Is Methadone Substitution the Best Treatment of Choice for Opioid Dependence?

Since the 19th century, opium has been produced and consumed in the areas of Asia, currently referred to as the Golden Crescent and the Golden Triangle (1). The Golden Crescent lies in South and Southwest Asia, including districts in the Northwest Frontier Province of Pakistan, the adjacent Badakhshan area of Afghanistan and the Baluchistan area of Iran. The area has been the scene of traditional opium poppy cultivation since the 19th century. The opium produced was for indigenous use, including smoking and eating, in practically all countries in the region. The traditional pattern of indigenous opium use remained fairly untouched by drug injecting throughout the 1960s (2-4).

The dependence liability and abuse potential of opioid has long been recognized. Opiates, especially smoked or ingested indigenous opium have been the dominant substance of abuse in Iran for decades (5). The past decade has witnessed a radical change in the pattern of drug abuse in this country. Within a short time increasing number of people were using synthetic opioids, especially heroin. The misuse and dependence of these kinds of opioid drugs is far more common than usually recognized. However, smoking or ingestion of indigenous opium continues to be the primary mode of opioid use similar to many developing and transitional economic countries (6-8). All opioids potentially may be abused, but their abuse potential and other side effects, along with health related problems are different from each other. In other words, two different forms of opioid abuse afflict Iran; a highly problematic and risky heroin injection and a less burdensome but more prevalent opium smoking and ingestion. Indigenous opium abusers are less stigmatized and more functional. They have fewer histories of incarceration, criminal behavior, HIV-related risky behavior and co-morbid mental disorders including personality disorders (6).

Understanding drug abuse in Iran is greatly influenced by the emphasis on this kind of opioid as the most common illicit drug of abuse. While many studies examined synthetic opioid users worldwide, characterizing their demographics, drug use, psychiatric co-morbidity, life styles, treatment and long term prognosis (9), surprisingly few studies have attempted to determine the characteristics of individuals abusing or dependent on indigenous opium (10), which accounts for 69% to 94.6% of total opioid use in Iran (11,12).

Although it has been documented that only a minority of chronic oral opioid users developed dependence on these drugs, “addiction” is rarely an issue (13); thus, studies suggest that a substantial percentage of chronic traditional opium and oral opioid users describe “problems” directly related to continuous drug use, particularly chronic constipation, somnolence, cognitive impairment, depression and headaches (13-15). It appears there is no substantial impairment of functioning within these “problematic users”; employment is continued without interruption in this group (6).

Surprisingly, there are no clear guidelines on how to treat patients dependent on indigenous opium. Each patient is individually evaluated and usually, a combination of pharmacological and non-pharmacological interventions is used (16, 17). The most common practice is to slowly taper the opium under careful monitoring (16). Clonidine or herbal adjuvant prescription and applying acupuncture are other feasible methods of detoxification (6). Symptomatic treatment of opium withdrawal (e.g. antidiarrheal, antacid, bismuth, sedative and hypnotic agents) is also common (18). This approach seems to be adequate for most individuals. However, in severe cases a long-acting opioid such as methadone can be used to minimize withdrawal symptoms for certain patient populations, including those who have experienced multiple treatment failures (18). Although utilized stealthily in private clinics, opioid agonists were not officially available for detoxification till 2001 in Iran (6). In recent years, an attempt to detoxify with methadone and buprenorphine was performed with promising results for severe opioid dependent patients in this country. However, clinical experience shows that many "problematic users" of traditional opium are prescribed high doses of methadone by inexperienced physicians, especially general practitioners, which create additional problems for users. There exist high risks of addiction and promotion of drug seeking behavior after prescription of methadone for some groups, especially adolescents (18) Also, it seems that methadone detoxification is much more difficult than traditional opium detoxification. In some countries, however, the cost of methadone and especially buprenorphine is a barrier to their widespread use. One response to this has been the use of tincture of opium as a substitute treatment. It appears to be a more culturally acceptable alternative to drugs such as methadone in some parts of Southeast Asia, as it is perceived a traditional medicine (19). In comparison for Iran, it appears that methadone aided detoxification and especially methadone maintenance treatment for mild indigenous opium users should be prohibited. As a culturally acceptable alternative to methadone, tincture of opium may be a useful and possibly more cost-effective drug in the traditional opium users, but only after dose size and dosing frequency have been adequately investigated (19).

References

1. Poshyachinda V. Drug injecting and HIV infection among the population of drug abusers in Asia. Bulletin on Narcotics (United Nations publication) 1993; 45(1): 77-90.
2. Gobar H. Drug abuse in Afghanistan. Bulletin on Narcotics (United Nations publication) 1976; 28(2): 1, 3-5.
3. McLaughlin WH, Mubbashar M, Shafique M, Hughes PH. Opium use in two communities of Pakistan: a preliminary comparison of rural and urban patterns. Bulletin on Narcotics (United Nations publication) 1978; 30(4): 1-15.
4. Masood A. Opium smoking in the frontier province of Pakistan. Bulletin on Narcotics (United Nations publication) 1979; 31(1): 59-60.

5. Mokri A. The changing needs of substance abuse treatment in Iran. Quarterly Journal of Addiction 2008; 1(2): 135.
6. Mokri A. Brief overview of the status of drug abuse in Iran. Arch Iran Med 2002; 5(3): 184-90.
7. Stimson GV, Choopanya K. Global perspectives on drug injecting. In: Stimson GV, Des Jarlais DC, Ball A, editors. Drug Injecting and HIV Infection: Global Dimensions and Local Responses. Geneva/London: World Health Organization/University Press; 1998. p. 1-21.
8. United Nations Office for Drug Control and Crime Prevention. In World Drug Report. Oxford: Oxford University Press; 2000 p. 63.
9. Jaffe JH, Martin WR. Opioids analgesics and antagonists. In: Gilman AG, Rall TW, Nies AS, Taylor P. editors. Goodman and Gilman's: The pharmacological basis of therapeutics. New York: Pregamon; 1990. p. 485-521.
10. Drug Control Headquarters (Iran), International relations office. The national drug control report-2000. Tehran, Islamic Republic of Iran: The Institute; 2001.
11. Razzaghi EM, Rahimi Movaghar A, Hosseini M, Madani S, Chatterjee A. A Rapid Situation Assessment of Drug Abuse in Iran. Tehran: Iranian Welfare Organization and UNDCP; 1999.
12. Iranian Ministry of Health and Medical Education. Statistics on Drug abuse in Iran. Tehran: The Ministry: 2000.
13. Sproule BA, Busto UE, Gracias D, Somer G, Romach MK, Sellers EM. Codeine: A comparison of dependent and non-dependent regular users. Proceedings of the 58th Annual Scientific Meeting of College on Problems of Drug Dependence Inc.; 1996 (Abst).
14. Romach MK, Sproule BA, Busto UE, Sellers EM, Somer G, Tyndale R. Depressed mood and self-medication in long-term users of codeine. Proceedings of the 58th Annual Scientific Meeting of College on Problems of Drug Dependence Inc.; 1996 (Abst).
15. BMC Health Associates Limited. Medication-induced headache: Strategies for pharmacist identification and management. Halifax, Nova Scotia: The Institute; 1994.
16. Jaffe JH, Epstein S, Cira ulo DA. Opioids. In: Ciraulo DA, Shader RI, editors. Clinical Manual of Chemical Dependence. Washington, DC. American Psychiatric Press, Inc; 1991: p.95-133.
17. Devenyi P, Saunders SJ. Physician's handbook for medial management of alcohol- and drug-related problems. Toronto: Addiction Research Foundation, 1986.
18. Clinical Detoxification Protocols. 2008 [cited 2008 July 15]; Available from: URL: http://www.readytotest.com

19. Jittiwutikarn J, Ali R, White JM, Bochner F, Somogyi AA, Foster DJR. Comparison of tincture of opium and methadone to control opioid withdrawal in a Thai treatment centre. Br J Clin Pharmacology 2004; 58(5): 536-41.

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