41.66% tested positive for HIV and 60.83% tested positive for Hepatitis C).

Table 4 presents results on HIV/AIDS awareness and behaviour. A high level of HIV/AIDS awareness was reported in all the centres (Nairobi – 88.3%; Malindi – 90.3%; Kisumu –

Table 4. HIV/AIDS-related behaviour, practices and effects (%)

| Behavioural | Mombasa | Malindi | Nairobi | Nakuru | Kisumu |
|--|---------|---------|---------|--------|--------|
| <i>Seeking Knowledge about HIV/AIDS</i> | | | | | |
| Never | 27.8 | 15.9 | 36.9 | 32.8 | 23.1 |
| Sometimes | 49.9 | 54.7 | 47.4 | 47.1 | 50.0 |
| Always | 22.3 | 29.4 | 15.7 | 20.2 | - |
| <i>Personal drive to seek for counselling services</i> | | | | | |
| Never | 43.7 | 31.2 | 56.6 | 36.2 | 73.7 |
| Sometimes | 42.8 | 48.0 | 39.9 | 48.1 | 20.6 |
| Always | 13.5 | 20.8 | 6.4 | 15.7 | 5.7 |
| <i>Lifelong personal need to test for HIV/AIDS</i> | | | | | |
| Never | 33.0 | 19.3 | 39.1 | 37.0 | 46.4 |
| Sometimes | 51.4 | 52.1 | 46.1 | 44.1 | 12.1 |
| Always | 15.6 | 28.6 | 14.8 | 18.9 | 41.1 |
| <i>Spousal feelings for testing</i> | | | | | |
| Never | 50.2 | 33.0 | 43.4 | 49.8 | 56.8 |
| Sometimes | 33.1 | 42.6 | 41.5 | 34.8 | 27.3 |
| Always | 16.7 | 24.5 | 15.1 | 15.4 | 15.9 |
| <i>Effect of HIV/AIDS on sexual behaviour</i> | | | | | |
| Increased urge for sex | 12.7 | 23.7 | 18.1 | 5.6 | 26.3 |
| More sexual partners | 8.0 | 6.2 | 26.9 | 16.0 | 8.8 |
| Increased abstinence | 36.0 | 21.6 | 30.3 | 43.2 | 40.4 |
| Increased condom use | 43.3 | 48.5 | 24.8 | 35.2 | 24.6 |
| <i>Spousal reaction to HIV+ status</i> | | | | | |
| No change | 27.5 | 24.7 | 23.1 | 14.2 | 16.7 |
| Condom use | 14.6 | 48.2 | 38.7 | 25.2 | 25.6 |
| Abstinence | 35.1 | 1.2 | 17.2 | 18.9 | 20.9 |
| Divorce/separation | 8.8 | 11.8 | 4.6 | 7.9 | 2.3 |

91.4%; Mombasa – 92.4% and Nakuru – 94%). Overall, there was a high level (91.3%) of HIV/AIDS awareness and nearly 90% of the drug users reported that they were aware that HIV/AIDS could be transmitted through injecting drugs. However, only 59.7% were aware about their own HIV/AIDS status with Mombasa reporting an awareness rate of only 44%. The prevalence rates of HIV/AIDS for all centres was reported at 52.3% for Mombasa, 63.8% in Malindi, 47.8% in Nairobi, 35.3% in Nakuru and 83.9% in Kisumu. Behaviour related to HIV/AIDS included seeking knowledge, counselling and testing. Even though HIV/AIDS prevalence was high, up to 46.4% of the

drug users reported that they had never felt a need to go for a test.

The study showed variations in drug use patterns across the five study sites and a significant association between positive HIV status and IDU.

DISCUSSION

This study is the first one that reflects the socio-demographic characteristics of drug abusing samples from urban and peri-urban areas in Kenya, as past studies have concentrated on school populations. Between 14 and 42 ethnic

groupings were represented within the study samples. Ethnic diversity was reported at high levels in Mombasa and this was as expected since this is the main port of entry into Kenya and it attracts people from many different parts of the country.

The types of drugs used were similar to those reported in earlier school studies with the exception of parenteral use which is an emerging factor of great magnitude. The 1997 school survey showed only 0.3% heroin use, 0.3% *Mandrax*/amphetamine use and 0.3% cocaine and *Mandrax* use (Ndetei et al., 1997). However, the school studies were epidemiological surveys, whereas this study included purposively sampled drug and intravenous drug users from five different centres.

In this study, intravenous use of cocaine and heroin was reported in all the study centres (except in Malindi for cocaine use). In most of the centres, the drug users were current users who were more active at present than in the past one year, and who had used drugs for more than one year. The recorded trend of other members of the nuclear family being drug users (not necessarily abusers) provided a basis for highlighting the importance of involving the nuclear family in drug-related treatment, rehabilitation and educational activities for the abusers.

The pattern of early initiation into sexual behaviour as found in this study has been reported in earlier studies (UNAIDS, 1999). Homosexuality, an emerging phenomenon in Kenya, has been documented for the first time in this study. It is noteworthy that the highest levels of risky sexual behaviour were reported in Kisumu, despite the fact that the respondents were highly knowledgeable about HIV/AIDS. Regional trends of sexual patterns in earlier studies were obscured because data were pooled together. The patterns revealed through this study may explain the regional differences in HIV prevalence statistics (UNAIDS, 1999).

Another phenomenon which has been reported through this study is IDU which was found in all the areas studied. This is a new phenomenon compared with previous

published school surveys. Sharing of needles, even by people who knew that they were HIV positive, was found in all the centres suggesting that a positive HIV status and IDU have a significant association in Kenya. On average, only 50% of the sample knew their HIV status while 34 to 44% of IDUs knew that they were HIV positive. If it was assumed that the 50% who did not know their HIV status had an equal chance of being positive for HIV, then it means that in Kenya, at least 68-88% of IDUs are HIV positive. This is in agreement with findings from Spain (66%), Myanmar (66%), Italy (69%) and Thailand (80%) (UNODCP, 2000), reported six years prior to this study. This finding is also corroborated by a serological survey in Mombasa which found that 49.5% of IDUs were HIV positive, demonstrating a strong association between IDU and HIV.

Very low rates of IDU were reported in Nakuru and Kisumu. Experience in other regions has shown that IDU is a major vector of HIV even in situations where HIV seroprevalence is low. A major concern is that the emerging IDU trend in a high HIV prevalence situation is a recipe for disaster. There is urgent need therefore, for concerted efforts to pre-empt this from happening through appropriate policy for prevention while at the same time, integrating drug use and in particular IDU, as part of HIV education, prevention, treatment and overall management policy.

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ALCOHOL USE AND ABUSE AMONG ETHIOPIAN IMMIGRANTS IN ISRAEL: A REVIEW

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ABSTRACT

This paper attempts to cover the current state of alcohol use among immigrants from Ethiopia in Israel and to suggest recommendation for future activities. In addition, as a background, it attempts to describe the Ethiopian immigration to Israel and its problems, as well as some background characteristics of alcohol use in Ethiopia. This paper is the first summary in English of findings in alcohol epidemiology and treatment in relation to immigrants from Ethiopia. A review of all studies published in the professional literature concerning alcohol use and treatment among Ethiopian immigrants in Israel was conducted as well as summary of the main literature concerning the problems of the Ethiopian community in Israel and alcohol use in Ethiopia. The review located only a few studies and reports in Hebrew in relation to alcohol use among immigrants from Ethiopia. However, it identifies alcohol use among young immigrants as more prevalent than among the other Israelis, and shows that Ethiopian immigrants are overrepresented in treatment in comparison to their segment in the Israeli absorbing society. Recommendations include the need for research on alcohol use patterns among adults, as well as developing and implementing more alcohol prevention programs, including programs in Amharic, and training of Ethiopian professionals and recovered Ethiopian alcoholics to lead the prevention activities.

KEY WORDS: alcohol, Ethiopia, immigrants, Israel

INTRODUCTION

In order to understand the alcohol use phenomenon among Ethiopian immigrants in Israel, there is first a need to describe the Ethiopian emigration and its problematic characteristics, which play a role in initiating alcohol use among this population and provide some information concerning alcohol use in Ethiopia.

The scope of the Ethiopian emigration

The Israeli Law of Return enables every Jew to become a citizen of Israel. Any person who has at least one Jewish grandparent is eligible for automatic citizenship. This is the result of the notorious German laws during the Holocaust in World War Two, whereby any person whose grandparent was a Jew was persecuted and branded as an enemy of the Third Reich – ultimately doomed to extermination.

The Ethiopian Jews are considered to be descendants of the Dan tribe who came to Ethiopia in 719 BCE. They straggled during the centuries to keep their Jewish religion. However, when the missionary activity intensified at the end of the 19th century, large numbers converted. These people, whose ancestors had been Jews, are referred to as the Falashmura. However, in the case of Ethiopian immigrants, some are allowed to immigrate on the basis of family reunification. The Falashmura immigrants enter Israel under the Law of Entry, a humanitarian law designed to enable relatives of Israelis to immigrate. The Israeli government does not want to absorb Christians who simply want to get out of Ethiopia. The Ethiopian emigration has a heavy burden on the Israeli economy. Therefore, the government follows strict procedures for determining eligibility to immigrate. About 5,000 Ethiopians came from camps in Sudan (they had escaped from Ethiopia to Sudan) by ships or airplanes during the years 1977-1984, 8,500, mainly from Gondar, came in the framework of Moses Operation in 1984 (by flights from camps in Sudan), 15,000 came during the years 1985-1991, 14,500 came in the framework of Solomon Operation in 25 May 1991 (by 40 flights from Addis Ababa), and about 38,000 came during the years 1992-2006, including some thousands of Falashmura immigrants, who could prove some relations to already Israeli-Ethiopian citizens (Aliya and Klita Department, 2007). In 2006 the Ethiopian community in Israel numbered about 105,000 people, approximately half (49%) of whom were under the age of 19 (Israel Central Bureau of Statistics, 2007). There are still Falashmura who wait to come to Israel, and the process will probably finish in 2008. It is important to note, that in 2006, the population of Israel numbered about 7,000,000, of whom 20% were Arabs (mainly Moslems). Thus, the Ethiopians consisted about 1.4% of the entire population.

The characteristics of the emigration experience

The Ethiopian emigration experience is characterized by abandonment of property, marching on foot from the villages to Addis

Ababa and to Sudan, haste, illegal and secret departure, hiding from authorities, neighbors, and people on the way, splitting of families members, thirst, hunger, sickness, death and robbers on the way, illegal entrance to Sudan, and long stay in refugee camps in Sudan in difficult conditions. The Ethiopian Jews who immigrated to Israel came from a religious traditional society to a modern, pluralistic mostly secular society, from tribal religious leadership to political leadership, from a rustic way of life to an urban lifestyle, from primitive agricultural environment to innovative technological surroundings, from a situation where no priority is given to education to a situation of obligatory formal education, from a culture in which the adults and the extended family (up to some hundred members) are in the center to a society in which the children and the nuclear family are in the center, and from a authoritative-patriarchal atmosphere to a liberal one (Bar-Yosef, 2001).

Problems of integration

Due to cultural differences and other problems, members of this ethnic group have not succeeded in full integration into the Israeli society (e.g. Benita & Noam, 1995; Chakaly, 2002; Cohen, 1994; Halper, 1985; Kaplan, 1999; Kaplan, 2002; Maart, 2006; Offer, 2004; Roar-Strier, 1996, 2006; Savanto & Yosef, 2004; Shabtay, 2001; Shemesh, 1999; Schindler, 1993; Schindler & Ribner, 1995; Short, 1995). An especially serious problem is the unsuccessful absorption of the children into the school system (mainly the religious schools) (Dotan, 1985; Adamaso, 2007). Their educational achievements are the lowest in Israel. The educational level (Myers-JDC-Brookdale Institute, 2006) of the Ethiopian community can be seen in Table 1. In 2002 25% of Ethiopian students dropped out of school in comparison to 15% of the rest of Jewish students. Thus, a quarter of Ethiopians do not graduate from high school (Shabtay, 2003).

The vast majority of the Ethiopian community is living below the poverty line. A lot of families with many children are headed by unemployed men (in two thirds of the

Table 1. The education level of Ethiopians and the general population in Israel in 2005 (%)

| Years in School | Ethiopians | Jewish General Population |
|-----------------|------------|---------------------------|
| 0-8 | 49.2 | 5.4 |
| 9-11 | 6.8 | 10.8 |
| 12 | 32.2 | 32.7 |
| 13+ | 11.8 | 51.1 |

families the parents are unemployed) in their late fifties and sixties (the older age of the fathers is attributed to the common practice of men marrying women twenty and even thirty years younger than they are). In addition, 60% of families have five or more children up to 18 years of age (JDC-Brookdale Institute, 2001), combined with a high percentage of single women who are also unable to work (one-fifth of Ethiopian families are single mothers [JDC-Brookdale Institute, 2001]). However, even those who do work have difficulty making enough money. Many have a limited ability to speak Hebrew (45% cannot speak Hebrew at all [JDC-Brookdale Institute, 2001]) or even read or write in their own language. Most families live in distressed neighborhoods in concentrated Ethiopian pockets in peripheral regions of the big cities in the center of Israel or in developing towns in the peripheral parts of the country. This spatial and social isolation and the creation of Ethiopian enclaves are due to the conjuncture of poor policy implementation, lack of political power, the immigrants' strong preference to settle close to kinsmen, market constraints (as they are given money that can buy homes in the least desirable places), and the fact that many Israelis consider having Ethiopian neighbors as a threat to their social and economic status and not willing to tolerate more than a small number of them in their neighborhood (Lazin, 1997). Especially the immigrants from the former Soviet Union express unwillingness to have social contact with immigrants from Ethiopia (Shchori, 2005). However, it is important to bear in mind that while the Ethiopians suffer from some racial prejudice by some groups of Israelis, they do not suffer

from any institutionalized political exclusion or racial discrimination.

Many children are out in the streets or in malls, and they ditch school to hang out (Kaplan & Rosen, 1993). In 1997 about 1,500 Ethiopian youngsters lived in the streets (Nevo, 1999). The parents have little control over this because they have a lot of children, small crowded apartments, a weak mastery of basic skills, and a feeling that they don't know how to discipline their children, because their children know very little of their native Ethiopian language (Amharic) and instead speak "street Hebrew". The problems are more serious among the early immigrants (who came in Moses Operation) because they came unprepared and abandoned everything behind. Therefore, juvenile delinquency is growing and children are involved in petty crime and some times in serious criminal activities (Teroan, 2005; Apel, 2004).

As can be seen in the Table, the number of records of delinquencies increased from 139 in 1996 to 933 in 2004 - a 6.7 times in 8 years. It is important to note, that in 2001 Ethiopian youngsters were 1.3% of all youngsters. In addition, the Ethiopian offenders are younger in comparison to the rest of the offenders (Shabtay, 2003).

Ethiopian youth gangs are also in many of the cities where there is a concentration of Ethiopian immigrants. Some Ethiopian youths believe that Israelis treat them as "primitive" because they are black, and adopt an "African-American" or "African-Caribbean" image (which is alien to both Israeli and Ethiopian cultures) and favor reggae and rap music (Ben-David & Tirosh Ben-Ari, 1997; Shabtay, 2001a). These "globalize notions" of blackness are not necessarily negative as they could also be interpreted as an attempt to belong to a wider transnational community, but these types of racial expressions may also contribute to reactions of revolt and rejection of the mainstream values and norms by Ethiopian youngsters who are racially distinct.

Domestic violence is very serious. Ethiopian men found the loss of their power as heads of families overwhelming and difficult to cope with (Kacen, 2006). Women adapt better to

the new society for practical reasons. They are the ones who attend to schooling, health issues of the family, shopping (in Israel they have access to money), and find out about the available assistance. Men lose status, where the language, skills, education, occupation and politics are different to those they were used to and this triggers unwarranted violence. During the years 1992-2001, 7.11% of all women murdered in Israel were newcomers from Ethiopia. This is an indication of the high risk factor among this population (L.O.-Combat Violence against Women, Web site article). During January-November 2004, Ethiopian women consisted 8.09% of 692 women who were absorbed in shelters for battered women. In addition, 310 Ethiopian women submitted complaints against their violent husbands (2% of the total 16,000 files) (Cohen, 2006). During 2006, five Ethiopian women were murdered by their husbands out of 16 women who were murdered by spouses that year. 11% of women who entered shelters for battered women in 2006 were Ethiopians (Beno, 2007).

There are various special programs aimed at Ethiopian newcomers offered by the government (Ministries of Absorption, Education, and Welfare) as well as by The Jewish Agency and NGO's (Committee of Immigration and Absorption of the Knesset, 2006; Gitait, 2006; Cohen et al., 2005; Malamko, 2006; Information Center, 1999). They offer scholastic assistance, parent workshops, army preparation, youth outreach centers, higher education scholarships, community leadership training and computer training, but these are far from enough. Thus, despite the enthusiasm around the heroic ingathering of Ethiopian Jews, the situation is problematic.

ALCOHOL USE IN ETHIOPIA

Ethiopian alcohol consumption is low by world standards. Alcohol consumption peaked in 1983 (1.2 liters adult per capita consumption (age 15+) of absolute alcohol) (WHO, 1999). In 2001 it was 0.9 liter (WHO, 2004). The

unrecorded alcohol consumption in Ethiopia is estimated to be 1.0 liter pure alcohol per capita for the above mentioned population (WHO, 2004). Along with the industrial alcoholic beverages manufactured in Ethiopia or imported by the international alcohol companies, Ethiopia is known for its local traditional home-brewed alcoholic beverages: Tella, Kofere, Shमित, Tej and Araki (WHO, 2004; Selinus, 1971; Desta, 1977). Other alcoholic beverages found in Ethiopia are Borde and Katikala (WHO, 2004).

Various studies concerning alcohol use were conducted in Ethiopia, where approximately 45.0% - 50.0% of the population are Moslem (WHO, 2004). A survey conducted in 1988 among university students in northwest Ethiopia found the percentage of current alcohol use to be 31.1%. Alcohol was frequently used in combination with tobacco and khat (Zein, 1988). A 1989 survey of 519 high school students in Addis Ababa found that 9.2% consumed alcohol heavily (no definition of "heavily" was given) (Kebede & Ketsela, 1993). A 1994-1995 survey of 1,436 young people aged 15 to 24 years of age in Addis Ababa found that 34.0% consumed alcohol regularly and that 7.0% of these consumed more than 100 grams of pure alcohol per week (Betre, Kebede, & Kassaye, 1997). A 1994 study of 10,203 adults in Addis Ababa, using CAGE and CIDI instruments, revealed 1.0% cases of alcohol dependence (1.9% males, 0.1% females) (Kebede & Alem, 1999). Another study carried out in the same period among 10,468 adults (aged 15 and above) in a rural district (Butajira), using CAGE, found that 3.7% were problem drinkers (7.5% males, 0.9% females). Among those who drank, 16.0% met the criterion for problem drinking (Alem, Kebede, & Kullgern, 1999). This study among adults (Alem et al., 1999) as well as a study among youth (Kebede & Ketsela, 1993a) also revealed that suicide attempts were associated with heavy alcohol intake and that problem drinkers reported suicide attempts more than others. Another study conducted between October 1995 and January 1996 in Butajira among 510 adults, using CIDI, found the

lifetime prevalence rate of alcohol dependence to be 1.1% (2.5% males, 0.3% females) (Awais, Kebede, & Alem, 1999).

A 1998 study of 241 students from two governmental high schools and one private high school in Addis Ababa and 187 students from a governmental high school in Butajira revealed that the percentages of lifetime use of alcohol were 17.9%, 57.8% and 18.2% in the urban governmental high schools in Addis Ababa, private high school in Addis Ababa and Butajira high school, respectively. Another WHO survey in 2003 of 4,920 adults 18 years of age and older found that 4.1% drank 5 or more drinks in one sitting (7.7% males, 0.4% females) at least once per week. About 9.3% were heavy drinkers who drank 40 grams or more of pure alcohol per day for men and 20 grams or more of pure alcohol per day for women (WHO, 2004). Another WHO survey in 2003 among 1,158 young people 18 to 24 years old revealed that 2.0% drank 5 or more drinks in one sitting at least once per week. According to another WHO survey conducted that year among 1,222 persons, the mean daily grams of pure alcohol consumed by drinkers totaled 23.6 grams (27.8 among males, 17.2 among females) (WHO, 2004).

A study conducted in an isolated island community in southern Ethiopia revealed that the prevalence of alcohol dependence was 1.5% with all cases being males (Kebede et al., 2005). Another study carried out in 2002 among female sex workers aged 15-49 years and working in seven urban centers found that unprotected sex and sexually transmitted infections were associated with alcohol use (Alem et al., 2006). Another study conducted in the same period among 20,434 young people between 15 and 24 years of age revealed that the use of alcohol was associated with risky sexual behavior, especially among daily drinkers (Kebede et al., 2005a).

Thus, a picture emerges of a country, that, by world standards, does not suffer from serious alcohol problems, and in which various traditional alcoholic beverages are made at home especially for moderate use in social gatherings or meals.

ALCOHOL USE AMONG IMMIGRANTS FROM ETHIOPIA IN ISRAEL

The problem of alcohol abuse among the newcomers from Ethiopia emerged and was noticed by the Israeli public at the end of the 1980's and the beginning of the 90's and published in daily newspapers (e.g. Taub, 1989; Aarenson, 1991; Rosenblit, 1991; Saban, 1994). Many of the newcomers have taken to imbibing large amounts of beer, a habit begun after they had come to Israel. Beer reminded them of the taste of their traditional beverage (Tella), which in Ethiopia contains only 2.0% alcohol, while the beers in Israel contain 5.0% (Weiss, 1994). However, the Ethiopian immigrants have not been aware to the addictive potential of beer drinking and to the difference between Tella and beer (Rosen & Shmuel 2007). Moreover, the price of a bottle or can of beer in Israel is low and is the same as the price of a bottle or can of soft drink or juice. Many Ethiopians prefer to spend money on beer than to spend money on books for school, games for children or even necessary or nutritious food for the family (Rosen & Shmuel, 2007). Thus, there has been a visible consistent increase from the limited moderate social drinking of Tella among adults during meals and social gathering, and of Tej in feasts in the villages in Ethiopia to excessive drinking of Israeli commercial and imported beers as well as Arak among adults at home as well as among groups of adolescents in the clubs, malls, streets of Israel, during the mornings while not attending school, and especially at nights.

The problem of drinking has spread and is visible especially among those adults who came to Addis Ababa from the villages and waited there for a long time in order to immigrate to Israel. There they were exposed to many new and different alcoholic beverages and to the local taverns. Moreover, many Ethiopian immigrants see the consumption of beer as a part of manly identity and they use to offer large amounts of beer to adolescents in social gatherings. Large amounts of beer

and other alcoholic beverages are served in “mass-celebrations” such as weddings (which generally last few days) and even in funerals. (No alcohol was served in funerals in Ethiopia). The children are required to attend these events and to be absent from school (Rosen & Shmuel, 2007). The phenomenon of alcohol abuse among Ethiopian immigrants has been labeled as a “social bomb” (Rosen & Shmuel, 2007; Gross, 2007).

While there are many studies in Israel in relation to drinking among immigrants from the former Soviet Union (Weiss, in press), it was expected that there would be many studies of the second group of immigrants – the Ethiopians, particularly because their drinking is visible to the public. However, after a comprehensive search in academic libraries, principal institutions and in the Internet for any studies among Ethiopian Immigrants in the alcohol domain, the finding is that there is a paucity of studies in relation to alcohol use among immigrants from Ethiopia. A search of studies published in Hebrew and English in the epidemiological and treatment domains from 1984 to 2007 resulted in only three epidemiological studies and only four treatment reports. Some more studies did include Ethiopians but did not provide specific data concerning the Ethiopian immigrants (e.g. Elizur, 1999).

Epidemiology of Drinking and Patterns of Drinking

Research conducted in 1992 in the north of Israel among high school students, included a group of 24 Ethiopian participants. It revealed that beer was the main alcoholic beverage consumed by Ethiopian students (75.0%). They reported drinking mainly at home (58.0%), in order not to be different (33.0%) or to improve mood or forget troubles (25.0%). The Ethiopian students chose both school counselors (25.0%) and relatives (not parents) (20.8%) as preferred social support resources for alcohol problems (Weiss & Moore, 1994, 1995). As a result of this study, some prevention projects among the Ethiopians had been implemented in the mid-1990's (Weiss, 1994; Weiss, 1997; Bodovsky et al., 1995).

The major focus of research has been on the patterns of delinquents and delinquency among Ethiopian youths (Edelstein, 2002), linking the immigrant father's age and the weakening in his parental ability to teach relevant norms, to control behavior and to set normative boundaries, and on the dysfunction in the Ethiopian nuclear family. Because of “lack of resources”, other more pressing priorities and actual ignorance, no research was conducted from 1992 until 2003 concerning alcohol use among the Ethiopian immigrants. However, the Israeli government did invest a vast amount of resources to promote Ethiopian immigrants' integration into Israeli society.

A pilot study among 44 Ethiopian students was carried out in 2000 (Edelstein, 2000) and revealed that 75.0% drank alcohol at least once per week, and 25.0% were involved in property offences in order to get money to purchase alcohol. The full study was conducted on July 2003 (Edelstein 2004).

The full study was conducted among 512 youngsters in eight towns. The participants were drawn from boarding schools (22.0%), regular schools (45.0%) and “detached youth” (33.0%). Detached youth is a population of adolescents with varying degrees of social “detachment”, ranging from youngsters who neither work nor study (16.0% of the sample), to those who work and study in special educational settings, or who are formally listed as students, but rarely attend school. Half immigrated to Israel before 1990 (mainly Moses Operation) or were born in Israel, and half immigrated from then until 1996 (Solomon Operation and the waves of immigration that followed that operation). Most of them came from large families of four or more children (78.3%), and about third of them lived in one-parent families. Half of the participants had an unemployed father and 65.0% had an unemployed mother. Most of the fathers (75.0%) were above 45 years of age and 15.0% were above 65 years of age, while most of the mothers (55.0%) were younger than 44 years of age, and only 2.0% were above 65 years of age. Most of the fathers were illiterate or had only few years of education. The questionnaire

Table 2. Some alcohol use patterns of Ethiopian youth compared to general Israeli youth (%)

| Alcohol use | Ethiopian youth (2003) (n =512) | Israeli youth (students), 2005 (n = 6,410) | Israeli youth (detached), 2005 (n = 1,000) |
|--------------------------------------|---------------------------------|--|--|
| Drinking in the last year | 67.3 | 49.4 | 61.4 |
| Drunkenness in the last year | 43.0 | 25.0 | 46.0 |
| Males | 73.0 | 59.1 | 66.7 |
| Females | 52.0 | 41.1 | 52.6 |
| Preferred beer drinking* | 44.0 | 34.1 | 50.9 |
| Preferred wine drinking* | 46.0 | 37.9 | 48.1 |
| Preferred distilled spirit drinking* | 37.0 | 32.5 | 47.6 |

* There was the option of providing more than one answer

did not deal with ceremonial use of alcohol or with the use of Tella.

Table 2 provides data concerning alcohol use variables among Ethiopian youngsters (Edelstein, 2004), and the Israeli general population of students and detached youth (Ezrachi Et al., 2005). Moreover, it was revealed that alcohol use in the last year among Ethiopian youth in boarding schools (N=110), regular school (N=226) and among detached youth (N=169) was 75.0%, 60.0% and 84.0% respectively, and lifetime arrest by the police was 22.0%, 16.0% and 47.0% respectively (Edelstein, 2004). Table 3 focuses on various socio-demographic variables in relation to alcohol use (Edelstein, 2004).

In addition, 48.0% of respondents thought that Ethiopians prefer beer drinking, 45.0% thought that Ethiopians prefer distilled spirit drinking, 22.0% thought that Ethiopians prefer wine drinking, 51.0% thought that Ethiopian youngsters use money taken from parents for other purposes to purchase alcohol, 44.0% thought they use their own money and 18.0% thought that Ethiopian adolescents steal money in order to buy alcohol. Furthermore, 51.0% of Ethiopian youth got their first drink from a friend and 30.0% from a family relative. The first alcohol drinking was mainly in a social framework (64.0%) and at a family framework or home (30.0%). About 35.0% of Ethiopian youngsters paid for the beverage using money taken from parents (for other purposes), 38.0% used their own money and 9.0% used stolen money. About 10.0% reported involvement in a criminal act in order to have enough money

Table 3. Alcohol use in the last year among Ethiopian youth in relation to various socio-demographic variables

| Social and demographic characteristics | Drinking in the last year (%) |
|---|-------------------------------|
| Age: | |
| 12-13 | 25.0 |
| 14-15 | 53.0 |
| 16-18 | 75.0 |
| Origin: | |
| Israeli-born | 67.0 |
| Immigrated before 1989 | 76.0 |
| Immigrated after 1990 | 61.0 |
| Religiosity: | |
| Religious | 42.0 |
| Traditional | 64.0 |
| Secular | 79.0 |
| Parents marital status: | |
| Married | 64.0 |
| Divorced | 72.0 |
| One parent died | 78.0 |
| Acquaintance with Ethiopian alcohol users: | |
| Yes | 73.0 |
| No | 20.0 |
| Father: | |
| Alive | 66.0 |
| Dead | 77.0 |
| Any drug use: | |
| Prior to age 11 | 86.0 |
| 12-13 | 90.0 |
| 14-15 | 94.0 |
| 16-18 | 100.0 |
| Acquaintance with Ethiopian drug users: | |
| 0 | 44.0 |
| 1-4 | 73.0 |
| 5-10 | 77.0 |
| 11-15 | 81.0 |
| 16+ | 84.0 |

for buying alcohol drinks (Edelstein, 2004). As a result of this study, a special prevention program for Ethiopian adolescents groups and their parents was initiated in 2006 in fifteen Ethiopian communities throughout Israel. Each group consists of ten to sixteen adolescents, and the program encompasses fifteen sessions for youth, seven sessions for parents and three joint sessions. Each group is led by two moderators: an addiction specialist and an Amharic speaking Ethiopian guide (Barbash & Shachar, 2007).

TREATMENT OF ALCOHOL ABUSE AND DEPENDENCE

Until 2004, no attempt was made to distinguish Ethiopian patients from other patients in the treatment reports of the inpatient and outpatient alcohol treatment centers in Israel and provide data in relation to the Ethiopian immigrants (Marchevsky & Weiss, 1997). Table 4 (Sade, 2007; Michaely, 2007) summarizes the data since 2004 concerning the outpatient centers. In the period January 2006 – July 2007, seven Ethiopians were treated in the Rehabilitative Hostel for Alcoholics (50.0% of the hostel's patients) (Sade, 2007). The ambulatory governmental centers for alcoholism treatment are not set for dealing with the special needs of the Ethiopians: there is no Amharic speaking Ethiopian staff, and the native Israeli therapists do not have any acquaintance with the Ethiopian culture and the Ethiopian family structure. Therapists report of low numbers of referrals of Ethiopians to treatment, but also of difficulties in the treatment process due to language, mistrust of

Table 4. Numbers and percentages of Ethiopians in the outpatient treatment centers for alcohol problems

| Year | Number of Ethiopians | % of all patients |
|------|----------------------|-------------------|
| 2004 | 23 | 1.5 |
| 2005 | 33 | 1.9 |
| 2006 | 53 | 3.4 |
| 2007 | 56 | 3.3 |

governmental institutions and fear that children will be taken from home due to alcoholism in the family (Sade, 2007).

It is not clear whether the increasing number is due to increase in the incidence of alcohol problems among the Ethiopians or whether it is the consequence of more awareness or willingness to seek help. It is interesting to note that in the only Israeli inpatient residential center for alcoholics in 2000 there was one Ethiopian patient in the long-term hospitalization program (1.78%) and only four in the short-term program (2.53%) (Markevitch, 2001). In 2001 there were two Ethiopians in the long-term program (3.39%) and seven in the short-term program (3.48%) (Markevitch, 2002). The residential center was close in 2003 after 20 years of operation (Weiss, 2004). Among its activities was the distribution of a special prevention kit in Amharic (Weiss, 1994; Weiss, 1996).

CONCLUSIONS

This paper is the first to summarize findings in the area of alcohol use among Ethiopian immigrants in Israel. Most of the materials were published in Hebrew, and are not available to English readers. The review identifies alcohol use among young Ethiopian immigrants as more prevalent than among the Israeli absorbing society, and shows that Ethiopian immigrants are overrepresented in treatment. Thus, a serious problematic picture emerges from the findings presented above, which has to be considered by prevention and treatment authorities. While moderate Tella or Tej use in Ethiopia was part of social life among the Jewish Ethiopians, and drunkenness was condemned, the Ethiopians in Israel, due to influences of the surrounding society and the difficulties in day to day life, started to drink beer and Arak in excessive manner and to become problem drinkers. The results can be attributed to conflict between the Ethiopian culture and the Israeli culture and to the intergenerational conflict among Ethiopian themselves. The phenomenon of

alcohol abuse, together with increasing rates of juvenile delinquency and school dropouts among the young Ethiopian generation must raise concerns for the future social well-being of the Ethiopian community.

The paper has practice implications for social workers and educators, who might use the information in their practice, to researchers who might develop proposals for research as well as for the development, implementation and evaluation of programs in accordance with the Ethiopian immigrants' situation, and for those who make policy on behalf of the Ethiopian immigrants. It is recommended for future efforts to conduct the first comprehensive research of alcohol use among adult immigrants from Ethiopia, To develop and implement alcohol prevention programs, including programs for adults in Amharic, in the Ethiopian communities, as well as workshops for youth (Lekach, 2000; Kimchi, 2002), to train Ethiopian professionals and recovered Ethiopian alcoholics to lead the prevention activities, and to develop and implement special alcohol prevention programs aimed at Ethiopian students in the junior-high schools, when school drops out begins around the ages of 13-14 years.

It is also recommended to conduct special workshops aimed at adult Ethiopians in order to deal with their special familial problems, change norms that cannot continue in Israel, and give parents tools in order to identify alcohol problems among their children, and to increase educational and learning activities and ex-curricular activities among Ethiopian youth, as well as activities for detached Ethiopian youth especially in underprivileged neighborhoods. Disparities in socio-economic achievements between Ethiopian Israelis and the rest of the population may lead to marginalization and proliferation of social problems among the Ethiopians and to an increase in alcohol use. Thus, investment in the advancement of the Ethiopian youth is important not only in order to prevent excessive alcohol use, but mainly to avoid the development of an "oppositional culture" by the second-generation Ethiopians, leading to resistance of their integration into

mainstream society, as a response to their condition of poverty, isolation and alienation from Israeli society.

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ALCOHOL AND DRUGS IN POST-WAR SIERRA LEONE

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ABSTRACT

The kind of social stress that a civil war expose the population to makes it easy to assume that an increased level of alcohol and drug abuse should be observable in post-war Sierra Leone. This is, however, not the case. As this study reveals, the pattern of alcohol and drug consumption in Sierra Leone is the same as we find in other African countries that has never experienced civil war. The majority of the population do not drink very much or use drugs at all, but there is a small minority that are frequent drinkers and use drugs. These findings are based on a survey in Sierra Leone and explore who the drinkers are, how many people drink and what characterises drug users in Sierra Leone.

KEY WORDS: alcohol, drugs, Sierra Leone, war

INTRODUCTION

Alcohol, drugs and civil war

The civil war (1991-2002) in Sierra Leone is widely known for its brutality and the suffering it inflicted on the civilian population (Richards 1996; Abdullah 1998; Keen 2005; Bøås and Hatløy 2006; Bøås 2007). Alcohol and drugs played a part in the war as rebels, militia members and soldiers consumed it not only to boost their morale, but also as a tranquilliser to cope with the consequences of the human rights abuses that they committed (Amnesty International 1995; Musah 2000; Bangura 2004; Keen 2005). The kind of extreme social stress that a civil war such as this exposes the population to may also result in an increase in

the general consumption of alcohol and drugs as well (Horton 1943; Mandelbaum 1963; Anderson and Mitchell 1992; Martin, Roman and Blum 1996); thus, making it easy to assume that an increased level of alcohol and drug abuse should be observable in post-war Sierra Leone.

Traditional alcohol in the form of palm wine – usually referred to as ‘from God to Man’ – has been consumed in Sierra Leone for centuries. Other forms of alcohol were introduced during the colonial period. Drugs, however, are a much more recent phenomenon (Abdullah 1998).

The difference between drinkers and non-drinkers is the simplest and most fundamental expression of difference in people’s relationship

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Table 1. Overview of the sample

| Sample | Freetown | Yoni | Bo | | |
|--------------|----------|-------|-------|-------|-------|
| Description | Urban | Rural | Urban | Rural | Total |
| Clusters | 11 | 4 | 4 | 6 | 25 |
| Households | 189 | 70 | 56 | 114 | 429 |
| Male | 169 | 65 | 50 | 103 | 387 |
| Female | 173 | 67 | 52 | 99 | 391 |
| Total Adults | 342 | 132 | 102 | 202 | 778 |

to alcohol (Partanen 1988). The ratio of drinkers to non-drinkers, and their distribution among the Sierra Leone population, is most indicative of how alcohol is viewed in this society. In African societies, women drink less than men, and the number of women who do not drink at all are consistently higher than among men. Social sanctions against women drinking too much – or drinking at all – are widespread (Bryceson 2002). In most African societies, there is traditionally a significant contrast between drinkers and teetotallers. By and large, African societies tend to be quite sober, but most also have a smaller segment of the population that drinks quite substantially. The main objective of this article is therefore to gain a better understanding of the characteristics of drinkers, non-drinkers, and drug users in Sierra Leone. The study explores who the drinkers are, how many people drink and what characterises drug users in Sierra Leone. The latter issue is mainly explored by reference to our ethnographic material, as it is almost impossible to get reliable data about drug consumption in a quantitative survey.

METHODS

The method used for this study is a quantitative survey in combination with qualitative interviews, each complementing the other. The fieldwork was conducted in Freetown, in rural communities surrounding Mile 91 (in Yoni chiefdom in Tonkolili district) and in urban and rural communities in Bo (in Kakua, Tikonko, and Baoma Chiefdom).¹

Quantitative method

Random sampling method was used for the quantitative method. The sampling frame was based on the Statistical Office in Sierra Leone's Master Sample. 25 clusters were drawn: 11 clusters in Freetown were randomly selected, all 4 clusters in Yoni Chiefdom in Tonkolili District were included, and, in Bo District, the clusters from Kakua (urban and rural), Tikonko (rural), and Baoma (rural). Chiefdoms were included. In each cluster, one location was randomly selected. Each cluster was mapped and listed in one day, and the field workers made appointments with the selected households for an interview the following day.

The sample is representative of the areas studied, but it does not represent the whole country. However, the sample is of a sufficient size to give a good indication of the situation in Sierra Leone. However, the reader should keep in mind that limitation to the study is that alcohol and drug use are sensitive issues and certain amount of under-reporting may have taken place.

Qualitative method

Qualitative interviews were implemented through ethnographic life history methodology and in focus group sessions. Many of the participants in this part of the study had personal war-time experiences. The contours of the history and legacy of the Sierra Leone civil war are important factors for gaining a better understanding of the alcohol and drugs situation in the country, and the qualitative interviews provided useful information that complimented the quantitative findings.

¹ The fieldwork was conducted in October 2004 (Bøås and Hatløy, 2005).

Table 2. Socio-demographic background variables by gender in percent

| Characteristics | Male | Female | Total | n |
|--------------------------------|------------|------------|------------|-----|
| Age groups | | | | |
| 15-24 years | 29 | 30 | 30 | 230 |
| 35-39 years | 38 | 43 | 41 | 315 |
| 40-87 years | 34 | 26 | 30 | 233 |
| Marital status | | | | |
| Single | 35 | 20 | 20 | 213 |
| Married | 62 | 70 | 70 | 509 |
| Widowed, divorced, separated | 3 | 10 | 10 | 52 |
| Ethnic groups | | | | |
| Mende | 31 | 34 | 32 | 253 |
| Temne | 35 | 33 | 34 | 262 |
| Other | 43 | 33 | 34 | 263 |
| Religion | | | | |
| Muslim | 71 | 72 | 71 | 554 |
| Christian | 28 | 28 | 28 | 218 |
| Other | 1 | 0.5 | 1 | 6 |
| Education | | | | |
| Never attended school | 35 | 51 | 43 | 330 |
| Not completed primary | 10 | 15 | 12 | 96 |
| Primary completed | 15 | 10 | 12 | 94 |
| Junior secondary completed | 22 | 11 | 16 | 125 |
| Senior secondary completed | 11 | 9 | 10 | 77 |
| Higher education | 8 | 5 | 7 | 50 |
| Employment (last month) | | | | |
| None | 18 | 21 | 20 | 152 |
| Unpaid activities | 19 | 28 | 23 | 182 |
| Self employed | 42 | 43 | 42 | 328 |
| Paid employment/activities | 21 | 9 | 15 | 116 |
| n | 387 | 391 | 778 | |

In the individual 'life history' interviews and focus group sessions, the point of departure was the informants' location where the session was taking place. In other words, the actual physical site of the interview provided the starting point, and from this site the interviewer and informants tracked the life of the informants backwards. The aim was to establish the chain of events that led the informant(s) to the particular place where the session was taking place. In this process, the informants own perceptions of alcohol and drug use were an important subject for conversation and discussion. These informants

were not randomly selected, but were chosen because they were underemployed youths, former combatants, hard drug users, and people spending most of their days in informal drinking places (where drugs were also used) in urban and semi-urban localities. Interviews were conducted with alcohol and drugs suppliers in these study areas as well.

Fieldworkers

Six experienced fieldworkers were employed to assist in the fieldwork. They were seconded from the Statistical Office in Sierra Leone. The fieldworkers were trained in mapping,

Table 3. Alcohol consumption in percent by gender, age, and marital status

| Characteristics | Alcohol consumption ¹ | | | | N |
|------------------------------------|----------------------------------|-----------------|-----------------|----------------|-----|
| | Never n=549 | Former n=143 | Current n=86 | Total n=778 | |
| Gender | | | | | |
| Male | 66 | 20 | 14 | 100 | 387 |
| Female | 78 | 16 | 6 | 100 | 391 |
| Age | | | | | |
| 15-24 | 87 | 7 | 6 | 100 | 230 |
| 25-39 | 70 | 18 | 12 | 100 | 315 |
| 40-87 | 57 | 33 | 11 | 100 | 233 |
| Marital status | | | | | |
| Single | 80 | 8 | 12 | 100 | 213 |
| Married | 69 | 21 | 9 | 100 | 509 |
| Widowed, divorced, separated | 59 | 36 | 5 | 100 | 52 |
| Total | 72 | 18 | 10 | | 778 |

¹Never = never tasted alcohol; former = have tasted alcohol, but not consumed any during last 12 months; current = have used alcohol during last 12 months.

listing and interviewing two days prior to the fieldwork. The questionnaire was in English, but the fieldworkers conducted the interviews in the local languages (e.g. Krio, Mende and Temne).

Data analysis

The questionnaire was developed by the authors of this article in collaboration with organisations working with alcohol and drug abuse in Sierra Leone.² One person from the household selected who was 15 years or older was randomly chosen to answer the questions. The questionnaire consisted of 80 questions, where the first part dealt with socio-economic background variables (e.g. school attendance, income, religion) whereas the second part was concerned with the informant's relationship to alcohol and drugs (e.g. frequency of use, type of alcohol/drug, reasons for use of alcohol/drugs). Fafø staff in Norway conducted the data entry, and CPro version 2.6 was used to enter the questionnaires. The analysis was conducted in SPSS version 10.

RESULTS

A total of 778 people were interviewed and 50 percent of the respondents were males and 50 percent were females. The ethnic breakdown was 32 percent mende and 34 percent temne; the rest of the sample was a mix of other ethnic groups. The majority of the respondents were Muslims (71 percent) and Christians (28 percent). The socio-demographic characteristics of the sample size are described by gender in table 2.

Alcohol and drug use in Sierra Leone

Drinking alcohol is not common in Sierra Leone. As shows, 72 percent of the population above 15 years of age claims that they have never tasted alcohol.³ Only one in ten claims to have tasted alcohol during the preceding year ('current user'), the remaining 18 percent have tasted alcohol, but not during the previous 12 months ('former user'). This corresponds quite well with the level of 'ever' users of alcohol found in a 2002 survey carried

² IOGT, Sierra Leone and FORUT Sierra Leone were consulted in this process.

³ Tasted alcohol in this study was those who reported to have tasted alcohol once or more

Table 4. Alcohol consumption in percent by residence

| Areas of residence | Alcohol consumption ¹ | | | | Total | N |
|--------------------|----------------------------------|--------|---------|----|-------|-----|
| | Never | Former | Current | | | |
| Freetown | Urban | 72 | 18 | 10 | 100 | 342 |
| Bo | Urban | 80 | 17 | 3 | 100 | 102 |
| Bo | Rural ² | 55 | 27 | 18 | 100 | 202 |
| Yoni | Rural | 85 | 9 | 6 | 100 | 132 |
| Total | | 72 | 18 | 10 | | 778 |

¹ Never = never tasted alcohol; former = have tasted alcohol, but not consumed any during last 12 months; current = have used alcohol during last 12 months

² Kakua, Baoma and Tikonko Chiefdom

out in Kambia (Northern region) and Kissy (Freetown) (Jensen 2002). In this study, 14 percent reported having ever used alcohol, and 5 percent claimed to drink daily.

Men are more likely to drink alcohol than women: 14 percent of men report drinking during the preceding year, as opposed to 6 percent of the women. Unsurprisingly, current users drink frequently – as many as 50 percent of men and 30 percent of women among current users claim to have drunk alcohol during the previous three days.

Younger people, considered to be those less than 25 years old, seem to drink more rarely than elder ones. Most ‘former’ users are found in the population above 40 years of age; the frequency of current users is approximately the same among this group and the group aged 25-39 years.

Marital status also seems to be linked to the consumption of alcohol. The highest frequency

of current users is found among those who are single; this seems contradictory to the findings that young people drink less frequently than older people, as the ‘single’ as a group is younger than the majority of those married. However, this is explained by the fact that as many as 27 percent of the single respondents in the age group 25-39 are current users of alcohol, compared to only 9 percent of the married respondents in the same age group.

The prevalence of alcohol use in Sierra Leone is not just linked to personal characteristics like age, sex, and marital status. Table 4 shows a clear difference in the consumption patterns in the four sites where the survey was conducted. In the rural community around Bo, 18 percent are current users, while this is true of only 3 percent in the city of Bo.

In the rural villages in Yoni, the situation was similar to the low level in the city of Bo. Among the adult population in Freetown, the

Table 5. Alcohol consumers in percent by religious affiliation and ethnic group

| Characteristics | Alcohol consumption ¹ | | | | Total | N |
|---------------------|----------------------------------|--------|---------|-----|-------|---|
| | Never | Former | Current | | | |
| Religion | | | | | | |
| Muslim | 79 | 15 | 6 | 100 | 554 | |
| Christian | 53 | 28 | 19 | 100 | 218 | |
| Ethnic group | | | | | | |
| Mende | 65 | 21 | 14 | 100 | 253 | |
| Temne | 82 | 13 | 6 | 100 | 262 | |
| Other | 67 | 22 | 11 | 100 | 263 | |
| Total | 72 | 18 | 10 | | 778 | |

¹ Never = never tasted alcohol; former = have tasted alcohol, but not consumed any during last 12 months; current = have used alcohol during last 12 months

Table 6. Alcohol consumers in percent by educational level

| Educational level | Alcohol consumption ¹ | | | | N |
|--------------------------------------|----------------------------------|--------|---------|-----|-----|
| | Never | Former | Current | All | |
| Never attended school | 74 | 19 | 6 | 100 | 330 |
| Not completed primary | 75 | 18 | 7 | 100 | 96 |
| Primary completed | 74 | 19 | 7 | 100 | 94 |
| Junior secondary completed | 73 | 20 | 7 | 100 | 125 |
| Senior secondary completed or higher | 62 | 14 | 24 | 100 | 127 |
| Total | 72 | 18 | 10 | | 772 |

¹ Never = never tasted alcohol; former = have tasted alcohol, but not consumed any during last 12 months; current = have used alcohol during last 12 months

use was exactly the same as in the total survey population – that is, less prevalent than in Bo rural communities but more prevalent than in the city of Bo or in Yoni.

The differences between the rural areas in Bo and Yoni are significant. In Yoni, the population are mainly Temne, while the rural areas around Bo are mainly Mende.

Table 5 indicates that more Mende than Temne drink. The difference in consumption between the two ethnic groups nearly mirrors the difference between the rural areas in Yoni and Bo. Seventy percent of the respondents were Muslims as of which only 6 percent reported using alcohol the preceding year, compared with 19 percent of Christian respondents.

As many as 24 percent of the population with higher education – that is completed senior secondary school or some higher education – are current consumers of alcohol, as shown in Table 6. Our results show that it

is approximately four times more likely for a person in the highest education bracket to drink alcohol than for someone with lower or no education.

Table 7 compare people's activity the previous month to their use of alcohol. Although the highest frequency of current users is found among those who had paid work the preceding month, the relationship between employment status and use of alcohol is not very clear. What are obvious, however, are the regional differences that also correspond to non-agricultural income-generating activities in rural areas. Thus, we now turn to our qualitative material to contextualise some of these findings.

Cosmopolitan Freetown

Two of the main sites for the qualitative fieldwork in Freetown were the areas known as 'Magazine' and 'Sawa Grounds'. 'Magazine' is a downtown area that lies between Nicols,

Table 7. Alcohol consumers in percent by activities reported last month

| Employment | Alcohol consumption ¹ | | | | N |
|----------------------------|----------------------------------|--------|---------|-------|-----|
| | Never | Former | Current | Total | |
| None | 76 | 14 | 10 | 100 | 152 |
| Unpaid activities | 81 | 7 | 12 | 100 | 182 |
| Self-employed | 67 | 26 | 7 | 100 | 328 |
| Paid employment/activities | 65 | 20 | 14 | 100 | 116 |
| Total | 72 | 18 | 10 | | 778 |

¹ Never=never tasted alcohol; former = have tasted alcohol, but not consumed any during last 12 months; current = have used alcohol during last 12 months

Brook, Kissy Road, and Lower Bombay Street. It is a major transition point, as it is the landing point for most of the small traditional boats that go along the coast and on the rivers leading upcountry. The worst living condition in 'Magazine' is on the slope down towards Destruction Bay (i.e. the sea). This slope is steep and lined with small creeks, which are usually filled with garbage and pollution from inhabitants living further up in the city. Particularly in the rainy season the area gets immensely humid and dirty.

Most of those who have made this part of 'Magazine' their home are young men between 17 and 25 years-old, who have come to Freetown quite recently. They dwell in informal structures made out of plastic and other kinds of used material, or they simply sleep on the street. Life in the 'Magazine' is hard, and many of the young boys and men in this area have developed a lifestyle of alcohol and drug use. Some income is earned by carrying goods for arriving passengers from the boats, and the daily income varies between 1,000 and 4,000 Leones.⁴ Most days, the boys involved in this business are lucky if they make more than 2,000 Leones. Some also make some money by sweeping the streets for traders; others sell palm wine or marijuana. From the interviews and focus group sessions, we were able to construct the following time schedule of an ordinary day for an ordinary boy in the 'Magazine'.

His day starts at 6 am, when he wakes up and looks for work. Breakfast is not an option. If he is lucky, he will make some money as a carrier or have an arrangement with a trader to sweep his or her part of the street. At around noon, this work is over – the streets are swept and no more boats are arriving. He will then head for the beach in order to wash himself before buying something to eat, and thereafter he will go to one of the many informal shacks in the 'Magazine' to drink palm wine or smoke marijuana. Alternatively he may have a small business selling palm wine and

marijuana, which, on a good day, may earn him an additional 2,500 Leones. Around 6 pm, however, these activities are also over, as few people venture into this part of the 'Magazine' after dark. Thus, for the rest of the night the boys hang around in their informal meeting places, using what little money they have left on some food and more palm wine and marijuana. This is their life, seven days a week. Few things change in this part of Freetown.

The majority of the boys interviewed had come to Freetown in search of formal employment and education. Unable to find either they continued to stay at the place where they first entered Freetown. Their lives are difficult: they see very few opportunities, and palm wine and marijuana become their only comfort. As most of them either live alone or with friends, they are also beyond the social control and support of their families and communities. The feeling of permanent exclusion and lack of hope for the future that these boys express is immense, and hanging around with them one essentially gets the feeling that they are just waiting for something to happen. Should the ghost of civil war once more return to Sierra Leone, they boys and young men that we encountered in the 'Magazine' and in Sawa Ground, in and around Lumley Street and Regent Street, and in so many other palm wine shacks elsewhere would likely join anybody who promised them a better life in return for their services.

The men and women who hang around at Sawa Grounds in Victoria Park represent a different, but in many ways similar segment of the population. Sawa Grounds is by and large a recreational area. People do not live or sleep there, but it is a place where many spend most of their days, coming to drink palm wine and omoly (the locally produced gin) and to smoke marijuana.

Victoria Park was originally established as the 'green lung' and major recreational area of Central Freetown. It no longer resembles the beautiful park that it once may have been;

⁴ 1,000 Leones = 0.36 USD (October 2004).

now it is mainly a market and a trading centre. Sawa Grounds is in the middle of Victoria Park. Originally established by traders, the stalls were abandoned once business went sour. This part of Victoria Park has now been completely taken over by people selling palm wine, snacks, food, and other kinds of drinks (mainly soft drinks and omoly) and drugs (mainly marijuana). The men we interviewed in Sawa Grounds were all former combatants; some had belonged to the militia known as the Westside Boys and had spent nearly four years in jail, in Pademba Road prison, from where they had only recently been released. All these men and their women showed signs of having been through terrible ordeals during the war, and as a fieldwork location, Sawa Grounds was different from the good-spirited conversations we had with the boys in the 'Magazine'. The atmosphere in Sawa Grounds was much more tense, and fighting and violent behaviour happened frequently. The air was thick with the smoke of marijuana, and the mud stank of urine and sweat. In the suffocating heat under the plastic roof over the stalls, there was a sense of danger present that we never experienced in the 'Magazine', or elsewhere in Freetown or in Mile 91 or Bo. That said, the stories told by the people frequenting Sawa Grounds were by and large the same as we heard elsewhere; tales of missed opportunities and expressions of social exclusion, marginalisation, and the little comfort to be found in drinks and drugs.

Bo – traditional values vs. diamond mining

Bo is the heart of the area of Sierra Leone that is dominated by the Mende people. Alcohol and drugs are used by certain segments of the youth and males here, but abuse is less openly than in Freetown. Palm wine is consumed in rather large quantities in informal bars, but you have to look for them in order to find them; it is similar with the drug scene. People told us that ex-combatants and the young men driving motorcycle taxis were notorious drug users. According to popular discourse, most of them were 'high' on drugs, particularly at night. Nevertheless, drugs were simply not a subject of conversation in Bo, and the timeframe of

our study did not give us the time necessary to gain the trust of some of the young men.

However, the traditional values evident in Bo are also counterweighted by the influence of the diamond mining, located nearby. Bo is situated close to the major axis of the distribution of diamonds in Sierra Leone, the Sewa River Basin. Tributors dig gravel from swamps and streambeds during the dry season, and then sieve the gravel before the rainy season floods overtake makeshift work camps. Mining diamonds is a hard way to make a living, and, although Sierra Leone is rich in diamonds, tributors sometimes still have to dig for a considerable amount of time before they find anything. In the meantime, they have to live on their 'supporter' (employer).

The arrangement between a supporter and his tributors may vary in accordance with its duration, whether there are communal or family ties between them, and last but not least, the reputation of the tributor. According to our informants, the standard arrangement is that the supporter provides each of his tributors with 300 Leones and a cup of rice per day. Sometimes they are also given some tools, and shot-guns and cartridges to hunt for food. When there is profit, the tributors split between them a two-fifth share of the local price of a season's catch of diamonds. However, of this profit each individual tributor must usually pay back to the supporter what has been provided to them during the season, i.e. the cost of the rice and the 300 Leones per. The relationship therefore resembles bonded labour arrangements. The economic circle of the miner is almost always one of rise and fall.

Many tributors believe that diamonds make their way through the earth, working their way upward carrying with them their finder's name. The hardship is made tolerable by consuming palm wine - which most of the tributors we talked to also consider food - and by using marijuana and to certain extent hard drugs such as crack cocaine. Music, drink, and recreational drugs help sustain the dream about the diamond.

In order to understand the world of the tributors, it is important to recognise that this

is *a man's world*. There are very few women living with the miners. One explanation for the lack of women is taboos connected to diamond mining: Women living with diamond miners are considered likely to reduce their luck (*hajia*), and they are therefore excluded from the tributors' living area. This belief reflects the connection between current ideas about diamonds and traditional taboos about sexual activity, gender mixing, and hunting (Boeck 1999). The fact that these men live without a family, and that many come from all over Sierra Leone, contributes to the establishment of a certain subculture built on wishful ideas about diamonds maintained through drinking and drug-use. Traditional rural authorities have little or no control over this group: detached from traditional norms and their native society, this group of men is negotiating its own version of modernity. This is in our view, the main explanation for why rural communities in the diamond areas have a completely different pattern of alcohol and drug consumption than rural communities that are not exposed to diamonds and similar resources.

DISCUSSION

Regardless of how one looks at the causes and consequences of the war in Sierra Leone, it must be characterised as a watershed in the history of the country. During the war, alcohol, and drugs were often used as a boost to masculinity and as a rite of passage into the army or rebel movements. The rebels of the RUF, the soldiers in the army, and the militiamen of the Kamajoi all used alcohol and drugs in one form or another (Amnesty International 1995; Musah 2000; Bangura 2004; Keen 2005). Young men caught up in a situation like the one prevailing in the Sierra Leone civil war can easily come to internalise a certain pattern of alcohol and drug consumption. This could lead to the conclusion that an increased level of alcohol and drug abuse should be observable in post-war Sierra Leone.

This is, however, not the case. As this study reveals, the pattern of alcohol and drug consumption in Sierra Leone is the same as we find in other African countries that has never experienced civil war (Bryceson 2002). The majority of the population do not drink very much or use drugs at all, but there is a small minority that are frequent drinkers and use drugs. Some people drink a lot and use a lot of drugs, and some of this consumption is quite open; this is particularly the case in parts of Freetown. Such observations may easily lead us to think that the problem is larger than it actually is in Sierra Leone.

There are many reasons why people drink and take drugs, and why consumption patterns change. However, we believe that in Sierra Leone, as in any other country, such patterns are affected by urban migration and mobility (e.g. to Freetown), new income opportunities (e.g. the diamond areas around Bo), and by extreme social stress (e.g. the civil war). These three factors, alone or in combination, point to the probability of increased consumption of alcohol and drugs. Conversely, our material shows that being a woman, a Muslim, and living in a traditional community significantly reduce the probability of drinking or taking drugs. Importantly, what separate a traditional community from a non-traditional community are not necessarily the urban-rural distinction, but the degree to which the community is exposed to high levels of migration and/or new income opportunities. This is illustrated in our study by the cases of the villages around Mile 91 and Bo town.

CONCLUSION

Most people in Sierra Leone do not drink or use drugs. The civil war has therefore not affected the traditional African drinking pattern. This is quite remarkable given the frequent report of alcohol and drug abuse during the war. Heavy drinking and the use of drugs are therefore a relatively marginal phenomenon in Sierra Leone. However, as we have seen, there is also a tendency to some

polarisation as there is minority that frequently drinks and use quite a lot of drugs. Those that do are, for most part, relatively young people that either live in a more cosmopolitan urban setting (e.g. Freetown) or in a rural setting where non-agriculture income opportunities are available (e.g. the diamond areas). Both these areas have experienced high levels of migration and mobility, cutting people off from the bonds of traditional society.

The war obviously also explains why some people are part of a subculture that has internalised alcohol and drug use as a way of life. The former combatants we interviewed at Sawa Grounds in Freetown vividly illustrate the latter scenario. The visibility of some of these user groups, particularly in Freetown, may in fact lead to the conclusion that the problem with alcohol and drugs is larger than it actually is in Sierra Leone. However, for those that drink too much or take drugs, or live in conditions such as ‘the boys’ in the Magazine, or have past experiences like the former Westside Boys, the consumption of alcohol and drugs clearly contribute to their problems and misery.

Less drinking and drug use will not necessarily solve their problems or give them access to employment and education, but it may at least increase their opportunity to take responsibility for their own lives, both as individuals and collective groups. This is important because, given the current state of affairs in Sierra Leone, neither the state nor other implementing agencies do very much for these people.

Finally, it is important to note that, in contemporary Sierra Leone, what we in fact see is the three-faces of Bacchus: the face of joy, the face of misery, and the face of pragmatism. First, whether one likes it or not, alcohol and drugs do offer some people some comfort and joy. This may be of importance in itself, particularly for people whose life otherwise has so little consolation. In some ways, it is a coping strategy: for some it may work, but for others it just leads to more misery. This suggests that the problem of alcohol and drugs in Sierra Leone must be

addressed with pragmatism. Although alcohol and drug use is a problem for certain parts of the population, for others – such as the many female kiosk and street vendors of palm wine – it is an important income-generating activity whose loss would be extremely hard for them to bear. Suggesting that in this case, as in any other case, the principle for policy intervention must be the maxims of ‘do no harm’.

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SUBSTANCE ABUSE AND PSYCHIATRIC CO-MORBIDITIES: A CASE STUDY OF PATIENTS AT MATHARI PSYCHIATRIC HOSPITAL, NAIROBI, KENYA

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ABSTRACT

Substance abuse co-morbidity with psychiatric disorders is common and has been widely reported, except in Kenya. This study aimed to determine the prevalence, pattern and socio-economic burden of a dual diagnosis of substance abuse disorder and other psychiatric conditions. This was a cross-sectional descriptive study of 691 patients admitted at Mathari hospital. Only 42 patients had a first working diagnosis of substance abuse but nearly thirty-five percent of the patients scored for a Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) diagnosis of alcohol dependence/abuse. There was high co-morbidity of alcohol abuse/dependence with opiate, sedative and *khat* use, as well as with mood and other psychotic disorders. Substance abuse disorders correlated significantly with other psychiatric disorders. Only 12 patients were in a drug rehabilitation unit, all of whom had a dual psychiatric diagnosis of affective disorder. There were high co-morbidity rates of substance abuse in both general psychiatric wards and drug rehabilitation units.

KEY WORDS: substance abuse, co-morbidity, psychiatric disorders, Kenya

INTRODUCTION

In clinical settings, co-morbid substance abuse disorders are common among people receiving in-patient psychiatric treatment (Eisen, Youngman, Grob, & Dill, 1992; Greene, Ennett, & Ringwalt, 1997) and conversely, psychiatric co-morbidity is common in those in treatment programs for addiction (Bukstein & Kaminer, 1994; Kaminer, Bukstein, & Tarter, 1991; Stowell & Estroff, 1992). Most

studies have generally found that onset of psychiatric disorder precedes substance abuse disorder (Angold, Costello, & Erkanli, 1999; Brook, Whiteman, Gordon, & Cohen, 1986; Brook, Whiteman, Finch, & Cohen, 1996; Elliot, Huizinga, & Menard, 1988; Rohde, Lewinsohn, & Seeley, 1996; van Kammen & Loeber, 1994). This may be related to a longer duration of time required to achieve Diagnostic and Statistical Manual of Mental Disorders – Version IV (DSM – IV) (American

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Psychiatric Association [APA], 1994) criteria for substance abuse and dependence than for other disorders. Thus the likelihood that an individual will seek treatment for a particular disorder increases the presence of a second co-existing disorder (Boyle & Offord, 1991; Brook, Cohen, & Brook, 1998).

Available data on the consequences of alcohol abuse and alcoholism in the United States of America (USA) and Canada (World Health Organisation, 2004; Rehm, Baliunas, Brochu, Fischer, Gnam, Patra, Popova, Samocinska-Hart, & Taylor, 2006) showed that there were both direct and indirect costs. The magnitude of the problem when illustrated in financial terms, showed for example, the overall economic cost of drug abuse in the United States rising at the rate of 5.3 percent annually from \$107.5 billion in 1992 to an estimated \$180.9 billion in 2002. Direct costs included those arising from medical expenditures to treat the medical consequences of alcohol abuse and alcoholism and law enforcement efforts to curb crime attributable to drug use. Other direct costs were vehicle collision damage as a result of motor accidents caused by drunken driving, fire damage and deaths because of impairment of sensory judgement or physical function by alcohol consumption and a range of costs associated with providing employee support at the workplace. Significant loss of productivity in the workplace or at home, premature death, illness and injury as a result of alcohol use were all considered under indirect costs. In South Africa, the health, social and economic consequences associated with problematic alcohol use have been documented as the burden of harm under the same dimensions as those presented earlier (Parry, 2000). In a survey by Whyte (1991) carried out in Tanzania, it was reported that financial loss was mentioned 45 times in a sample of 170 subjects. Families spent large sums of money in payment to traditional healers.

There is no documented study in Kenya that focuses on the co-morbidity of substance abuse and psychiatric disorders in patients. The aim of this study was therefore to find out whether or not there is a co-morbidity of substance abuse

disorder with psychiatric disorders among in-patients admitted at Mathari hospital.

METHOD

In an attempt to improve comprehensive history-taking in line with DSM-IV-TR (Text Revision) criteria (American Psychiatric Association [APA], 1994), the Structured Clinical Interview for DSM-III-R Diagnoses (SCID) (Spitzer, Williams, & Gibbon, & First, 1990) format was used on all patients admitted at the Mathari Hospital over a period of one month in June 2004. The SCID provides a symptoms profile as well as a DSM-IV diagnosis. Experienced psychiatric nurses were trained for this exercise in an attempt to test the feasibility of adopting this procedure. This was done in order to improve and standardise diagnostic techniques as a quality control exercise in the routine care of patients. Informed consent was obtained only from those who were not too sick or too disturbed to participate in the study. Those who were very sick were recruited into the study through assent and consent for their participation was obtained from their caregivers. A total of 691 patients were recruited. Those who met the SCID criteria of substance abuse were further interviewed using a semi-structured questionnaire to elicit information on their socio-economic characteristics.

For each patient, the hospital diagnosis and clinical management data were extracted from their notes. The data were analysed using SPSS version 11.0. The DSM-IV diagnoses of alcohol, substance abuse and psychiatric disorders were correlated with clinical diagnoses in the same patients.

RESULTS

The data collected showed that this was a relatively young population (age range: 17 – 64 years; mean age: 31.97 years) as 82.1% were aged 40 years and below. More than

Table 1. DSM-IV Diagnoses of Alcohol Dependence and Other Co-existing Psychiatric Disorders

| Diagnosis | Current Admission Differential Diagnosis* | | | |
|---------------------------|--|-----------|-----------|----------|
| | D1 | D2 | D3 | D4 |
| Adjustment disorder | 0 | 3 | 1 | 0 |
| Mood disorder | 48 | 3 | 2 | 0 |
| Delusional disorder | 1 | 1 | 0 | 0 |
| Psychotic disorders | 69 | 10 | 1 | 0 |
| PTSD | 1 | 0 | 0 | 0 |
| Schizo-affective disorder | 6 | 3 | 0 | 0 |
| Schizophrenia | 81 | 12 | 4 | 1 |
| Substance use disorder | 31 | 15 | 3 | 0 |
| N | 238 | 44 | 11 | 1 |

*D1 – Working diagnosis

D2 – 2nd working diagnosis

D3 – 3rd working diagnosis

D4 – 4th working diagnosis

half (58.4%; $n = 139$) of the patients were single, 26.1% ($n = 62$) were married while 12.6% ($n = 30$) were widowed, divorced or separated. More than one third (34.4%; $n = 238$) of the patients met the DSM-IV criteria for a substance abuse disorder and all of them had a diagnosis of alcohol dependence. The proportion of male patients in this group was 82.4% while that of females was 17.6%. Of those with a substance abuse disorder ($n = 238$), 55.9% ($n = 133$) or 19.2% of the total sample ($N = 691$) were dependent on opiates. Nearly three-quarters of the substance abusers (71.4%; $n = 170$) representing a quarter of the total sample, were dependent on sedatives, while 140 (58.8% of the substance abusers or 20.3% of the total sample) recorded stimulant dependence.

The hospital and differential diagnoses of the 238 patients are summarised in Table 1. Schizophrenia accounted for 34% ($n = 81$) of the first hospital diagnoses making it the most common diagnosis. It was followed in order by other psychotic disorders (29%), mood disorder (20.2%) and substance abuse disorder (13.0%). It is noteworthy that although alcohol dependence was the most common SCID substance abuse disorder, it was hardly recorded as a hospital diagnosis.

Table 2 summarises the correlations between SCID core symptoms and alcohol/substance abuse disorders, and between

alcohol and other drugs. The results suggest high co-morbidity of SCID core symptoms with alcohol and other drugs and also, co-morbidity between alcohol and other drugs. When the DSM-IV diagnoses of alcohol, substance abuse and psychiatric disorders were correlated with clinical diagnoses in the same patients, the highest number of significant correlations was seen between psychiatric disorders and alcohol abuse. The correlations of minor depressive and recurrent grief disorders with alcohol abuse were very strong. Although not statistically significant, there was co-morbidity of all substance abuse with depressive episodes, dysthymia and minor depressive episode. The other correlations which reached significance were negative.

DISCUSSION

The results showed that a majority of the patients with DSM-IV-TR substance abuse disorders (87%) had different first working diagnoses. Schizophrenia was diagnosed most frequently followed by other psychotic disorders, mood disorders and substance abuse disorder. There was likelihood that people in the community with substance abuse disorder only seek treatment if a co-existing psychiatric disorder starts to manifest itself. The co-existing disorder makes patients unable to

Table 2. Substance dependence/abuse correlations with psychiatric disorders (Pearson correlations)

| Disorders | Alcohol | Opioids | Sedatives | Stimulants |
|---------------------------------|-------------|-------------|-----------|-------------|
| Depressive episode | .000 | (a) | .239 | .060 |
| Dysthymia | .532 | (a) | .048 | .000 |
| Minor depressive disorder | .745 (**) | (a) | .118 | .856 (**) |
| Recent major depressive episode | -1.000 (**) | (a) | (a) | (a) |
| Past major depressive episode | -1.000 (**) | (a) | (a) | (a) |
| Current manic episode | -1.000 (**) | (a) | (a) | (a) |
| Autonomic symptoms | .141 | .089 | -.145 | -1.000 (**) |
| Panic disorder | .542 | -1.000 (**) | .816 | (a) |
| Delusions | -.575 | -.873 | .341 | (a) |
| PTSD1 (past) | (a) | .316 | -.404 | -.667 |
| PTSD3 (current) | .010 | .001 | .001 | .001 |
| Generalized anxiety disorder | -.417 | -.816 | -.937 (*) | (a) |
| Acute stress disorder | -.172 | .971 | .971 | (a) |
| Sedatives | -.525 (*) | .970 (**) | | .662 |
| Stimulants (<i>khat</i>) | -.875 | (a) | .662 | |
| Opioids | -.408 | | .970 (**) | (a) |
| Hallucinations | .060 | (a) | .271 | (a) |
| Negative symptoms | -.200 | -.577 | .372 | (a) |
| Schizophrenia | (a) | (a) | .353 | (a) |
| Alcohol | | -.408 | -.525 (*) | -.875 |
| Recurrent grief disorder | .806 (**) | (a) | -.394 | .000 |
| Somatisation disorder | -.577 | (a) | -.342 | (a) |
| Current acute stress disorder | .198 | -.577 | -.189 | (a) |

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

a Cannot be computed because at least one of the variables is constant.

Note: The negative correlations (whether or not significant) denoted 'no co-morbidity.'

function or adjust effectively in the society. The findings in this study agree with those from the US (Brook et al., 1998; Bailey, 1992). The patients may have started using substances of abuse/dependence predominantly because psychological risks such as other psychiatric disorders provided a basis for picking the habit. This was demonstrated by the strong significant correlations seen between alcohol abuse and certain psychiatric conditions. However, the relationship between substance abuse and co-morbid psychiatric disorders may be non-specific and it was not within the scope of this study to determine whether or not psychiatric symptoms or disorders developed as a consequence of substance use or abuse or vice versa.

The fact that a substance abuse disorder did not lead to help-seeking behaviour by patients is confirmed by the results that show that less than 5% had taken the initiative to

look for help for a drug use problem. Alcohol dependence was the most frequently recorded substance abuse disorder (see Table 2). Once an individual started using one substance of dependence, the risk of using other substances seemed to increase (Bailey, 1992). The resultant significant association with other mental and substance abuse disorders is a finding also obtained in the US (Bukstein & Kaminer, 1994; Eisen et al., 1992; Elliot et al., 1988; Greene et al., 1997; Kaminer et al., 1991; Rohde et al., 1996; Stowell & Estroff, 1992). Therefore, by the time the patients sought psychiatric treatment, they were presenting with more than one substance abuse disorder, a finding also established in studies conducted in the US and Canada (Bailey, 1992; Brook et al., 1998; Boyle & Offord, 1991).

The significant positive correlation between minor depressive illness and alcohol ($p < 0.01$) and stimulant use ($p < 0.01$) is not surprising

given that these drugs could have been used to give the depressed patient a sense of well-being. This could also be inferred from the finding of a negative correlation between alcohol use and recent or past depressive illness – that is, the patients did not use alcohol when they were not currently depressed. The same explanation is likely for the correlation between recurrent grief disorder and alcohol use ($p < 0.01$). The concurrent use of opioids and sedatives ($p < 0.010$) can be explained by the fact that sedatives may have been used to deal with the anxiety and restlessness associated with the withdrawal effects of opioids.

The co-morbidity of autonomic symptoms with alcohol and opioid use was most likely a reflection of the withdrawal symptoms associated with the use of these drugs, whereas the co-morbidity of panic disorder and alcohol and sedative use was a reflection of the use of these substances to control panic attacks. The co-morbidity of both delusions and hallucinations with sedatives illustrates that the sedatives were being used to treat the psychotic symptoms and conditions. Concurrent abuse of sedatives and opioids may have been because of the reasons already discussed, while simultaneous stimulant and sedative use (a common practice) may have been because sedatives are normally used to control the effects of stimulants. Noteworthy is that there was no co-morbidity of use of alcohol with other drugs. The negative correlation between current manic episodes and alcohol use was contrarily to expectation as uninhibited patients as happens in mania are likely to indulge in alcohol. In summary, the study showed that substance abuse disorders remain undiagnosed and are therefore not managed. There was high co-morbidity of DSM-IV diagnoses of alcohol dependence with other substance abuse disorders as well as with psychiatric conditions. Several DSM-IV-TR diagnoses and/or symptoms had significant correlations with DSM-IV diagnoses of substance abuse disorder. These results have profound clinical and practice policy implications. The significance of dual diagnosis and dual management is critical as they call

for compressive history taking, regardless of the presenting condition. This practice should apply in psychiatric, detoxification and rehabilitation units as well as in community and home-based (out-patient) management. Failure to recognise dual diagnosis in a substance abuse disorder will mean that only partial treatment and management is provided to the patient. Collateral information will assist in the authentication of whether or not a substance abuse disorder exists.

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Brief Communication

**PSYCHOTIC DISORDER, KHAT ABUSE AND
AGGRESSIVE BEHAVIOR IN SOMALIA: A CASE REPORT**

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ABSTRACT

The current literature on khat and mental disorders focuses on khat-induced disorders neglecting at large the adverse consequences of co-morbid use on pre-existing disorders. The case of a 32 year old Somali with a delusional disorder and co-morbid khat abuse is presented who killed a man in the state of paranoid delusions. The psychotic exacerbation prior to this incident was accompanied by an increase of khat intake. Co-morbid khat abuse can lead to the deterioration of psychotic disorders, can facilitate aggressive acts and complicates treatment. The medical and legal system of the countries where khat use reaches highest levels are not fully prepared to deal with such cases. Further research and the development of adequate prevention and treatment measures is urgently needed.

KEY WORDS: khat, psychosis, co-morbidity, aggression, Somalia

Co-morbidity of psychoses and substance-use disorders is a frequently observed phenomenon in Western countries (Kavanagh, McGrath, Saunders, Dore & Clark, 2002; Regier et al., 1990). Information concerning this problem from developing countries is rare (Ahmad et al., 2001).

Traditionally the leaves of the khat shrub are consumed in Arab countries and East Africa for their stimulating effects (Halbach, 1972). Mostly the fresh young leaves and tender shoots of the plant are chewed, but its use as tea or dried powder is also known (Baasher, 1980). Freshness of the plant material is crucial, as the stimulating properties vanish when the

leaves wither (Geissshusler & Brenneisen, 1987). The main psychoactive substance is the alkaloid cathinone, which in chemical structure, central and peripheral effects closely resembles amphetamine (Kalix, 1992; Nencini & Ahmed, 1989). In recent decades, the cultivation of khat has seen an explosion-like boom, from a niche product to one of the major cash-crops for countries neighboring the Horn of Africa (Gebissa, 2004). On the consumer side we find equally drastic changes: khat chewing developed swiftly from a normatively regulated and socially institutionalized habit mostly practiced by adult males from specific ethnic and religious groups to a widespread phenomenon

in the general population of these countries with features of informality, excessiveness and loss of traditional control (Carrier, 2005). The causal link between khat use and psychiatric disorders has often been suggested but the evidence is not overwhelming in relation to this question because little empirical information is available (for review see Odenwald, 2007). But several case studies described khat-induced psychotic states, mostly among immigrants living in Western countries, with pronounced paranoid or grandiose delusions and frequent aggressive behaviors (Pantelis, Hindler & Taylor, 1989) including homicide (Alem & Shibre, 1997). Some authors believe that concerning information from countries with traditional khat use is sparse due to the unavailability of mental health services, which would detect or treat mental disorders (Luqman & Danowski, 1976). Recently, we reported that psychiatric patients in Somalia frequently have a history of excessive khat abuse (Odenwald et al., 2005). This is confirmed by the experience of local NGOs in Somalia (e.g. General Assistance and Volunteer Organization, GAVO).

We report here the case of a prison inmate in North Western Somalia with a history of excessive khat abuse, who had killed a man in a state of paranoid delusions. Our goal with this case vignette is to report one of these presumably frequent but undocumented cases, where khat abuse, mental disorder and serious behavioral problems are interacting.

METHOD

We based our report on two clinical interviews in 2003 and 2006, two separate family interviews, and an additional interview with the prison representatives including the responsible physician in 2003. The interviews were conducted with the permission of Somaliland prison authorities. The patient and his family gave a written informed consent to the publication of this report. The interviews in 2003 were interpreted by a bilingual Somali medical doctor. In 2006, a trained social worker served as interpreter.

CASE REPORT

Mr. A. is a national of North-East Somalia (Somaliland), 32 years of age, not married and owner of a business. At the time of the interview, he was detained in prison for three months awaiting trial for shooting one of his employees.

Psychiatric findings: During the interview in 2003 A. was fully oriented and aware of his situation. His physical appearance was poor in hygiene and cleanliness, but conforming to the situation of detainees in Somaliland. His affect appeared flattened, psychomotor reactions were markedly reduced, his gaze numb. Indifference and lack of empathy were quite obvious. His voice was low and monotonous, his replies to the interviewer's questions short and with low content. Thought disorders could not be noticed. Paranoid delusions were present, with no hallucinations, disorganized speech, catatonic or other behavioral symptoms noticeable. A. admitted the killing openly, but showed no sign of remorse or guilt, and stated that he would do it again. He was not under medication.

Anamnestic information: His development in childhood and adolescence was described as normal. He completed his formal education after the regular eight years. When war broke out in Northern Somalia in 1988, A. fled with his family to the countryside. The onset of khat chewing was described as normal in late adulthood, and regular consumption in normal quantities could be confirmed. In 2001, A. started to run a business, together with his sister. The victim belonged to his sub-tribe and had been working as his employee. In late 2002, at the age of 31, while staying for some months in another town to open another business, paranoid symptoms probably developed for the first time. He believed being sidelined, and pulled out of the first business suspecting his sister and his employee to be plotting against him. After some time, A. gave up this business and moved back. He then continued working with his sister and employee as if nothing had happened. Beginning in January 2003, A. increased his daily khat intake to

up to six bundles (“mijin”) per day. At about that time A. developed serious paranoid delusions. He was constantly ruminating that he lost his business share because of the plot against him. He felt threatened constantly and pursued by the local police, believing his employee to have informed the police about his (A.’s) plan to kill him. Thus, A. believed that the police was about to arrest him. He also believed his employee intended to kill him. At that time A. secretly bought a gun from the black market (an AK 47 assault rifle). He avoided sleeping at night and restricted his rest hours to the time of the change of shift at the local police. At night he chewed khat by himself so as to stay awake. When going out to buy khat, he kept on moving restlessly and avoided staying more than ten minutes in one place or showing up at the same place more than once. Marked negative symptoms were present during this period, such as the neglect of physical appearance and hygiene, anorexia, and withdrawal from social contacts. He was frequently in a state of agitation, being easily irritated. He was also often observed as absent minded and with a fixed gaze. At that time his family and friends began to believe he had a serious mental problem. However, during all this time no consultation of a medical doctor or traditional healer was sought. The night before the murder A chewed khat excessively and slept in the day. The following afternoon, he behaved strangely, e.g., he changed his clothes three times in quick succession. A. reports that, in the early evening of that day, while chewing khat he had received a supernatural message from god telling him to kill his employee. It is not clear whether this experience involved voice hallucinations. He went for his gun immediately and then straight to the hotel, where he found his employee and fired point blank. He then left the place calmly, carrying his gun, not caring about his being observed by people. He went back to his home to continue chewing khat, with no plans to run away. The following morning, he was arrested at his house. We could not rule out a full abstinence from khat as prison inmates sporadically have access to the drug.

In 2006, Mr. A was contacted again. He had spent about 3 years in prison before his ‘jilib’ (extended family) paid the blood price to the family of the victim; then he was released. During the three years in prison he did not undergo any medical or psychiatric assessment nor did he receive any medical treatment. During the interview he was obviously suspicious but he allowed to be interviewed and signed the informed consent. A. was fully oriented and appeared well-dressed saying that he was starting a new business, information which could be confirmed by his sister. No signs of emotional symptoms could be assessed, neither thought disorders, delusional ideations or hallucinations. A. still showed no sign of remorse. He was not under medication. He stated that he had stopped taking khat regularly because it does harm to him.

DISCUSSION

We report here a case with a psychotic disorder and excessive khat abuse, who killed a man in a state of paranoid delusion. After arrest, he did not undergo any psychiatric assessment and there was no psychiatric record compiled for him. At the time of our first interview he awaited his trial assuming full responsibility for this crime.

Regarding diagnosis, we do not assume schizophrenia because A. did not exhibit clear schizophrenic symptoms and because he maintained normal social functioning up to a few months before the incident and restored his social functioning after release from prison. The diagnostic and anamnestic information available appear to indicate a long-lasting delusional disorder (ICD-10 F22.0), but we cannot fully rule out a drug-induced psychotic disorder (ICD-10 F15.51). According to the physician of the custodian force cases like A.’s are quite frequent in Somaliland. This agrees with our own observations, although no statistical records are available. However, we believe that the degree of violence exhibited in this case is exceptional. A recent study (Banjaw, Miczek & Schmidt, 2006) has

shown that cathinone and khat extract, indeed, increase the frequency of aggressive behaviors in an animal model of aggression (isolation-induced baseline aggression; White, Kucharik & Moyer, 1991). In the light of this study, our previous work in Somalia (Odenwald et al., 2005), and anecdotal reports from neighboring countries (Alem & Shibre, 1997) we assume that khat-related behavioral problems must be a huge problem in the communities of these countries. For a clinician it is quite obvious that the uncontrolled and often uncritical use of khat in countries at the Horn of Africa considerably complicates treatment of co-morbid psychiatric disorders.

The case reported here illustrates, in a nutshell, the problems related to khat abuse having emerged after the end of the civil war in Somalia society, including the legal system being unprepared to deal with such cases. These problems, like excessive juvenile use patterns, are conducive to mental disorders and interfere with their treatment. Solving these problems requires, among others, research on changing drug intake habits and on respective norms, on the interaction between regional drugs and mental disorders, and on culturally adequate prevention and intervention strategies, especially for the co-morbid khat abuse.

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Remembering

PROFESSOR OLABISI ODEJIDE **A Drugs Guru and a Man of Many Parts**

ON 23 DECEMBER 2007, I called “Oga” (meaning “boss” or “mentor”) to exchange Christmas greetings. He was quite pleased to hear from me and we were on the phone for about 30 minutes. I never knew this was a farewell chat. Barely ten days later, on 2 January 2008, I received a call from a colleague in London informing me of the sudden death of my beloved mentor. Further information received on the circumstances of his death had it that he was hale and hearty and had gone to work on the day of the incident. On his way back home, he stopped to buy a few food items for the house. He still spoke with his driver for a while but by the time the gate was opened to allow the car drive into his house, he had slumped in the back seat and was unconscious. He was immediately rushed to the intensive care unit of University College Hospital (UCH), Ibadan, same hospital where he was trained and worked for about forty years. All efforts to resuscitate him failed. And so the curtain was drawn for a personable character and a great achiever.

Professor Olabisi Adebayo Odejide was born into a Christian (Baptist) family in Iresi, a rural community in Osun State, Western Nigeria on 13 August 1939. He attended primary and secondary schools locally in the then Western Region of Nigeria. In 1963, he proceeded to study Medicine at the University of Ibadan and graduated with a M.B.B.S degree in 1968. Following the successful completion of his housemanship at Adeoyo Hospital in Ibadan in July 1969, he was enrolled in psychiatric training as a Senior House Officer in Psychiatry/Neurology at UCH, Ibadan in August 1969 and became a Registrar in August 1970. He undertook his full training in psychiatry at the Department of Psychiatry, University of Edinburgh, Scotland between 1970 and 1974, during which period he obtained the D.P.M (Edinburgh) and MRCPsych (UK) degrees. He returned to Nigeria and continued as a Senior Registrar in Psychiatry, UCH, Ibadan, for only two months before the University of Ibadan (UI) gave him an appointment as Lecturer/Consultant in Psychiatry in July 1974. He had a very productive and flourishing research, teaching and service career at UI and was appointed a Professor of Psychiatry within a short period of seven years, precisely on 1 October 1981. He served the University for a further 25 years in this capacity before he went on formal retirement in October 2006. Professor Odejide acquired additional qualifications of Foundation Fellow of the West African College of Physicians (1980), Foundation Fellow of the National Postgraduate Medical College in Psychiatry (1981), Fellow of Royal College of Psychiatrists in the UK (1986) and the Doctor of Medicine Degree, University of Ibadan (1985). Following his retirement, he was appointed Adjunct Professor in the same University, a position he held till the end. Perhaps what most people will remember Professor Odejide for are his contributions in the field of drug abuse. However, he was a man of many parts and left his indelible mark as a teacher and developer of talents, researcher, service provider, administrator and a family man.

A Guru in the drugs field: Professor Odejide’s name was (and still is) synonymous with drug abuse research and service provision in Nigeria and Africa. He conducted extensive clinical and community-based research on different aspects of alcohol and drug abuse. His publications in this field are ubiquitous and his name would surely show up in any web-based search on drug and alcohol in Nigeria and Africa. Professor Odejide was not only a drug abuse researcher, he was a passionate national and international advocate for finding culturally relevant and effective strategies for addressing the adverse consequences of drug abuse among youth in Africa. He presented well-researched and extensively quoted papers on this subject matter nationally and in many countries in every continent of the globe. Thus, it was not surprising that he was invited by the Federal Government to serve as the Foundation Director, Drug Demand Reduction Unit,

National Drug Law Enforcement Agency between 1990 and 1993. In addition, Professor Odejide served as an expert adviser on drugs in Nigeria and Africa to several international bodies including the United Nations Office on Drugs and Crime and the World Health Organization. He was a member of the Editorial Board of several drugs journals in Nigeria, Africa and globally.

Professor Odejide's advocacy efforts on drug abuse knew no bounds. He was a founding father and the first coordinator of the Network of NGOs in Drug Demand Reduction in Nigeria (NNDDR). In addition, he devoted a good proportion of his last decade in life bringing together many like-minded researchers and practitioners in the drugs field to form a non-governmental organization, the Alcohol and Drugs Training and Information Centre (ADTIC).

A teacher and developer of talents: It is a well known fact that Professor Odejide took special interest in imparting knowledge. He was always very thorough and detailed and he expected nothing less from his students. He was very passionate about developing talents and he has trained many people who are now very successful as Professors, Consultants, and heads of institutions, among others. I remember that my first close contact with Professor Odejide was in 1986 when he spent a few months of his sabbatical year at the Neuropsychiatric Hospital, Aro, Nigeria. I then worked under his supervision as a Senior Registrar and he took special interest in teaching me how to develop research proposals, conduct simple research, analyze data and present my findings at different levels of meetings. This training, which was thoroughly and painstakingly conducted, helped me to build up my confidence and informed my further interest in research as a young psychiatrist. During the same period, he kindly agreed to supervise my Part II Fellowship dissertation of the West African College of Physicians. Since I chose to investigate drug among secondary school students in Abeokuta, I could not have asked for a better supervisor. He brought all his drugs files from UCH for me to digest the relevant papers and produce a comprehensive literature review. He was very conscientious and time conscious and made me work to tight time lines. He normally would return any chapter I submitted to him with his comments within 24-48 hours. I wonder how he used to do this but it would appear he used to stay late at night sometimes to work on those chapters. By the time Professor Odejide returned to UCH in 1987, he had not only supervised me to a successful defense of my dissertation, he had also taught me how to write papers. Indeed, by the time I was appointed a lecturer in December 1987 at the University of Ilorin, I had been included as a joint author in three publications led by Professor Odejide. I am sure quite a few colleagues have similar stories to tell.

A researcher of international repute: Professor Odejide conducted extensive research mainly in the field of drug and alcohol abuse but also in the areas of organic psychiatry, child and adolescent psychiatry, forensic psychiatry, psycho-pharmacotherapy and other treatment modalities in psychiatry, psychiatric services, traditional healing methods, cross-cultural psychiatry, clinical epidemiology, sleep disorders and psychogeriatrics. His publications spanned the period 1974 to 2007 and could be found in reputable national and international peer-reviewed journals, UN and WHO Technical series, among others. He also has a long list of invited articles to his name locally and internationally.

A service provider and an administrator par excellence: Professor Odejide provided services in a committed, meticulous and efficient manner anywhere he found himself whether in the hospital, the classroom, research arena, the church, the local community, national and international assignments. In recognition of his sterling service provision qualities, he was invited to serve as an administrator in the following capacities: Director, Oyo State Health Council (1981-82); Secretary to Oyo State Government (1982-83); Editor –in-Chief, West African Journal of Medicine (1986-91); Dean, Faculty of Clinical Sciences and Dentistry, College of Medicine, University of Ibadan (1988-90); Director, Drug Demand Reduction Unit, National Drug Law Enforcement Agency (1990-93); Chairman, World Psychiatric Association Curriculum Committee for the African Region (1995-97); Director, Institute for Advanced Medical Research and Training

(1998-2002), Chairman, University of Ibadan Health Board (2000-02); Chairman, Osun State Health Management Board (2000-3) and Chief Medical Director, LAUTECH University Teaching Hospital, Oshogbo (2002-4).

A family man: Whoever ever had a few hours to share with Professor Odejide would quickly realize that he was a complete family man. He always spoke fondly of his wife, Professor Abiola Odejide of the Department of Communication and Language Arts, University of Ibadan, Ibadan and their four lovely children. Indeed, the mutual love and support enjoyed within the family reflects in cooperative advocacy activities and joint publications between Professor Odejide and his wife.

Inspirational personal characteristics: Professor Odejide displayed a lot of personal characteristics in his lifetime that are worth emulating. He was highly disciplined man, who had a penchant for keeping to time and delivering on every assignment. When I served as the Faculty Secretary for Psychiatry at the National Postgraduate Medical College, I was struck by Professor Odejide's predictability as being the first examiner to submit questions, the first to arrive for the clinical examinations and the first to turn in his marked sheets. He was also known to respond to request for references within a matter of hours to a few days. Professor Odejide would also be remembered as a pious, fair minded, amiable, humble and accessible person.

Concluding remarks: Professor Odejide lived a successful life as a physician, an academician, a researcher, a teacher and a developer of talents, an international drug abuse Guru, an administrator, a community leader, a husband and a father. His sudden death is a big loss not only to practitioners in the drugs field, but also to his family, his students, his local communities, his religious affiliations, UCH, UI, Nigeria, Africa and the world at large. Although Professor Odejide is gone in body, his spirit and good works live forever. Adieu, Oga!

Prof. Moruf Adelekan

*Consultant Psychiatrist, Royal Blackburn Hospital
Blackburn BB2 3HH, Lancashire, UK*

REACTIONS TO THE NEWS OF PROF. ODEJIDES' DEATH FROM FRIENDS AND COLLEAGUES

THIS IS VERY sad news indeed. I first met Bisi early in my career but continued to read and hear about him because of his exemplary work on drugs. He was indeed an authority.

I met him more frequently in the last five years or so when I got to know him as a person. Last year we met several times, twice at meetings in Abuja and Ibadan in his own country. This gave me a chance not only to re-affirm my appreciation of his mastery of his area of profession and learn from him, but I also came to appreciate him as a very humble, sincere and honest man who shunned any kind of praise or publicity. He had a very warm and accommodating personality. I was touched by his deep sense of sacrifice for his country.

He did not miss any chance to talk about his dear family, family values and his faith. I had a long standing open invitation from him to visit with his family anytime that would be convenient. We in the mental health fraternity in Africa have lost a great model but I am sure he has inspired many. We thank God for his life.

I send my condolence to his colleagues at Ibadan, and Biola (his wife), family and friends.

Prof. David Ndeti

*Professor of Psychiatry, University of Nairobi and
Director, Africa Mental Health Foundation (AMHF)
Nairobi, Kenya*

IT WAS WITH deep sorrow I received the news that professor Odejide has left us. Professor Odejide was a well respected colleague in international alcohol research. He had a central role in the improvement of the knowledge about the alcohol situation in Africa, and particularly Nigeria. Through his international contacts and publications he helped to put Africa on the world alcohol policy map. He had many friends also in the Nordic countries, and was known here as a wise, dignified and kind man. *Nordic Studies on Alcohol and Drugs* had the privilege of publishing several papers by Professor Odejide.

In 1986, in a special issue on alcohol in developing countries initiated by the late Kettel Bruun, he published an article on “Alcohol in Nigeria: production, patterns of use and associated health effects”. Last year, Professor Odejide contributed to the journal for the last time a commentary on the role of education and concluded that political will is necessary for a comprehensive prevention approach.

We will miss him, his expertise and engagement.

Dr Kerstin Stenius

Editor-in-Chief

Nordic Studies on Alcohol and Drugs

Helsinki, Finland

I MET Professor Odejide in 2006 for the first time in Brazzaville. I had read his work in the early 1990s when I was getting on top of psychiatric epidemiology in Africa. I remember saying to him “I can’t believe I am finally getting to meet you - one of the giants in the field.” He was very humble about it and we had a great time chatting.

Prof. Charles C. Parry

Director, Alcohol and Drug Research Group

Medical Research Council

Cape Town, South Africa

I DID KNOW Odejide and I am very sad to hear of his passing. He was a delightful person and I remember particularly a journey between Benin City and Abidjan along the “back roads”, with numerous visits to friends and relatives on the journey; as well of course his work in the alcohol and drug field.

Dr Alan Haworth

University of Zambia

Lusaka, Zambia

I AM DEEPLY saddened to learn about Bisi’ s passing away. He was a shining leader in our field, a patriot and a true inspiration to all who had the honour to work with him. Kindly convey my sympathy to Bisi’ s family and friends when you see them.

Dr Rey Chad Abdool

United Nations Office on Drugs and Crime

Nairobi, Kenya

WE HAVE SURELY started the year on a sad note. We have lost a rare gem. I believe, however, that his works will immortalize him. We will miss him.

Dr Andrew Zamani
University of Abuja Medical School
Abuja, Nigeria

IT IS WITH deep sadness that I received the bad news of the passing away of our Colleague, Friend and Brother Professor Olabissi. On behalf of all my colleagues from all countries of the WHO African Region for whom Professor Olabissi was a leader and a model in the way that he thought and made things going well in the area of mental health for our Continent. Please accept our condolences.

I personally worked with Professor Odejide in 2006 when he chaired in Brazzaville an important regional meeting we held as one of the positive steps to reduce harms of substance use especially alcohol in our region. We pray that he rests in eternal Light and Peace

Dr Thérèse Agossou
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