The use of naturally occurring mood-altering substances is deeply rooted in the traditions and cultures of many communities worldwide. As documented in other societies and historical records,1,2 various compounds have been employed for altering consciousness and for their curative effects.3 Two substances traditionally used in the Middle East include hashish and khat.4 Hashish, as cannabis, has been known in the region since ancient times.5 Khat, also known as chat, derived from the leaves and young shoots of the khat plant (Catha edulis), is used for its stimulant effect.6

Technological advances that enable high purification of drugs and transporting them fast, and increasing urbanisation, have caused these mood altering substances to be taken out of their traditional role in societies and have come to pose new, complex and challenging threats.7 These threats have been manifested in two important ways: (1) wider use of drugs, and (2) a shift from natural drugs to the more potent purer forms. Globally, illegal money derived from illicit drug transactions amounts to 400 billion dollars annually, and is second only to the arms trade.8,9

The countries of the Arabian Gulf Co-operation Council (GCC) offers an interesting study area because their diverse cultures have experienced rapid acculturation, a phenomenon often equated with a rise in psychosocial stress.10 Psychosocial stress has often been associated with vulnerability to self-poisoning11 and substance abuse.12 Although there are no adequate statistical studies to indicate the incidence of substance dependency in the GCC, it is clear that substance abuse is not a minor problem considering the number of reported drug seizures by the authorities.13 In real terms, the drugs seized by law enforcement authorities constitute only 5–10 percent of the actual quantity.14 Comprehensive data on the pattern of substance dependency is hampered by the criminal and moral stigma associated with substance dependency. However the real number of people afflicted with addiction, substance dependency is a severe problem when considered in terms of personal distress, family disruption and interference with productivity and economic growth. Efforts have been undertaken in GCC countries to reduce the demand for drugs and to prevent drug abuse before it occurs. These efforts are coordinated through the Demand Reduction Committee, created in 2001 with members from all countries of the GCC. The committee provides leadership in coordinating and facilitating strategies in this area including law enforcement, rehabilitation and leading and assisting the community in the task of education and prevention of substance abuse.

Some studies have suggested that substance dependency occurs in adolescents in all strata of the society.14–16 However, these studies are limited to self-report questionnaires based on secondary school students. Although peer pressure is likely to play a significant part in the initiation of substance abuse,16 the subsequent heavy abuse is often associated with various psychosocial factors. It has been suggested that of all the social factors that predispose individuals to substance abuse, boredom is the most significant.14,17

The recent affluence and modernisation of the GCC societies have led many people to have a lot of spare time, as household chores are carried out by expatriate servants.14 The detrimental effects of such a lifestyle, including substance dependency, have been
speculated in the literature. In a study cited by Al-Harthi of personality profiles and descriptive analyses of typical substance users enrolled in a treatment centre in Riyadh, Saudi Arabia, the most frequently stated reason for indulging in drugs was to escape boredom. This view, though substantiated by other studies in the region, has not taken into account the relationship of individual temperament to substance abuse. Recent studies have suggested that phenotypical “risk takers” or “sensation seekers” are often not inhibited from yielding to various illicit practices including substance abuse. Future studies in the region should examine the association between personality types, risk taking behaviour and boredom.

The premise that the rise in substance dependency might be precipitated by erosion of traditional family networks and skewed social expectations might be relevant to GCC countries. Al-Hashmi has suggested that modernisation has resulted in the Omani family becoming nuclear at the cost of the traditional extended family. Concurrently, domestic servants brought from overseas, often illiterate in the dominant language, are providing much of the socialisation to children. Reinforced by frequent international travelling, satellite televisions and the Internet, acculturation appears to have occurred too quickly in GCC societies. Smith has remarked that these changes have brought these communities development that took a thousand years in Europe in less than 20 years. Studies from other parts of the world that have experienced similar rapid pace of modernisation have shown disintegration of native culture and identity as well as dissolution of the social network, to which individuals had previously turned for help when in trouble. In addition, the spread of education have resulted in higher levels of expectations. In the new social order, individuals in the region tend to regard employment opportunities, guaranteed higher levels of income, and especially, higher social standing, as acquired rights. Frustration of the desire to climb the social ladder leads to social insecurity. The present situation of society in transition fits with the classical sociological observations of Ibn Khaldun and Emile Durkheim: rapid transformation leads to breakdown of traditional social cohesion. As a result, the sense of belonging becomes a luxury, leading to social drift, alienation, and the proliferation of social misfits. The society itself may become anomic. The relationship between acculturation, anomie and drug taking has received empirical support. The present tendency is to view substance abuse in its psychosocial context rather than on moral terms. While more studies that are comprehensive are needed to examine the pattern of use and misuse of drugs in the GCC countries, there are various reasons to assume that substance dependency is likely to continue to pose a problem in the region. First, the geography helps both trafficking and consumption. GCC countries are located close to the “Golden Triangle” or “Drug Belt”, a part of Asia where underdevelopment and political instability have fuelled drug driven economies. Second, being on a major route for international airlines and sea routes by virtue of being in the middle of the world, GCC countries are at constant risk of being used as trans-shipment points for drug trafficking. The Arabian Peninsula has a vast coastline with its horizon overlooking major sea routes to different continents. Even if vigilance to guard its borders is heightened, such a long coastline would remain porous. Moreover, effective surveillance would require more allocation of resources and work force, drawing vital resources away from establishing essential remedial and rehabilitation services for the victims of substance abuse. Thirdly, the increasing number of visitors and the presence of foreign labour in the GCC also help make the “Gulf route” a crossroad for trans-world drug supplies. Some individuals may fall prey to the fallouts from these passing illegal shipments even though they may be destined elsewhere. It is also possible that an increase in consumption of illicit substances among the local population has in itself escalated the demand. In support of the latter view are the rising statistics on the mortality related to drug abuse and the number of clients seeking treatment in rehabilitation centres in the GCC states.

Dispensing accurate information on issues related to substance abuse is a key component to fighting drug abuse. Studies are needed to illuminate the effect of substance dependency in the GCC countries as the mass media often tends to downplay the risks of drug use, or sometimes even glamorises it. Evidence is emerging on the personal consequences of substance dependency. Okasha, in the context of Egypt, has demonstrated that substance dependency is likely to lead to underachievement at school or work and exacerbate family stress, financial burdens and exposure to criminal activity. However, literature does not discern whether these social problems are the cause or the effect of the substance dependency. Substance dependency is often associated with psychiatric morbidity but it is not clear whether this is cause or effect. Karam et al in their report from Lebanon suggest a strong relationship between addiction to substances of abuse and psychiatric diagnoses. These authors further suggest that certain personality types
often abuse specific substances. However, such a simplistic view appears to be merely reiterating the chicken-or-the-egg argument. Some authors have suggested that substance dependency is a form of self-medication, which implies that individuals with substance dependency have high levels of psychosocial distress and use illicit drugs in an attempt to alleviate their distress. This is relevant to the suggestion that some psychiatric symptoms may mimic withdrawal effects of chronic substance dependency and withdrawal symptomatology co-varies with cognitive and psychological functioning. In addition to psychiatric illness, substance dependency has been seen to increase the risk of adverse drug reactions. A well-known complication of substance dependency is the risk of transmission of human immunodeficiency virus and other infections.

VISIBLE PATTERNS IN THE GCC

The discovery of oil in the GCC has brought rapid modernisation as well as unprecedented material progress and economic security. Although GCC nationals, like other cultural groups in developing countries, are thought to have beliefs that protect them against developing substance dependency, such beliefs appear to be eroding with the rising tide of acculturation and economic restructuring.

Demographic factors such as the preponderance of adolescents in the population will continue to elude those advocating demand reduction policies even if harsher penalties are decreed for traffickers and users. Approximately 60% of the population in the region are less than 20 years old. As reported elsewhere, adolescents are prone to risk taking behaviour, a temperament that has been associated with developmental milestones including the underdevelopment of the orbito-frontal cortex. In GCC countries, the rate of juvenile delinquency has, in a span of 10 years, increased approximately by 400%. Unless the needs of such a large and important segment of society as its young people are addressed, this may present a demographic time-bomb with unpredictable social consequences.

With a fast growing population, competitions for social and occupational roles are likely to be more intense, leaving many failed individuals behind. With such a demographic trend, it is likely that many individuals carry a greater risk of developing various adjustment difficulties including substance dependency. Data emanating from other developing countries suggest that drug peddlers tend to target the poor and the unemployed. Whereas substance dependency in other parts of the world is often associated with economic and social breakdown, no study has examined whether substance dependency in the GCC countries follows the same pattern. Preliminary observations in Oman suggest that there is relationship between unemployment and propensity for substance abuse. Interestingly, the study suggests that addiction to illicit drugs is likely to interfere with employment, often rendering some individuals to lose their jobs. In the midst of such conflicting views, further studies are needed to ascertain the conditions that trigger drug dependency in the community.

While more information is needed in order to make an informed policy on substance dependency, there is some evidence pointing to which substances are widely abused in GCC countries. First, clinical reports suggest that solvent misuse is extensive although no formal studies have been conducted. Hafeiz has suggested that abuse of solvents often occurs in order to overcome the boredom of modern living. There is also increasing evidence to suggest that some of these agents cause mental disorders as well as neurological complications. The chemicals in question include glues, liquid shoe polish, deodoriser, petrol, cocaine and insecticides. A special pattern of substance dependency associated with social deviancy and delinquency also involves a homemade mixture of dates and ointments as well as inhalation of intoxicating fumes derived from burning the wings of cockroaches and ants with volatile substances. Habitual inhaling of these substances is often associated with a failure to thrive.

Secondly, inhaling smoke derived from nicotine based substances is now common in many GCC countries. Tobacco is often chewed, sniffed or smoked either in cigarettes or in sheesha. The latter (also known as hookah) is a smoking device, widely used in some communities of the Arabian Peninsula, to smoke jurak, a cooked tobacco-fruit mixture, and burnt by an electrical device or by charcoal. The produced smoke passes through the water at the base of the sheesha and then a long-tube before it is inhaled. Though most smokers consider sheesha less harmful to health than cigarette smoking, this has not been substantiated in regional studies.

Experimental and clinical studies have found that nicotine, an active ingredient of both sheesha and cigarettes, not only triggers cardiovascular diseases, but also predisposes frequent users to various neuropsychiatric disorders. The question remains whether smoking triggers mental illness or people with mental illness are more likely to smoke. Pharmacological studies have
unequivocally shown that nicotine is as addictive as other well-known psychoactive drugs such as cocaine and amphetamines.\textsuperscript{53} However, GCC countries have given a low priority to this a public health issue.

Demand for nicotine has been falling in industrialised nations,\textsuperscript{53} but a similar picture is not emerging from middle and low income countries. Cigarette companies are now targeting the developing world.\textsuperscript{53} Moreover, cigarette companies are manufacturing products of differing quality for sale in different markets. It has been shown that cigarettes of the same brand sold in developing countries have higher tar content than in the country of origin.\textsuperscript{54} Some studies have suggested that certain cigarettes are made from more potent, hence, more addictive, nicotine.\textsuperscript{32,52} As there is no known effective program to educate people about the dangers of smoking, prevention and smoking cessation appear to an unattainable goal. To compound the problem, some proponents of the “gateway phenomenon” suggest that smoking is a springboard to hard drugs such as cocaine and heroin,\textsuperscript{56} though there is also evidence to contradict this view.\textsuperscript{57}

The social problems precipitated by alcoholism have not yet been reported in the GCC countries though some reports suggest that drinking problems are proliferating.\textsuperscript{13,44,58} The World Health Organisation\textsuperscript{49} estimates that more than 15 million people are disabled because of alcohol use, making it the fourth leading cause of worldwide disability. Theobald has suggested that approximately 10\% of alcohol consumers will at some time experience serious health problems related to their drinking habit.\textsuperscript{59} As many individuals are now facing the daily challenges of modern living and the pressures of modern life, alcohol abuse is thought to be one of the elusive antidotes to modern insecurity.\textsuperscript{17} Some recent findings suggest that individuals who have a high subjective level of insecurity in their lives are likely to abuse alcohol to ward off their psychosocial stress. Interestingly, people with such attributes have been seen to have refractory types of alcoholism.\textsuperscript{64} Alcohol syndromes such as delirium tremens and Korsakoff’s psychosis are known to occur among people who consume it regularly.\textsuperscript{50} Persons at risk of drinking problems cannot be reliably identified in the population; therefore the pattern of drinking and its psychosocial correlates are indicated for the GCC countries. The bulk of the studies\textsuperscript{21,45,58} have focused solely on exploring the validity of research instruments on cross-cultural application of drinking attitude and behaviour. Little is known on the effect of alcohol re-packaged as “cologne” available in some GCC countries.\textsuperscript{62,63} Colognes or ethyl alcohol-containing perfume and after-shave are sometimes ingested as an alcohol substitute.\textsuperscript{64} Relevant to this, it would be important to determine whether the availability of alcohol and other soft drugs deters people from going into narcotics that are more dangerous. One suggestion is that in those societies of GCC where there is a relaxed attitude towards alcohol, there are fewer propensities towards heroin and other dangerous drugs.\textsuperscript{34} It also not clear how such information would be helpful in planning intervention programs in GCC countries, as the experiences from other societies suggest a complex relationship between alcohol and substance abuse. The “gateway theory” would suggest that using alcohol leads people to use harder drugs like cocaine and heroin.\textsuperscript{65}

There is also scant information on the pattern and psychosocial correlates of over-the-counter medications in the GCC countries. Though generally viewed as harmless, many of them have the potential for abuse, particular those that are considered to be amphetamine-like stimulants.\textsuperscript{66} These includes nasal decongestants, bronchodilators, appetite suppressants and energy pills and drinks.

While there is no evidence to suggest that cocaine and hallucinogens are widely consumed in the GCC countries,\textsuperscript{13} the story of opiate use is somewhat different. Historical documents suggest that opium was considered as a medicinal substance in the Middle East. It was recommended by various towering Arab figures such as Ibn Sina.\textsuperscript{1} More recently, however, its semi-synthetic counterpart, heroin, far removed from its cultural context, is becoming the drug of choice for addicts in the GCC countries. Being close to heroin producing regions of the world, GCC appears to be the trafficker's place of choice. Being capable of causing compulsive dependency within a short time, heroin has a devastating effect on the user and society in general. To those who are addicted to heroin, it appears the habit leaves them little time for meaningful life. To compound the problem, as 90\% of GCC heroin addicts use it intravenously, sharing of contaminated needles causes infections of human immune deficiency virus and a high incidence of other infections.\textsuperscript{35} Similarly, the number of cases of heroin addiction is often directly related to the number of crimes.\textsuperscript{27} Despite stringent regulations to reduce the supply and demand, the habit proliferates. Judging from the quantities of drugs seized by the authorities, the last decade has witnessed a dramatic increase in the number of cases of heroin addiction, the number of addicts seeking rehabilitation, and death due to heroin overdose.\textsuperscript{13,14,33}
Rehabilitation for addiction is often in the hands of psychiatric or penitentiary services though some specialised centres have emerged in some GCC countries. Culturally sensitive interventions seem to be often relegated to fringe importance. Medical interventions are likely to grow considering the many claims about new pharmacological tools that take advantage of the chemical properties of alcohol and other drugs. However, drug treatment for substance dependency should not hold up the search for psychosocial predisposing factors, which, in turn, could be a springboard for educational strategies to reduce demand. Indeed, blind adherence to pharmacological intervention not only seems similar to drug peddling, but also may be counterproductive in the long term. A biomedical explanatory model of substance dependency may lead to stigma, and lessen the individual and societal accountability in tackling compulsive dependency. Stressing personal responsibility, on the other hand, motivates one to change, as well as help one understand the challenges ahead and evolve coping mechanisms.

As distress and stress are experienced in a socio-cultural context, rehabilitation services should avoid committing what Kleinman has called a "category fallacy", where a view of human nature developed for one cultural group is uncritically applied to members of another group for whom its validity has not been established. According to Kleinman, this results in a "distortion of pathology" rather than a critical understanding of the ways in which the members of a different cultural group perceive, experience and communicates beliefs and distress.

One of the essential grounds for formulating enlightened policies toward drug dependency is to consider the society’s outlook towards mood altering substances. Despite the documented frequency of substance abuse in GCC countries, a review of the literature reveals no objective studies on knowledge, attitude and perception. Opinion towards substance dependency among citizens of GCC countries is likely to have a wide-ranging influence, affecting issues as diverse as personal consequences of substance dependency, prevention, care and management of people with substance abuse. Historical and cross-cultural studies have suggested that individuals with substance dependence are likely to encounter active discrimination and harassment which, in turn, exacerbates their psychosocial predicament and perpetuates their relapse into drug taking. Similarly, it has been suggested that social attitudes can be more devastating than the addiction itself, and the addict’s family suffers as well. Although many victims of substance dependency could benefit from treatment, attitudes of society towards them is likely to hamper their seeking rehabilitation. As a result, many are likely to stay underground until addiction has reached an advanced stage of irreversible pathology. This not only increases pessimism of the victims and those around them but also shatters the prospect of recovery. Therefore, more research in GCC countries should be conducted in order to shed light on socio-cultural factors that precipitate individuals to succumb to substance abuse. This would open the door for contemplating strategies to achieve a reasonable level of prevention as well as to prioritise which aspects of services are pertinent to the region. Grinspoon and Bakalar have suggested that of all the mistakes repeated, the most serious is trying to free society of drugs via legislation and regulation. Indeed, many studies suggest that no punitive measure deters availability and abuse of drugs. It appears that financial gain is one of the strongest determining factors. Globally, though consensus from the experts in the field suggests that substance dependency is a disease, public opinion often considers it a form of moral degeneracy that can destroy social values. As a result, victims of substance dependency are sent to the prison. Many countries have pursued the idea of creating a national consensus towards zero tolerance for substance abuse and death penalty for drug traffickers. The policies fluctuate between curbing trafficking, reducing demand and decriminalisation of certain classes of drugs. Some countries have considered decriminalizing soft drugs and the debate continues on the rationale of dispensing heroin to heroin-addicts. Although more time is needed to assess the long-term outcome of these new programs, history has shown that none of the previous campaigns to curb the spread of substance misuse has worked. Instead, the situation appears to be summed up in Bob Marley’s lyric, “So you think you have found the solution; But it’s just another illusion”.

**Conclusion**

The problem of drug abuse in the GCC is a multidimensional one without easy solutions. This paper has touched upon several of these issues. Even though for zero tolerance to substance dependency is advocated, no program has been found to be universally successful in reducing drug dependence. Historically, many societies have tried both criminalisation and decriminalisation but to no avail. Despite all the technologies to monitor and legal authority to bring the drug traffickers to justice,
including the threat of death penalty, dealing with substances that cause addiction is becoming a global challenge of ever increasing magnitude. More discouraging, the problem has even affected societies where one would expect cultural factors to protect them from the attraction of drugs. The purpose of this paper, thus, is to “point a finger to the moon”, the moon symbolising the complexity of substance dependency. One should not confuse the moon with the finger that points to it.

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