

ALCOHOL AND DRUG ABUSE IN ETHIOPIA: PAST, PRESENT AND FUTURE

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ABSTRACT

Substance misuse is a growing problem in restructuring countries. In this review from Ethiopia we found widespread use of alcohol and *khat* in the general population. The use of illicit drugs was mostly limited to at-risk populations. The prevalence of hazardous drinking was about 3%, and that of alcohol dependence and cannabis abuse was each about 1.5%. The prevalence of *khat* use varied widely (0.3 to 64.7%). Abuse of *khat* and alcohol has been associated with physical illness, injury, under-nutrition, mental distress, sexually risky behaviour and poor work performance. We recommend future national studies, potentially incorporated into the five-yearly National Demographic and Health Survey. We also suggest a relevant policy response targeting populations at risk, particularly students, the young, the unemployed and the disadvantaged.

KEY WORDS: alcohol, *khat*, Cannabis, Ethiopia

INTRODUCTION

Substance misuse is a growing problem in Ethiopia, as in many developing countries. Ethiopia is the second most populous sub-Saharan African country with an estimated population of over 77 million (World Health Organization, 2006), the majority of whom (85%) reside in the rural countryside (Central Statistical Authority [Ethiopia] & ORC Marco, 2006). As one of the ancient nations of Africa, Ethiopia has a rich cultural heritage and is thought to be one of the earliest centres producing alcohol (Acuda, 1988). Ethiopia is also credited with being the original source of coffee and *khat* (*catha edulis forskii*) (Acuda, 1988).

The recent past of the country has been tumultuous, characterised by war, political unrest, mass-migration and famine, all factors

likely to increase the risk of mental distress and substance misuse within the population. Ethiopia is also one of the least developed countries, as defined by the UNDP Human Development Index and the Human Poverty Index (United Nations, 2006). A recent report from the Demographic and Health Survey 2005 (Central Statistical Authority [Ethiopia] & ORC Marco, 2006) indicates improvement in some of the indices of disadvantage, for example child mortality. However, the growing market economy and the recent momentous socio-political changes, often considered key elements of sustainable economic development, may also be major risk factors for the spread of substance misuse in the future. Likewise, increased freedom of expression, individual mobility and open national borders encourage the flow of ideas and habits, potentially extending to habits of substance use. Educational

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institutions, both governmental and private, have burgeoned without parallel expansion of the employment market, leading to a vulnerable and at-risk group of young adults with limited opportunities. The spirit of globalisation and liberalism makes the problem of substance use more immediate. Countries such as Ethiopia, which have been somewhat protected from the outside world by pride of national identity and through actions of repressive regimes, can no longer hide behind these masks. An explosion in substance misuse may be the next challenge to be faced.

Given this background, it is high time to review the known facts about substance misuse in Ethiopia. Thus, the main aim of this report is to provide an overview of substance use in Ethiopia and make recommendations for prevention and treatment.

METHOD

The report is based on a review of both quantitative and qualitative studies. Published and unpublished data and indexed and non-indexed reports were reviewed. Non-indexed literature was searched through simple web search using the generic term of substance abuse and specific substances: khat, alcohol, opiates, heroin, solvents, glue sniffing, cigarette, tobacco, marijuana and cannabis joined with the term Ethiopia. Unpublished literature was identified from individual researchers. For indexed articles we used MEDLINE and PsycINFO searches for the years 1950-2007. We used the following subject headings: Ethiopia, substance abuse, substance-related disorder, dependence, addictive behaviour, addiction, alcohol, alcohol drinking, alcoholism, marijuana abuse, opioid-related disorder, heroin dependence and tobacco use disorder. Relevant publications of the Ministry of Health were also reviewed and experts consulted. Data were not summarised statistically because of the extreme heterogeneity in the methodology of the studies included.

In this report we initially provide a general outline of the substances of abuse followed by

estimates of the magnitude of abuse, its impact and efforts of control. Implications of the findings are discussed and specific recommendations are forwarded.

SUBSTANCES OF ABUSE IN ETHIOPIA

Alcohol and khat are the most frequent substances of abuse, followed by cannabis and solvents. Hard drugs such as heroin and cocaine are rarely used.

Alcohol

The production and consumption of alcohol pre-dates modern civilisation. It is claimed that the mountainous areas of Ethiopia were among the first seven centres in the world where plants were grown for alcohol production (Acuda, 1988). Home-brewed traditional alcoholic drinks, with their varied alcohol contents (Desta, 1977), are part of the cultural fabric in many regions of Ethiopia, drunk during holidays and the numerous church festivities. *Tella* is the most commonly home brewed alcoholic beverage, made from germinated barley and *gešo* (an evergreen shrub) leaves, and has an alcohol content of 2-4%. *Tej* is a traditional wine made from fermented honey and *gešo* and contains 7-11% alcohol. *Araki* is a spirit distilled from fermented cereals with an alcohol content of up to 45%. *Korefe*, *Shanti*, *Boredede* and *Katikala* are other traditional drinks made through similar processes. Although it is apparent that industrial production of alcoholic beverages has increased in recent years, the recorded per capita consumption of alcohol has shown little variation between 1961 and 2001, estimated at about 0.8 litre of pure alcohol (World Health Organization, 2004a).

Khat

Khat (*Catha edulis*), a psychostimulant substance, is thought to be the second most widely used substance in Ethiopia. Khat is an evergreen plant that grows mainly in Ethiopia, Kenya, Yemen, and at high altitudes in South

Africa and Madagascar. Khat is most often chewed but the leaves can be infused as a tea or dried and smoked. In khat-growing countries, the chewing of khat leaves for social and psychological reasons has been practiced for many centuries. The use of khat has gradually expanded to neighbouring countries and beyond through commercial routes. Recently, increasing numbers of immigrants have spread the practice to Europe and the United States (Nencinin, Grassi, Botan, Asseyr, & Paoli, 1988).

The origin of khat is not clear, but is generally agreed to be native to Ethiopia (Getahun & Krikorian, 1983). Between the first and sixth century (AD), khat was introduced to Yemen where later the Danish botanist and physician, Forsskal (1736-1763), gave it the name *Catha edulis* (Getahun & Krikorian, 1983). Khat is thought to have medicinal properties, historically used to treat up to 501 different ailments among the Harar people of Ethiopia as well as in the alleviation of symptoms of melancholia and depression (Balint, Gebrekidan, & Balint, 1991). Modern users report that chewing khat gives increased energy levels and alertness, improves self esteem, creates a sensation of elation, enhances imaginative ability and the capacity to associate ideas, and improves the ability to communicate (Kalix, 1987). The psychostimulant effect of khat is due to the alkaloid chemical ingredients cathine and cathinone, present in the fresh leaves of the plant. The chemical structure of cathinone is similar to that of amphetamine.

Cannabis and other substances

Little is known of the introduction of cannabis into Ethiopia and its subsequent pattern of use. Historically, cannabis grew wild and its use was limited to monasteries. Religious students were said to use cannabis to assist their learning (Kassaye, Sherif, Fissehay, & Teklu, 1999b). Cannabis use may have spread to other parts of the country through tourists and guides who visited these monasteries or by Jamaicans who settled in Shashemene (south-central Ethiopia) and grew cannabis for their own consumption (Kassaye et al., 1999b). Cannabis is

used by drug traffickers, street children and adolescents in some parts of the country. It is reported that farmers in some parts of the country now produce cannabis for commercial purposes and that cannabis is trafficked across to Eritrea, Djibouti, Sudan and Egypt (Kassaye et al., 1999b). With increased trafficking, increased production and distribution of cannabis within Ethiopia are likely to occur.

Solvent misuse is also reported among street children, and delinquent youths. The use of hard drugs such as cocaine and heroin is limited to drug traffickers, commercial sex workers and those with the financial means and access. However, there are indications that the magnitude of the use of these substances may be larger than reported by studies and may also be on the increase (Kassaye et al., 1999b).

PREVALENCE OF SUBSTANCE USE

The prevalence of substance use is presented in two separate sections; use among at-risk populations and that among the general population. Most of the studies reporting on prevalence have used simple self-administered questionnaires or instruments administered by lay interviewers. Most studies have also specified whether the use was life-time or current, and we have specified the findings accordingly wherever possible. The overall prevalence figures are summarised and presented in tables 1-3.

Use in at-risk populations

We identified several studies conducted among street children, youths and the unemployed focusing on the abuse of alcohol, cigarettes, khat, and solvents. Over 20 years ago, 17% of juvenile delinquents in a remand home were found to be regularly inhaling gasoline and benzene, and had been doing so for up to five years (Workneh, 1983). 'Alcoholism', glue-sniffing, and khat-chewing were also reported to be common amongst these adolescents.

Table 1. The prevalence of general alcohol use, hazardous use and dependence in different settings and population groups in Ethiopia, 2006

Author	Setting	Population	Nature of use	Prevalence (%)	Remark
Kassaye et al, 1999	Urban	Private high school	Lifetime	57.7	
Kassaye et al, 1999	Urban	Government high school	Lifetime	17.9	
Kassaye et al, 1999	Rural town	Government high school	Lifetime	18.2	
Betre et al, 1997	Urban	Adolescents (15-24 years of age), n=1436	Current	11.8 boys and 1.1 girls	Regular use
Kebede and Ketsela, 1993	Urban	Adolescents (n=519)	Current	9.2	Heavy use
Zein	Urban	University students (n=479)	Current	31.1	
Kebede et al, 2005	Predominantly Urban	Youth (15-24 years of age)	Current	19.3	Drinking at least on a weekly basis
Alem et al, 1999	Rural	Adults (15 years of age and above), n=10468	Current hazardous drinking	3.7	*CAGE score of 2 or more
Kebede et al, 1999	Urban	Adults (15 years of age and above)	Current hazardous drinking	2.7	CAGE score of 2 or more
Kebede et al, 1999	Urban	Adult	Lifetime, dependence	1	**CIDI diagnosis
Kebede et al, 2005	Rural	Adult (isolated island population), (n=1714)	Lifetime, dependence	1.5	CIDI diagnosis
Beyero et al, 2004	Rural	Adult (Semi-nomadic population), (n=1700)	Lifetime, dependence	1.6	CIDI diagnosis

*CAGE=Cut-down, Annoyance, Guilt, Eye-opener

**CIDI=Composite International Diagnostic Interview

We identified a number of more recent reports. In a sample of 248 high school students in south-western Ethiopia, the prevalence of khat-chewing was 64.9% (Adugna, Jira, & Molla, 1994). In a survey of three high schools, one private and one government school in Addis Ababa and one government school in Butajira, 57.7%, 17.9% and 18.2% of the students respectively reported ever drinking alcohol (Kassaye, Sherif, Fissehaye, & Teklu, 1999a). Similarly khat-chewing was reported by 35.6%, 9.2%, and 31.0% respectively. For cannabis, the prevalence of lifetime use was 31.1% for the private school students while it was 1.0% for the Addis Ababa and 2.7% for Butajira government school students. In a city-wide random sample of 1436 youngsters aged 15-24 years from Addis Ababa, 34% drank alcohol regularly while 11.8% of boys and 1.1% of girls smoked cigarettes (Betre, Kebede, & Kassaye, 1997). A further study of 519 adolescents in Addis Ababa reported that 9.2% consumed alcohol heavily while 13.8% smoked cigarettes (D. Kebede & Kestela, 1993).

Students and staff at institutions of higher education are also considered to be at high risk of substance use. Among 479 students at a College of Medical Sciences in north-western Ethiopia, 31.1% reported current alcohol use, 22.3% current khat-chewing and 26.3% cigarette-smoking (Zein, 1988). More recently, in a sample of 181 college instructors from the same region of Ethiopia, the prevalence of current Khat use was 21.0%, and that of cigarette smoking was 13.3%. Lifetime use of either Khat or cigarettes or both was 42.0% (Y. Kebede, 2002). Similarly in south-western Ethiopia, 30.8% of university staff reported chewing khat currently (Gelaw & Haile-Amlak, 2004). Khat use was associated with being male, Muslim and younger (18 to 24 years).

In a notable study of 24, 434 youths aged 15-24 years, 58% of whom were out of school, 19.3% reported weekly alcohol use (D. Kebede, Alem et al., 2005). Drinking on a daily basis was present in 2.1%; 0.4% of those still in school vs. 2.8% of those out of school (Kebede et al, 2005). Khat use on a weekly basis was reported by 11% (5.8% in school and

13.3% out of school) and daily use was reported by 7.7% (1.7% in school and 10.3% out of school) youths. Other substances, including cannabis (hashish), solvents and cocaine or crack cocaine were identified in 3.8% of youths (0.7% in school and 3.8% out of school).

A Rapid Assessment Study with 3200 respondents, predominantly consisting of street children, commercial sex workers and street vendors from Addis Ababa and 24 other regional cities and towns found 32.9% had consumed alcohol and 30.5% had used khat (Selassie & Gebre, 1996). Cannabis use was reported by 11.2% and solvent use by 9.0%. Cocaine and heroin were less frequently used, with 0.2% reporting use of either substance. Polysubstance use was not uncommon in this study group: 14.9% reported using Khat, alcohol and diazepam and an equivalent number used both tobacco and cannabis resin. Concomitant use of khat and cannabis or cocaine and heroin were less commonly reported; 3.9% and 1.4% respectively.

Substance use in the general population

Most community surveys have reported on substance misuse as part of a general mental health survey. Thus as part of a study looking at the prevalence of mental distress, Alem et al. (Alem, Kebede, & Kullgren, 1999a) reported on the prevalence of hazardous alcohol use and khat chewing. They recruited 10,468 persons aged 15 and above from Butajira, a predominantly rural district. Twenty-three per cent of the respondents (36% male and 15% female) admitted that they currently drank alcohol. Among those who drank, 16% met the criterion for hazardous drinking (problem drinking) as defined by two or more positive responses to the CAGE (Ewing, 1984). However, the overall prevalence of problem drinking was 3.7%; 7.5% for men and 0.9% for women. Stratified analysis by sex and religion showed that Christian religion, male sex and smoking were strongly associated with problem drinking in both sexes. Marital status, mental distress and income were only associated with problem drinking in males. A similar study conducted in the capital, Addis Ababa,

found a lower prevalence of problem drinking at 2.7%; 5.8% in men and 0.2% in women (D. Kebede & Alem, 1999). The prevalence of alcohol dependence using the Composite International Diagnostic Interview (CIDI) was 1.0% and was exclusively found in men (D. Kebede & Alem, 1999).

Two studies were conducted among special population groups. A survey of Zeway islanders, an isolated ethnic minority in the rift valley, found the prevalence of alcohol and cigarette dependence to be 1.5% and 0.4% respectively (D. Kebede, Fekadu et al., 2005). In a survey of 1700 adults from a semi-nomadic population at the southern border of the country, CIDI interviews gave an estimated prevalence of substance abuse of 10.1%, most of whom were men (13.7% v 7.5%). Tobacco dependence was the commonest, with a prevalence of 3.6% and equally distributed among men and women. Alcohol dependence was identified in 1.6%, almost exclusively among men (Beyero et al., 2004).

With regard to khat-chewing, in Butajira where khat is grown and widely available, more than half of the study population (55.7%) reported lifetime use and 50% were current khat chewers (Alem, Kebede, & Kullgren, 1999b). Among current chewers, 17.4% reported taking khat on a daily basis; 16.1% of these were males and 3.4% were females. Muslim religion, smoking, higher educational level, being divorced and widowed showed strong associations with daily khat chewing. Another study using CIDI found the lifetime prevalence of khat dependence in Butajira to be 6.0% (Awas, Kebede, & Alem, 1999). Nearby in the rift valley, a population-based study of 1200 adults found the prevalence of current khat use to be 31.7% (Belew, Kebede, & Kassaye, 2000). In this study, Muslims, males and those between 15 and 24 years were more often habitual users. In contrast to these two studies conducted around the rift valley where khat is widely available, while in Addis Ababa where khat is not grown, only 7.4% of study sample reported chewing khat (D. Kebede & Alem, 1999).

The World Health Survey (2004) was a household survey of 4936 individuals; 86.4% of whom lived in rural areas (World Health Organization, 2004b). Lifetime use of alcohol was 38.5%. Abstainers (61.5%) were predominantly from the upper (fourth and fifth) quintiles of socioeconomic status. The prevalence of frequent heavy drinking, defined as daily use of three or more standardised drinks in the past seven days, was 0.8%; 1.6% among men but absent in women. This pattern of heavy alcohol consumption was predominantly found in the lowest socioeconomic group and was least common amongst those who were better off. The urban prevalence (0.9%) was greater than that found in rural areas (0.4%). In this study the prevalence of current daily smoking was 5.6% among men and 0.5% among women. Again the average number of cigarettes smoked daily (9.3) was highest among the poorest and lowest among the richest (6). Another population-based study in Addis Ababa found the prevalence of cannabis abuse among adults to be 1.7% (Rashid, Kebede, & Alem, 1996).

Most recently, Kebede et al. assessed the use of alcohol, khat and other substances (cannabis, benzene, cocaine, crack cocaine, 'shisha') in a sample of 28, 686 adults aged 15-49 across 10 occupational groups (Kebede et al, 2006, unpublished). Prevalence of use was determined for the four week period prior to interview for these substances and for the preceding 12 months for injectable drugs. Weekly and daily alcohol use was highest among female commercial sex workers (72%) and lowest among farmers and pastoralists (5-7%). Weekly and daily khat use was also highest among female sex workers (43%). Over 30% of long distance drivers also chewed khat weekly or daily. The overall prevalence of other substances was 3.9% and that of injectable drugs was 0.7%.

Studies of substance abuse among clinical populations are rare. A report on outpatient attendees to Amanuel Psychiatric hospital found that among 23, 507 attendees, over a period of a year-and-half, 9.3% were treated for substance related problems (Selassie & Gebre,

Table 2. The prevalence of khat use in different settings and population groups in Ethiopia based on selected studies, 2006

Author	Setting	Population	Nature of use	Prevalence (%)	Remark
Adugna et al, 1994	Semi-urban	High school students (n=248)	?	64.9	Khat widely available in region
Kassaye et al, 1999	Urban	Private high school students	Life time	35.6	
Kassaye et al, 1999	Urban	Government high school	Life time	9.2	
Kassaye et al, 1999	Rural town	Government high school	Life time	31.1	Khat widely available in region
Zein	Urban	University students (n=479)	Current	22.3	Over 700kms from khat growing regions
Gelaw et al, 2004	Urban	University staff (n=181)	Current	21	Over 600kms from khat growing regions
Kebede et al, 2005	Predominantly Urban	Youth (15-24 years of age), (n=24,434)	Current	11	Chewing at least on a weekly basis
Alem et al, 1999	Rural	Adult (15 years of age and above), (n=10468)	Current	50	Khat widely available in region
Belew et al, 2000	Semi-urban	Adult, (n=1200)	Current	31.7	Khat widely available in region
Kebede et al, 1999	Urban	Adult	Current	7.4	

Table 3. The prevalence of the use of other substances of abuse in different settings and population groups in Ethiopia, 2006

Author	Setting	Population	Substance abused	Nature of use	Prevalence (%)	Remark
Workneh, 1983	Urban	Juvenile delinquents	Solvents	Current	17	"Regular use" for 5 years leading up to study
Kassaye et al, 1999	Urban	Private high school students	Cannabis	Lifetime	31.1	
Kassaye et al, 1999	Urban	Government high school students	Cannabis	Lifetime	1.0	
Kassaye et al, 1999	Rural town	Government high school students	Cannabis	Lifetime	2.7	
Selassie & Gebre, 1996	Multi-regional	Predominantly young	Cannabis	?	11.2	Rapid Assessment Study; 25 cities
Selassie & Gebre, 1996	Multi-regional	Predominantly young	Solvents	?	9.0	Rapid Assessment Study; 25 cities
Selassie & Gebre, 1996	Multi-regional	Predominantly young	Cocaine	?	0.2	Rapid Assessment Study; 25 cities
Selassie & Gebre, 1996	Multi-regional	Predominantly young	Heroin	?	0.2	Rapid Assessment Study; 25 cities
Rashid et al, 1996	Urban	Adult	Cannabis	Lifetime	1.7	**CIDI
Kebede et al, 2006	Urban	Adults (ages 15-49 years of age), (n=28 686)	Cannabis, heroine, cocaine and solvents	Current	3.9	10 occupational groups
Fekadu et al, 2006	In-patient	Adult, (n=1564)	Heroin	Use prior to admission	1.6	

**CIDI=Composite International Diagnostic Interview

1996). Among inpatients admitted to the same hospital over one year, 20.7% had used khat, 13% alcohol and 1.6% abused heroin (Fekadu et al, 2006, unpublished). Substance-induced psychosis was diagnosed in 2.3% of psychiatric admissions.

Gender and substance abuse

The differential pattern of substance abuse among men and women is presented in Table 4. Men predominate, particularly among those smoking tobacco and those who are dependent or heavy drug abusers.

IMPACT OF SUBSTANCE ABUSE

Few studies have assessed the impact of substance abuse on health and overall functioning. These studies have indicated that substance misuse is associated with psychological distress, suicide attempts, functional impairment, physical ill-health and risk-taking behaviour. In the previously-described Butajira study of over 10, 000 adults, a higher prevalence of mental distress and suicide attempts was found in those using alcohol and khat (Alem et al., 1999a). An increased prevalence of suicide attempts was also reported in adolescents in Addis Ababa who drank alcohol (D. Kebede & Kestela, 1993). Khat use has been associated with physical illness, injuries, undernutrition, mental distress, sleep disorders, problem drinking and heavy smoking (Belew et al., 2000), as well as recurrent brief psychotic episodes with associated violent behaviour (Alem & Shibre, 1997). In a case-control study, khat use has also been found to be a risk factor for HIV infection (Abebe et al., 2005).

In the study of over 20, 000 in-school and out-of-school youths, daily khat intake was also associated with unprotected sex. There was also a significant and linear association between alcohol intake and unprotected sex, with those using alcohol daily having a three-fold increased odds compared to those not using alcohol (D. Kebede, Alem et al., 2005). University staff who used khat were more

likely to go to work late, leave early and miss regular work (Gelaw & Haile-Amlak, 2004).

DRUG CONTROL AND TREATMENT

The potential consequences of substance abuse have been well-recognised by successive Ethiopian governments and necessary legislation has been adopted. Ethiopia is a signatory to the Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol, the Convention on Psychotropic Substances of 1971 and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 (Selassie & Gebre, 1996). The government has a designated agency within the Ministry of Health for the control of drugs. A policy for the control and proper use of narcotic drugs and psychotropic substances was first adopted in 1993 and a more detailed policy was formulated in 2004 (Drug Administration and Control Authority, 2004). The penal code (1957) has legal provisions for the production, distribution, storing, importing, exporting and use of narcotic drugs and psychotropic substances (article 510 (1)) (Selassie & Gebre, 1996). However, current laws are perceived to lack rigour and law makers and law enforcement officers are said to lack awareness about the seriousness of substance abuse (Kassaye et al., 1999b; Selassie & Gebre, 1996).

Drug trafficking is the other major problem. Ethiopia has an efficient airline networking many parts of Africa, parts of Asia, USA and Europe and has been targeted by drug traffickers. The Bole International Airport is the main focus of control on drug trafficking. In a report that investigated police records, about 340 traffickers and users were apprehended between 1990 and 1994 (Selassie & Gebre, 1996). The seized substances included cannabis, heroin, morphine, cocaine, amphetamine, lysergic acid diethyl-amide (LSD) and Phenobarbital. Cannabis constituted the largest quantity seized, with 150, 559kg seized in 1993. In 1993, 24,

Kebede et al, 2006
Fekadu et al, 2006

Urban
In-patient

Adults (ages 15-49 years of age), (n=28 686)
Adult, (n=1564)

Cannabis, heroine, cocaine and solvents
Heroine

Current
Use prior to admission

3.9
1.6

10 occupational groups

**CIDI=Composite International Diagnostic Interview

956kg of heroin was also seized. Between 1993 and 1997, 553 drug users and traffickers of Ethiopian nationality were apprehended (Kasaye et al., 1999b). The majority of these were for cannabis use or trafficking.

As part of the national effort for controlling substances of abuse, the Ministry of Health of the country has conducted seminars and conferences on the problem of substance misuse and trafficking (Selassie & Gebre, 1996). Education on substance misuse is also offered in some schools. There is also limited education available through mass media outlets. There are only two facilities for the treatment of patients who abuse substances, both opened recently within the capital city Addis Ababa. An inpatient detoxification unit operates at St Paul's hospital and an inpatient unit dedicated for the treatment of drug dependent patients was opened at Amanuel Hospital in 2005. An Alcoholics Anonymous group is also active in Addis Ababa.

CONCLUSION

The studies presented on substance misuse in Ethiopia highlight the magnitude of the problem, particularly among the youth, its clinical and functional impact, and existing efforts at control. However, there is a clear paucity of systematic studies to establish the overall prevalence and geographic distribution of substance abuse in Ethiopia, and the trends in use over time. The studies reviewed have several limitations. Most focus on youths and other at-risk populations. This makes estimating the prevalence in the general population difficult. Community-based studies in the general adult population have assessed the prevalence and consequences of substance misuse only as part of broader studies of general mental disorders, thus limiting the level of detail available. Studies were also largely conducted within areas where the studied substances were widely available or acceptable. The data available on drug control and specific information regard-

ing nature and quantity of drugs seized anchored in time were very limited.

Comparison of findings from Ethiopia to studies from other East African countries is also difficult, as many of the latter studies were conducted among clinical rather than community samples. Additionally, the nature of available substances and socio-cultural differences make detailed comparison difficult and inappropriate.

However, several conclusions can be drawn from this review.

- 1) The commonly used substances in Ethiopia are alcohol and khat. Home-brewed alcohol and, to some extent khat, are part of the cultural fabric, widely available and acceptable. The prevalence of hazardous drinking (2.7%-3.7%) and alcohol dependence (1%-1.6%) in cities, selected rural sites and even special population groups suggests that alcohol abuse is a widespread and important problem. Khat use is predominantly found in the central and southern parts of the country. It is mainly used for religious reasons and among the youth. However, there is a clear concern that the use of khat is spreading across the country, outside of the usual cultural and religious context.
- 2) Tobacco smokers are almost exclusively men (Table 4). Similarly, dependent and heavy users of alcohol and khat are predominantly men. This is an anticipated finding that is influenced by culture and explains the low overall prevalence of substance abuse. Although the current status of abuse dictates efforts of treatment to be targeted on men, with increasing freedom of social expression, women may become more open to using substances. Thus preventive strategies that target both men and women need to be put in place.
- 3) Based on available studies, the overall burden of substance misuse appears substantial. It can be conservatively estimated that about three million people

have a problem with substance abuse in Ethiopia. The magnitude of alcohol use and problem drinking appears comparable to that of reports from Africa and other reports from the West (Blaney & Mackenzie, 1980; Gureje, Obikoya, & Ikuesan, 1992; Maru, Kathuku, & Ndeti, 2003; Odek-Ogunde & Pande-Leak, 1999).

- 4) The impact of substance misuse in Ethiopia has not been well-studied. However, the available data indicate the serious potential public health and socio-economic consequences of substance misuse, including poor physical health, undernutrition, mental distress and functional impairment as well as having implications for control of infectious diseases such as HIV, other sexually transmitted diseases and viral hepatitis.
- 5) The use of other substances such as cannabis, heroin and cocaine has not been substantial to date. However, there are indications that the use of heroin and cocaine might be higher than estimated in these studies (Kassaye et al., 1999b). This is partly because of the hidden nature of substance abuse in general, and the unique nature of the population in Ethiopia that is likely to access and use these substances. The use of the latter group of drugs has a potential to grow substantially with all the attendant problems.
- 6) The findings indicate that some consideration is being given to the control and treatment of substance misuse. However, this falls far short of what is required to prevent expansion of drug misuse and adequately deal with the existing problem. There are limited centres for the treatment of those with substance-related problems and there are no rehabilitation centres. There are virtually no informal services, and community involvement in the control of substance misuse is almost non-existent. Professionals involved in the control and treatment of substance misuse lack appropriate training.

Recommendations for Research and Policy

- 1) There is a clear gap in the knowledge we have about the magnitude of substance misuse in Ethiopia, its specific impact on health and functioning, and locally appropriate interventions. Data linking khat-use with health and social problems remain unconvincing. This is particularly important given the competing socio-cultural and economic interests for the use of khat. A well-designed cohort study would be a first step to inform further studies. Despite the difficulty in collecting data on hard drugs such as cocaine and heroin, attempts to better estimate the scale of the problem are crucial.
- 2) In countries like Ethiopia where the community plays a key role in the life of an individual and where some of the substances of abuse are culturally acceptable, community involvement will be crucial for any study and planned interventions. Existing informal community groups and structures offer many opportunities in this regard.
- 3) A pressing issue for the effective control of drug misuse in Ethiopia is the perceived leniency of penalties handed out to drug traffickers (Kassaye et al., 1999b). A governmental review of existing legislation is recommended.
- 4) Substance misuse is an issue with international dimensions and the efforts of local governments need to be co-ordinated with, and supported by, the international community. International input could include the sharing of expertise, information and equipment.
- 5) The problem of substance misuse is not confined to the domain of health. It is closely linked to societal and cultural issues and requires a multi-agency approach to prevention and control. Giving priority to increasing employment opportunities, reducing school drop-out and rehabilitating street children are examples of social interventions with the potential to impact on substance misuse.

- 6) Appropriate training of health professionals, law enforcement officers and law-makers should receive priority.
- 7) A comprehensive campaign to educate young children and adults about the harmful effects of substances is warranted. Its effectiveness is likely to be enhanced by incorporating sensitisation into the curriculum. Educating the public through media outlets, churches, mosques, and other formal and informal gatherings is needed.
- 8) There are only two treatment centres for patients with substance-related problems in the whole country and a dire shortage of appropriately trained personnel and facilities. There is an urgent need to expand drug treatment and rehabilitation programmes.

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