

Methamphetamine Has Changed the Profile of Patients Utilizing Psychiatric Emergency Services in Iran

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There is increasing evidence of rapidly growing serious, pervasive, and expensive methamphetamine problems in Iran in recent years—a malicious social phenomenon with widespread psychological, familial and economic adversities—which contribute to theft, murder, suicide, violence, and divorce. Substantial cases of acute psychiatric problems are increasingly seen following amphetamine use in the emergency departments. Paranoid patients are more prominent. Many of these cases are characterized by anxiety, confusion, insomnia, mood disturbances, hallucinations, and out-of-control rages with extremely violent behavior and homicidal ideas. This serious tragedy which is one of the most important Iranian society's problems is called for effective multidimensional control policies.

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There is increasing evidence of growing serious drug problems in Iran (1,2). The inextricable negative consequences of dramatic increase in the size of the young population and massive migration of young people to cities have produced a greater concentration of vulnerable underemployed youth in urban areas. Faster communications, increased travels, conflicting traditional and modern values, decreased traditional cultural restraints on adopting new - and often deviant - behaviors, and tremendous increase in the capacity of the illegal global drug supply systems are all important warning signals which relate directly to an outbreak of drug abuse problem, crime and other social and health consequences (2,3). This global phenomenon undermines the political, social, economic, and cultural foundation of all countries (4).

In the past, the use of psychoactive substances tended to be limited in isolated regions in the world, with social controls on them. But nowadays drug abuse is not a unique

characteristic of any particular society. It is a worldwide problem, and no country is immune, even in areas once thought to be safe (3). Traditional chewing of coca leaf in South America, use of cannabis in India, and opium smoking in Iran are good examples of elaborately built-up cultural restraints on specific drug-taking behaviors which could be identified in countries all over the world in the past centuries. But these cultural constraints are dramatically breaking down today (3).

Opium addiction has been a nationwide problem in Iran since the 17th Century. But with social change and rapid industrialization, western patterns of drug abuse has emerged (5). Amphetamine-type stimulants (ATS) abuse was a rarity in the past decades (6), but it is rapidly growing in recent years (7).

Until the year 2000, about two thirds of the world's opiate abusers consumed illicit substances from Afghanistan. This situation changed abruptly when opium production fell by 94 percent in this year (8), leading to increased opium prices and change in consumption habits in Iran (9). Synthetic drugs use moved upward at this time, and the average age of users fall from 25-29 to 10-19 years old (9). The increasing illicit manufacture of ATS, particularly methamphetamine, in East and Southeast Asia became a major

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concern (4). The increase is due to its low cost and easy manufacturing (4). More than two-thirds of all seizures of amphetamine in the world took place in East and Southeast Asia, mainly China and Thailand (10). There is increasing evidence of rapid growing methamphetamine since 2008 that a substantial portion of the drug used originates from small laboratories in the country (7). Consequently, drug abuse and trafficking became the Iranian society's "thorniest problem" (9)- a malicious social phenomenon with widespread psychological, familial and economic adversities (6)- which contribute to theft, murder, suicide, violence, and divorce (9).

The abuse of stimulants is widespread because youngsters do not fully realize the danger of their use (4). Some reports (11,12), as well as clinical observations, indicate that the availability of methamphetamine is escalating at an alarming rate. In many cases, youth are offered free samples of methamphetamine with the aim of getting them addicted and then charging for it by drug sellers (4). However, the purpose of drug consumption is different. Some people use methamphetamines to increase their strength to endure long working periods without consideration of the harmful effects of drugs to their lives. Some students and long-distance truck drivers and other persons who desire prolonged attentiveness and wakefulness are categorized in this group (13). Some others abuse them for fun, or to improve sexual function and enjoyment (4,14). This group seems to be the majority of cases in Iran. Another group use methamphetamines for weight loss (15). Women, especially teenage girls are the majority of this group. Many methamphetamine users take the drug in conjunction with alcohol, cannabinoid and opioid drugs, other stimulants, antidepressants, benzodiazepines and other tranquilizers (4).

Overall, smoking, inhaling or vaporizing, intranasal sniffing or snorting, and intravenous injecting are the most popular methods of ATS use (4,14,16). Anal or vaginal insertion (suppository) is a less popular method of administration with little research into its effects (17). Methamphetamine is less expensive than cocaine with longer duration of effects (18).

Frequently known as crank, speed, or crystal (18), even in small doses, methamphetamine can increase wakefulness and physical activity, and decrease appetite (13). Methamphetamine may be converted to a solid form, known as Ice, which can be smoked and provide a more rapid onset and more vivid intoxication than IV use (18). A rush, or a brief, intense sensation, is reported by those who inject methamphetamines. Oral ingestion, snorting, or smoking produces a long lasting high instead of a rush, which can continue for as long as 8-24 hours (19). Both the rush and the high are resulted from the release of very high levels of dopamine into the brain pleasure centers (19). Fifty percent of the drug is removed from the body in half a day (19). Early studies described amphetamine psychosis and paranoia lasting 48-72 hours and some signs of thought disorder persisting at least a week after cessation of use (20,21).

ATS use is related to the use of general medical and psychiatric emergency services (16). High doses can lead to convulsions as well as dangerous severe fever, which may be lethal (19). ATS may lead to prominent serious toxic cardiovascular and central nervous system effects. Cardiovascular symptoms seen include chest pain, palpitations, dyspnea, arrhythmias, myocardial infarction, significant hypotension with bradycardia, metabolic acidosis, and acute and chronic cardiomyopathy (14). These drugs' abuse can lead to cerebrovascular accidents due to vasospasm, cerebral vasculitis or hemorrhage. Results from a trauma center revealed that the acute psychological effects of methamphetamine can lead to serious medical consequences. Methamphetamine-induced high-risk behaviors have a significant impact on the nature and severity of the trauma treated. Methamphetamine users are significantly more likely to experience a violent mechanism of injury, and their injuries are more severe. Taken together, the psychoactive and physiologic effects of acute methamphetamine intoxication have potential to be an extremely dangerous combination (14).

Recently in clinical practice, substantial cases of acute psychiatric problems are increasingly seen following amphetamine use in

the emergency departments in Iran. They may exhibit panic attacks, anxiety, and compulsions; or alternatively, talkativeness, hyperactivity, irritable mood, grandiosity delusions, and paranoia. Many of these cases are dangerous people with homicidal ideas who carry knives with themselves. Methamphetamine-induced intoxication delirium after high doses of the drug is also not uncommon. In a recent study of methamphetamine users' in emergency room setting, symptoms of agitation and tactile hallucinations were the most common psychiatric presentations (14). Some others develop tactile stereotypic behaviors (picking at clothing, arranging and rearranging items purposelessly or cleaning rituals) (14). However, paranoid cases are more prominent in psychiatric emergency departments in Iran. In general, amphetamines are more psychogenic, possibly even causing a spontaneously relapsing psychosis that has not been reported with cocaine use (22,23).

In addition to patients with methamphetamine-induced anxiety, delirium and acute psychosis, some other emergency psychiatry referrals are chronic regular ATS users who have developed a variety of frank psychiatric syndromes, including major depression, unpredictable aggressive outbursts, and paranoid psychosis. Some chronic abusers develop insomnia and anorexia while binging (a "run"). They inject as much as a gram of methamphetamine every 2-3 hours over several days until the running out of the drug or becoming too disorganized to continue. Chronic abuse can lead to an intense paranoid psychotic behavior, characterized by anxiety, confusion, insomnia mood disturbances, auditory and visual hallucinations, formication (tactile hallucinations), and out-of-control rages which may be coupled with extremely violent behavior (19)- the feature which is seen in psychiatric emergency clinics in Iran repeatedly.

The paranoid psychosis can result in homicidal as well as suicidal thoughts (19).

Some of these chronic psychotic syndromes that resolves over time (months to years), are at increased risk to re-experience psychotic symptoms if stressed or if re-exposed to amphetamines (14). Another group of

methamphetamine-related referrals are patients who demonstrate cognitive deficits in tasks of information processing, verbal memory, executive function, and perceptual sleep that persist with enduring abstinence (14).

A previous study has shown that patients with methamphetamine-related diagnoses are more likely to be male, presented with suicidality and agitation, treated with sedating medications more frequently, stayed longer in the emergency departments, and to be admitted to the hospital than non-methamphetamine-related diagnosis patients. Poly-drug use and dual diagnosis are more common among these patients (24). The same profile seems to be true in emergency departments' in Iran.

In Sum, a definite estimation of prevalence and incidence of new emerging problems with methamphetamine abuse in Iran is not possible, because most drug abusers want to avoid the stigma of being identified as addicts (6,25). There is increasing evidence of growing serious, pervasive, and expensive methamphetamine problems since 2008 (7). An illegal laboratory producing methamphetamine is discovered every three days in Iran (26). Some reports indicate that methamphetamine is the second prevalent substance in this country (7). However, it is becoming the main problem drug. Clinical experiences indicate that a substantial portion of patients utilizing psychiatric emergency services are methamphetamine abusers. We are faced with the tragic health and social consequences of methamphetamine abuse in Iran today, that show no signs of abating. This serious tragedy which is one of the Iranian society's "thorniest problems" is called for effective multidimensional control policies to stem the problem. Political will, cooperation on drug control at the national and international levels, effective law enforcement to control the supply of the drug, as well as effective measures to reduce the demand, and effective health, treatment, and support services to limit the problems associated with its use, are needed to succeed in solving the problem (4).

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