

Research Article

Urgent Need to Revisit the Current Approach towards De-addiction in Punjab

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Abstract

With an estimated 230,000 opioid dependents, drug addiction is a serious and growing problem in Punjab state in India. It is driven by a combination of the culture of masculinity, peer pressure, social disturbances, separating families, unemployment and easy availability of drugs. Amongst those dependent on opioids, 28% were Injecting Drug Users (IDUs), with heroin (62%) and buprenorphine (32.5%) being the principal opioids. There are many ongoing deaddiction initiatives in India, with Opioid Substitution Therapy (OST) with Buprenorphine-Naloxone (BNX) being a preferred method. While diversion and injection abuse of any drug is a cause for concern, the BNX combination has one of the most robust effectiveness and safety profiles. The policy in Punjab supports these approaches but has severely limited the effectiveness of OST by imposing a maximum limit of 14 days on the supply of take-home medicines. This restriction reflects a poor understanding of the underlying aetiology of addiction and the mechanism of action of buprenorphine. It has severely limited the effectiveness of OST. Denying a patient medicine already approved for extended use and for which there is strong evidence of effectiveness could even be construed as undue interference with

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his constitutionally protected fundamental right to life. This policy needs to be urgently reviewed.

Introduction

Drug abuse is an area of significant concern worldwide. India is no exception. According to the World Drug Report [1], around 58,000 drug-related deaths were reported in India in 2019, accounting for approximately 17% of the global total. Opioids were the country's most common cause of drug-related deaths, with heroin and synthetic opioids, such as tramadol, being the primary contributors. A 2019 national survey on drug use in India found that the prevalence of opioid use was 0.7% in the general population, among whom around 2.3% were dependent on opioids [2]. India has twice the global prevalence of illicit opiate consumption [3]. It is estimated that currently, India has about 4 million people who use opioids and around one million people who are opioid dependent [4].

The Situation in Punjab

Within India, the intensity of drug abuse varies in different regions, but the situation is grave and rapidly deteriorating in Punjab, tightening its hold on the state's young population and penetrating deeper into its rural areas [5]. Punjab is struggling through a significant crisis in the form of opioid dependence, which has emerged as a significant social and public health crisis. The 2015 "Punjab Opioid Dependence Survey (PODS)" estimated that there were 230,000 opioid dependents in Punjab, of whom 76% were in the 18-35 age group [6]. The survey also found that among the 18-35 age group males in Punjab, about 4 in 100 were opioid dependents, while 15 in 100 were opioid users. According to some doctors, even children aged 9-16 have become habitual users of drugs like tobacco, poppy husk and marijuana [7].

Reasons why Punjab has fallen into this trap

The local culture of masculinity in Punjab may have played a significant role [8]. Usually, the problem of drug addiction is associated with urbanisation and poverty. However, the picture in Punjab is very different. While it has always been strong economically, its basic earnings are from agriculture. Opium or doda or bhukki, as it is traditionally known, has been consumed by farmers and farm workers in Punjab and many other parts of India for centuries [9]. Opium consumption among rural men in Punjab resembles the urban male concept of the customary two drinks after a hard day's work.

India is among the largest producers of legal opium and synthetic opioids like tramadol [10] is geographically situated between the two largest illicit opium-producing regions of the world - the "Golden Crescent" (Afghanistan, Pakistan and Iran) and the "Golden Triangle" (on the northeastern side of India) [11]. This location makes Punjab vulnerable to opioid dependency, and an established pattern of addiction can already be seen in the state. The culture of masculinity, peer pressure, social disturbances, separating families, unemployment, and easy availability have all played a prominent role in Punjab [12].

While the proportion of women users is still relatively small, driven by various forms of violence and low self-esteem, this, too, is becoming a rapidly growing issue [13].

Demographic profile of drug users in Punjab

Two complementary studies of illicit substance users in Punjab were completed during 2015-16 [14]. These studies were the Rapid Assessment Survey (RAS) and the Punjab Drug Use Monitoring Survey (P-DUMS). In RAS using the RDS (respondent-driven sampling) method, 6,600 community-dwelling substance-dependent persons aged 11-60 years were recruited from all 22 districts of Punjab [15]. In P-DUMS, data were collected on 7,421 inpatients from 75 government de-addiction centres from 19 districts of Punjab [15]. More than 80% of the subjects were found to be primarily opioid dependent (88% in RAS and 83% in P-DUMS) [15]. The studies found, in addition, that heroin (inhaled/injected) was the most common opioid (46% in RAS and 52% in P-DUMS), with, in the RAS sample, 30.5% also using tramadol [15]. Using RAS data, 2.5% of the Punjabi population was estimated to be opioid dependent, of whom 28% were Injecting Drug Users (IDUs), with heroin (62%) and buprenorphine (32.5%) being the principal opioids [15].

A study was conducted in 15 villages of Jalandhar district by the Department of Community Medicine, Punjab Institute of Medical Sciences Medical College and Hospital, Jalandhar. In this, a sample of 400 individuals aged 11-35 years, drawn using a PPS (probability proportionate to size) sampling method was studied [5]. It found a high prevalence of 65.5%, with heroin contributing 20.8%. It also found that addiction rates were high amongst adolescents and that poorly educated adult males were particularly at risk for substance abuse (Table 1).

Variables	Number	Number Addicted	Proportion Addicted	Odds-Ratio [95% Confidence Interval]
Total	400	262	65.5%	
Gender				
Male	373	258	69.2%	12.9 [4.36-38.16]
Female	27	4	14.8%	Reference
Age (years)				
11-19	192	108	56.3%	Reference
20-30	106	74	69.8%	1.80 [1.09-2.98]
>30	102	80	78.4%	2.83[1.63-4.91]
Education				
Illiterate/primary	69	59	85.5%	8.81 [4.23-18.26]
Secondary	177	132	74.6%	4.34 [2.79-6.89]
>Secondary	177	71	46.1%	Reference

Table 1: Sociodemographic correlates of substance abuse (adapted from [5]).

Another study of 200 male drug users (mean age 31.5 years) seeking de-addiction care at a tertiary care hospital in Faridkot, Punjab, was conducted during 2015-16 [16]. Among other things, it found that 54.5% of the sample was addicted to heroin (Table 2).

Substances used*	Number (n=200)	Proportion
Tobacco (chewing)	77	38.3%
Cigarettes	91	45.5%
Alcohol	69	34.5%
Cannabis	2	1.0%
Sedatives	24	12.0%
Heroin	102	54.5%
Morphine	2	1.0%
Opium	5	2.5%
Tramadol	71	35.5%

Table 2: Frequency distribution by type of drug used [16].

Note: *: a person may be using more than one substance at a time

Addressing Addiction through Opioid Substitution Therapy (OST)

What is OST?

OST is the long-term prescription of Long-Acting Opioids (LAOs) to an opioid-dependent user to decrease the harm of Short-Acting Opioids (SAOs). SAOs have fast onset and offset of action, leading the user to alternate between a state of intoxication and intense craving rapidly. Because of high potency and short duration of action, these drugs needed to be procured frequently. Hence, these, among other things, impose a significant financial burden on the user with considerable other harmful effects.

OST use less potent long-acting opioids, which are cheaper and do not have a waxing and waning effect. The success of OST depends on adequate medication dosing, long treatment duration involving clients in treatment decisions, and combining all this with psychosocial interventions. The detoxification process alone with these opioid substitutes has a very high relapse rate, whereas a prolonged maintenance phase (1-2 years) following a detoxification period of 1-2 weeks has a far better compliance rate and a low relapse rate when supported by other interventions such as adequate psychosocial intervention of counselling and reinstatement of jobs.

OST is based on three drugs: methadone, buprenorphine and slow-releasing oral morphine. A Cochrane review by Mattick and colleagues found methadone superior to non-pharmacological interventions in heroin de-addiction treatment [17]. Another review by the same authors found that while methadone is superior, buprenorphine is also effective in de-addiction from heroin [18]. In India, buprenorphine is available in both injectable and sublingual tablet forms and is the recommended drug for OST.

History of OST in India

Globally, Drs. Dole and Nyswander used OST for the first time in a trial (February 1964 to May 1965) in New York on 22 former heroin addicts [19]. Within India, Rao [20] suggests that the evolution of OST took place broadly in three phases. In the contemplation phase (1989-2004), buprenorphine was introduced in 1989 in a de-addiction center at the All-India Institute of Medical Sciences (AIIMS), New Delhi. The lower strength of 0.2 mg tablet was used initially till the launch of higher strengths of 0.4 and 2 mg in 2000. In the preparation phase (2005-2007), OST was offered in two distinct settings. In one, to IDUs to prevent HIV amongst them. In the other, to former addicts

on a take-home basis, changing buprenorphine, which has a potential for diversion, to a Buprenorphine-Naloxone Combination (BNX). In the action phase (2007 onwards), since India did not have methadone in 2007, clinical practice guidelines for buprenorphine-based OST were prepared for use in National Aids Control Organisation (NACO) supported centres. These were piloted in five government hospitals in Punjab in 2010 and have since become the standard of care nationwide.

Different stages of OST

OST treatment with buprenorphine has various stages. To begin with, a counsellor or a doctor at the OST center assesses and diagnoses drug dependence. This assessment is done via interaction with family or users and observing signs and symptoms. Along with that, collateral damage done due to drug dependence is also determined to understand the gravity of the situation and the urgency of intervention required.

Determining patients' suitability for OST is done by a diagnosis of opioid dependence syndrome, absence of medical contraindications, client's willingness to receive treatment, and lastly, informed consent of the user or guardian. The patient is prepared for OST by educating the patient about the nature of illness, treatment, and the need for active involvement. Buprenorphine-based OST is done under three phases, induction, maintenance and termination [21]. The three phases are described below.

The induction phase determines the correct dose of buprenorphine suitable for the patient to control withdrawal symptoms and establish rapport with the patient. The first dose of buprenorphine (2-4 mg) is administered at least 8-12 hours after the last opioid drug ingestion. The dose is increased gradually (4-8 mg) if the patient shows craving and increased further to >8 mg/day to block the effects of other opioids. In India, a dose of 8-12 mg/day is sufficient for most users. The maintenance phase begins when the user achieves a stabilising dose until the drug is decided. This phase includes regaining the patient's financial, occupational, and familial stability. This phase spans over 1-2 years.

The termination phase begins with the patient's consent to stop buprenorphine. Before stopping the medicine, tapering the dose is initiated and done over 2-3 months. Some clients experience more significant discomfort as they reach the last few doses of buprenorphine. In this case, the minimum amount can be continued longer before finally stopping buprenorphine. Post-termination of OST, the person remains in follow-up with the OST centre. Following the termination of treatment, the client must be educated on the importance of continued follow-up. The follow-up can be frequent initially, once in two weeks or so, and later at a frequency of once in 1-3 months. During such a follow-up, the inquiry must be made regarding the client's drug-using status, occupational and familial functioning, and the re-emergence of withdrawals and cravings for opioids. Relapse prevention sessions must be continued during this phase.

Evidence regarding OST effectiveness

A review by Nosyk and colleagues [22] confirmed the effectiveness of OST in the United States and Canada, highlighting its positive impact on reducing illicit opioid use, overdose deaths, HIV transmission, and higher retention rates in the treatment with improved health outcomes. Similarly, a systematic review of global evidence by Sordo and colleagues [23] found that OST was associated with decreased

mortality, particularly in the first few months of treatment. Buprenorphine was also found to have a lower risk of overdose than methadone and is often used as a first-line treatment in OST [24].

In the Indian context, a study found that buprenorphine-based OST improved the retention rates in treatment and reduced opioid use, criminal behaviour, and HIV risk behaviours among patients [25]. A multisite study of sublingual buprenorphine treatment by AIIMS, New Delhi, found that the retention rate was 64% at nine months with a significant reduction in drug and injection use [26]. The study reported an improvement in the quality-of-life scores as well.

Enhancing the effectiveness of OST within India

While OST has proved effective wherever it has been deployed, much more can be done in the Indian context to enhance its impact. Some of the potential steps that can be taken are discussed below.

- Integrating OST services into existing healthcare systems, as recommended by the European Monitoring Centre for Drugs and Drug Addiction [27] and the U.S. Centers for Disease Control and Prevention [28], can ensure a comprehensive and coordinated approach to treating opioid addiction. This integration could include collaboration between primary care providers, addiction specialists, mental health professionals, and other support services to provide a holistic care model for patients
- Providing training and support for healthcare providers is critical because they play a crucial role in delivering OST effectively. Policymakers should invest in training and support for healthcare providers to improve treatment outcomes and reduce the stigma associated with addiction treatment. Training should focus on identifying opioid use disorder, prescribing and monitoring OST medications, and addressing patients' psychosocial needs [20,29]
- Regular monitoring and evaluation of OST programs are essential to ensure their effectiveness and inform future policymaking. Data collection and analysis should focus on treatment retention rates, changes in illicit opioid use, overdose rates, and other health outcomes
- Public awareness campaigns about the benefits of OST and the dangers of opioid addiction can help reduce the stigma associated with seeking treatment and encourage more individuals to access OST services. Policymakers should support public awareness campaigns that promote evidence-based information about OST and emphasise the importance of seeking help for opioid addiction
- Strengthening collaboration with international organisations, such as the United Nations Office on Drugs and Crime (UNODC) and the World Health Organization (WHO), can help India adopt best practices and learn from the experiences of other countries in implementing successful OST programs
- Incorporating evidence-based de-addiction practices, such as OST with long-term usage of buprenorphine, has shown promising results in India and worldwide. By incorporating these practices into a comprehensive approach to address the opioid crisis, India can make significant strides in reducing the harms associated with opioid addiction and improving the lives of those affected by this public health challenge. Policymakers must recognise the importance of OST and invest in the necessary resources and infrastructure to ensure its success in India [20]

Diversion and Injection Abuse of OST medications

Diversion is an unauthorised re-routing or appropriation of the drug [30]. The diversion of methadone and buprenorphine from OST to the illicit drug market, with patients selling or sharing medications, is poorly understood [31].

In Punjab, it has been observed that the diversion of medicine is in the form of a barter system. Many patients attribute this behaviour to the stringent Standard Operating Procedures (SOPs) imposed on psychiatrists [32]. According to the SOPs, no psychiatrist can give medication refills even in the maintenance phase of the treatment for more than 14 days. In other words, it means that even if the patient is stable on the lowest possible dose, they must return to the doctor every 14 days for medicines. Now, if the patient travels long distances due to work, such as truck drivers who go far south to transport their goods, it might take longer to return than this defined period permits - the trips could be as long as a month in many cases. During this time, they would try to procure medications from people known to them to prevent themselves from experiencing any withdrawals. They would return it once they get their medicine refills. Such a system is considered standard practice for medications for other health conditions. Even in the case of OST, people who are opioid dependent and already on treatment are the ones consuming the diverted medicines. This type of diversion is challenging to prevent even if a stringent check is kept on the patients. The only way to address this issue is to bridge the gap between demand and supply, i.e., allow the treating doctor to set the follow-up time, as in any other chronic illness.

Most psychiatric illnesses are chronic relapsing and remitting conditions. Some medical illnesses like hypertension, diabetes mellitus, rheumatoid arthritis, and some forms of cancer need chronic care and handholding, sometimes lifelong. If an endocrinologist can see a stable patient on treatment once in 2-3 months on average or a psychiatrist can see a stable patient in recovery or remission phase once in 2-3 months, there is no reason why a patient who is stable on the lowest possible dose should be forced to visit every 14 days for his medications.

On average, a patient spends 4-5 hours or maybe more than this to come to a hospital, take his medicine, and return. The time required makes some spend almost half a day, which means a loss of half a productive day and a loss of wage in case of a daily wagger. A patient suffering from some other illness or trauma and immobilised for some reason is not permitted to get his addiction medication through a proxy visit by his relatives. Because there is a perceived fear of diversion of medicines, hapless patients are forced to suffer.

A study was conducted to assess the abuse potential of sublingual buprenorphine tablets by Singhal and colleagues [33]. It was seen that dysphoria and sleepiness increased with additional doses of buprenorphine. At the same time, euphoria and drug liking decreased after a maximum cumulative dose of 10 mg. The study concluded that the likelihood of abuse of buprenorphine was low at higher doses. There are case reports from India documenting injection buprenorphine abuse over the last two decades. Most of the patients in these reports had already abused heroin before graduating to injection buprenorphine [34,35]. According to the 2019 survey on the magnitude of substance use disorder in India [2], the most commonly abused substances in injected form are heroin (46%), buprenorphine (41%), pentazocine (4%), and others such as sedatives and amphetamines (9%).

To prevent the diversion of buprenorphine to injection abuse, it has been combined with naloxone salt, a pure antagonist. The naloxone blocks all the opioid receptors in the brain and does not let buprenorphine show its effects, thus having no pleasure effects. Various studies have shown that abuse of buprenorphine-naloxone injection is far less than buprenorphine injection. Data from Australia suggests that diversion was 15% in 2005 [30]. A report from Baltimore found that 10% of former and current injectors reported street-obtained buprenorphine abuse [36].

Structured interviews with OST patients in Sweden found that they considered not sharing drugs with friends in withdrawal unethical and that patients who were satisfied with their treatment were less likely to engage in diversion [31]. The authors conclude that "reducing black market demand for illicit medications by expanding access to treatment" is much more likely to be effective as a mechanism than other control measures [31]. A study found that, at 20%, diversion rates were similar between buprenorphine and antibiotics [30]. Another study reported that most of the buprenorphine was used to self-treat addiction with a strong desire to stop going back on illicit drugs -- 64% of opioid users reported using street-obtained buprenorphine because they were not able to afford or access treatment [37].

Challenges with the Approach Towards OST in Punjab

Many programs and de-addiction efforts, including OST, are also operational in Punjab. Recognising that OST with buprenorphine is the preferred mode of treatment for individuals with drug dependency, in 2018, the government of Punjab issued its Standard Operating Procedures (SOPs) for de-addiction centres in Punjab [32]. In these SOPs, however, the government imposed a limitation that "the maximum duration for which take-home dose of BNX can be supplied is for two weeks (14 days) or maximum 100 tablets whichever is less" [32]. This restriction reflects a poor understanding of the underlying aetiology of addiction and the mechanism of action of buprenorphine. It has severely limited the effectiveness of OST and needs to be reviewed urgently. In treating people with a drug addiction, a critical fear manifests itself. Are psychiatrists sustaining drug addiction by not curing the people with addiction but instead making them addicted to buprenorphine by keeping them on treatment for an extended period?

There are two ways to approach drug addiction treatment. One is the abstinence approach, and the other is the harm reduction approach. In the abstinence model, a person is rapidly detoxified in 7-10 days by tapering down rapidly all the supportive therapy and put on naltrexone, which is the pure antagonist. When a patient on naltrexone tries to consume illicit drugs, he will not be able to get the euphoric effect of the drugs as the naltrexone gets strongly attached to all the receptors. Studies have reported high relapse rates in abstinence therapy because although physical symptoms go away in 4-6 weeks, psychological dependence sometimes takes a year and even more than that [24].

The other is the harm reduction approach. This approach may be less moralistic but is more scientific and pragmatic. In this approach, illicit, harmful, and even fatality-causing opioid drugs are substituted by safer, lawful, and milder opioids that can be given longer. This approach is referred to as OST. The substitution takes care of cravings to a greater extent, and there are fewer chances of relapse compared to the abstinence model. Buprenorphine, a drug of choice in OST in

India, is safe, long acting, and, as discussed above, has a ceiling effect. The patient does not experience “high” or “euphoria” on higher doses, and it does not cause any respiratory depression, unlike illicit heroin.

Drug addiction has a genetic predisposition, and like any other chronic illness, it waxes and wanes, remits, and relapses. It thus needs long-term handholding by a doctor. Like any other chronic illness, addiction treatment can be improved by interventions such as lifestyle changes, enhancing social support, resuming a job, and having financial security. Patients on OST can receive the support they need and have the time required to make sustainable improvements in their lives.

Doctors regularly prescribe medications such as statins and antibiotics. They know that every medicine has side effects and evaluate the risks and benefits of the treatment versus the continued presence of the disease if left untreated before prescribing them. There is a ready acceptance that medications for hypertension, diabetes, or arthritis must be taken lifelong. When a patient skips his medication, his sugar level or blood pressure increases, and he needs to restart the medication to bring his symptoms back to normal. However, despite this dependence, a concern is not expressed that the patient has become addicted to his medicine. However, in the case of addiction medicines, different criteria tend to be applied. These medications tend to be stigmatised because of the belief that using them is a form of abuse and they should, therefore, not be taken for long durations. There is a need to recognise that the goal of de-addiction treatment is not only to free a patient from drugs. It is also to help him effectively go back to his life socially, personally, and occupationally and to create the right conditions to be free from these addictions for the rest of his life.

It is clear from the above discussion that the buprenorphine-naloxone combination has several safeguards against misuse and that the patient will likely be subjected to considerable hardship and increased risk of relapse if the therapy offered to him is not well suited to his specific requirements. The dependency on drugs varies from patient to patient and is based on factors such as duration of dependence, type of drugs used, and body built. Therefore, the treatment duration also needs to be flexible, and the law needs to give the treating physician the necessary leeway to decide it. Denying a patient medicine already approved for extended use and for which there is strong evidence of effectiveness could even be construed as undue interference with his constitutionally protected fundamental right to life.

Conclusion

Addressing drug abuse and addiction requires a multi-faceted approach, including prevention, treatment, and law enforcement. While punitive measures such as incarceration have been the traditional response, there is increasing recognition that legal reforms have a vital role to play in curbing the drug menace. It is essential to implement effective and humane drug policies prioritising treatment and rehabilitation for those struggling with addiction while holding accountable those involved in drug trafficking and distribution. Through collaboration and innovation, it is possible to work towards building a society that is healthier and free from the harms of drug abuse.

Drug abuse is a complex issue that simplistic solutions cannot address. This is not a war to be won but a longer-term problem that must be managed carefully. Our policies and their implementation have thus to be not moralistic but pragmatic, evidence-informed, compliant with human rights, and geared to promoting and protecting health and welfare.

References

1. UNODC (2022) World Drug Report 2022. UNODC, Vienna, Austria.
2. Ambekar A, Chadda RK, Khandelwal K, Rao R, Mishra AK, et al. (2023) Magnitude of Substance Use in India. AIIMS, New Delhi, India.
3. Ambekar A, Lewis G, Rao S, Sethi H (2005) South Asia: Regional Profile. UNODC, New Delhi, India.
4. Dhawan A, Chopra A, Ray R (2016) Preferences for Treatment Setting by Substance Users in India. *Indian J Psychol Med* 38: 42-45.
5. Sharma B, Arora A, Singh K, Singh H, Kaur P (2017) Drug abuse: Uncovering the burden in rural Punjab. *J Family Med Prim Care* 6: 558-562.
6. SPYM (2015) Punjab Opioid Dependence Survey (PODS): A Brief Report. SPYM, New Delhi, India.
7. Verma PS (2017) Punjab's Drug Problem: Contours and Characteristics. *Econ Polit Wkly* 52: 40-43.
8. Advani R (2013) Factors Driving Drug Abuse in India's Punjab. NUS, Singapore.
9. Basu D, Ghosh A, Sarkar S (2016) Chapter 94 - Addictions in India. *Neuropathology of Drug Addictions and Substance Misuse*: 1025-1035.
10. Tecimer N (2018) The Dangerous Opioid from India. CSIS, Washington, DC, USA.
11. Ambekar A, Rao R, Agrawal A, Kathiresan P (2018) Research on opioid substitution therapy in India: A brief, narrative review. *Indian J Psychiatry* 60: 265-270.
12. Baruah R (2016) Why Does Punjab Have a Drug Problem? The Untold Story. BQ (Bloomberg) Prime.
13. Sehgal M (2016) Epidemic of drug addiction now grips Punjab's women too. *India Today*. Uttar Pradesh, India.
14. Avasthi A, Basu D, Subodh BN, Gupta PK, Sidhu BS, et al. (2018) Epidemiology of substance use and dependence in the state of Punjab, India: Results of a household survey on a statewide representative sample. *Asian J Psychiatr* 33: 18-29.
15. Avasthi A, Basu D, Subodh BN, Gupta PK, Goyal BL, et al. (2019) Epidemiology of dependence on illicit substances, with a special focus on opioid dependence, in the State of Punjab, India: Results from two different yet complementary survey methods. *Asian J Psychiatr* 39: 70-79.
16. Kaur A, Maheshwari S, Sharma A (2018) Trends And Patterns Of Drug Abuse In Select Population Of Punjab In Year 2016-201. *Indian Journal of Psychiatric Nursing* 15: 13-17.
17. Mattick RP, Breen C, Kimber J (2003) Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. *Cochrane Database Syst Rev* 2003: CD002209.
18. Mattick RP, Breen C, Kimber J, Davoli M (2014) Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *Cochrane Database Syst Rev* 2014: CD002207.
19. Dole VP, Nyswander M (1965) A Medical Treatment for Diacetylmorphine (Heroin) Addiction: A Clinical Trial With Methadone Hydrochloride. *JAMA* 193: 646-650.
20. Rao R (2017) The journey of opioid substitution therapy in India: Achievements and challenges. *Indian J Psychiatry* 59: 39-45.
21. Rao R, Agrawal A, Ambekar A (2014) Opioid Substitution Therapy Under National AIDS Control Programme: Clinical Practice Guidelines for Treatment with Buprenorphine. Department of AIDS Control, Ministry of Health and Family Welfare, Government of India, New Delhi, India.
22. Nosyk B, Anglin MD, Brissette S, Kerr T, Marsh DC, et al. (2013) A Call for Evidence-Based Medical Treatment of Opioid Dependence in the United States and Canada. *Health Aff (Millwood)* 32: 1462-1469.

23. Sordo L, Barrio G, Bravo MJ, Indave BI, Degenhardt L, et al. (2017) Mortality risk during and after opioid substitution treatment: Systematic review and meta-analysis of cohort studies. *BMJ* 357: 1550.
24. Srivastava A, Kahan M, Nader M (2017) Primary care management of opioid use disorders: Abstinence, methadone, or buprenorphine-naloxone? *Can Fam Physician* 63: 200-205.
25. Ghosh A, Basu D, Avasthi A (2018) Buprenorphine-based opioid substitution therapy in India: A few observations, thoughts, and opinions. *Indian J Psychiatry* 60: 361-366.
26. Dhawan A, Jain R, Chopra A (2010) Opioid Substitution - Buprenorphine in India. UNODC, USA.
27. EMCDDA (2021) European Drug Report 2021: Trends and Developments. EMCDDA, Lisbon, Portugal.
28. Carroll JJ, Asher A, Krishnasamy V, Dowell D (2022) Linking People with Opioid Use Disorder to Medication Treatment: A Technical Package of Policy, Programs, and Practices. CDC, Atlanta, Georgia, USA.
29. HSS (2021) Medications for addiction Treatment Guide. HSS, Anchorage, Alaska, USA.
30. Lofwall MR, Walsh SL (2014) A Review of Buprenorphine Diversion and Misuse: The Current Evidence Base and Experiences From Around the World. *J Addict Med* 8: 315-326.
31. Johnson B, Richert T (2015) Diversion of Methadone and Buprenorphine from Opioid Substitution Treatment: The Importance of Patients' Attitudes and Norms. *J Subst Abuse Treat* 54: 50-55.
32. DHFW (2018) Standard Operating Procedure for Private centers in Punjab who are providing de-addiction treatment services to persons with substance abuse. DHFW, Chandigarh, Punjab, India.
33. Singhal A, Tripathi BM, Pal HR, Jena R, Jain R (2007) Subjective effects of additional doses of buprenorphine in patients on buprenorphine maintenance. *Addict Behav* 32: 320-331.
34. Basu D, Mattoo SK, Malhotra A, Gupta N, Malhotra R (2000) A longitudinal study of male buprenorphine addicts attending an addiction clinic in India. *Addiction* 95: 1363-1372.
35. Sharma Y, Mattoo SK (1999) Buprenorphine abuse in India : an update. *Indian J Psychiatr* 41: 154-159.
36. Genberg BL, Gillespie M, Schuster CR, Johanson CE, Astemborski J, et al. (2013) Prevalence and correlates of street-obtained buprenorphine use among current and former injectors in Baltimore, Maryland. *Addict Behav* 38: 2868-2873.
37. Bazazi AR, Yokell M, Fu JJ, Rich JD, Zaller ND (2011) Illicit Use of Buprenorphine/Naloxone Among Injecting and Noninjecting Opioid Users. *J Addict Med* 5: 175-180.



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