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**Theme: Chronic Non-Cancer Pain and Opioid Use: the Pain-Opioid Paradox**



SCAN ME

## THEMATIC ARTICLES

- NEUROBIOLOGY OF PAIN AND OPIOID USE
- MANAGING PAIN AMONG OPIOID USERS
- MANAGING OPIOID USE IN CHRONIC PAIN
- INDIAN POLICY ON OPIOID PRESCRIPTIONS FOR PAIN

SPECIAL COVERAGE

## GLOBAL AIDS REPORT 2024



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# Editorial

## Between Relief and Risk: Rethinking Opioid Use in Chronic Non-Cancer Pain

**Vinit Patel, Ravindra Rao**

The global opioid epidemic continues to significantly impact healthcare, economies, and societies. According to the World Drug Report 2024, opioids remain highly detrimental, with overdose crises particularly pronounced in North America and Europe (1). While the opioid epidemic has been most prominently observed in high-income countries such as the USA, recent data from India also reveal concerning increases. Recent data from the National Drug Use Survey of India (2019) show that compared to earlier lower estimates, opioid use has markedly increased affecting approximately 2.06% (about 22.6 million) of the Indian population (2). Critically, this increase reflects misuse of pharmaceutical opioids among other factors, whereas natural opioids such as opium have remained relatively stable, necessitating targeted interventions specifically addressing pharmaceutical misuse.

Although both India and the U.S. face significant opioid crises, their underlying causes differ fundamentally. Historically, the U.S. opioid epidemic was driven by widespread medical over-prescription, significantly influenced by aggressive pharmaceutical marketing, ultimately leading to extensive misuse of prescription opioids and a shift away from traditional illicit drugs (3,4). Conversely, India's epidemic is primarily driven by easily accessible pharmaceutical opioids that are often obtained without appropriate medical oversight (5). Opioids are very important in treatment of pain conditions, especially in cancer pain where opioid treatment has been incorporated in the WHO analgesic ladder of pain management. Despite this, few patients in need receive opioids for treatment of cancer pain. Approximately, 87% of world population lack adequate access to essential opioid analgesics for effective pain relief and palliative care. The 2024 INCB report highlights significant geographical disparity for opioid analgesic consumption, with North America, Oceania, Western and Central Europe consuming opioids at levels of thousands of standardized defined daily doses per million population per day(S-DDD). In contrast, South Asia, including India, have very inadequate average consumption (~43 S-DDD), underscoring a critical unmet need in these populations. These disparities are due to various reasons ranging from existing laws and policies governing opioid prescription, and accessibility of opioid medicines for patients', to clinicians' reluctance toward adequate opioid prescribing. This is also applicable in case of chronic non-cancer pain (CNCP). While clear, established guidelines exist for opioid use in cancer-related chronic pain, CNCP remains inadequately defined, resulting in inconsistent and uncertain opioid prescribing practices. The addiction treatment professionals come into picture when patients themselves present or are referred by their physicians with problematic opioid use. However, diagnosing opioid use disorder or managing such cases is challenging. The current issue deals with some aspects of this confusion.

Chronic pain, defined as pain persisting beyond normal tissue healing (usually 3–6 months),

severely impacts quality of life and poses a significant global health challenge (6). Chronic pain is broadly categorized into chronic primary pain—pain without a clear underlying disease, such as fibromyalgia—and chronic secondary pain, arising from identifiable conditions like cancer or arthritis. Epidemiological evidence suggests CNCP currently affects 20%–35% of adults globally, with prevalence expected to rise due to aging populations and lifestyle changes (7). The HUNT Pain Examination Study (2022) underscores these diagnostic complexities, reporting approximately 63% of chronic pain cases lack identifiable causes, further complicating opioid prescribing decisions (7). Clearer, evidence-based guidelines for CNCP are urgently required.

Chronic pain and opioid addiction share common neurobiological pathways involving the brain's reward and stress systems, resulting in adaptive changes such as increased opioid tolerance and opioid-induced hyperalgesia (heightened pain sensitivity) (8,9). These overlapping pathways complicate clinical assessments, making it challenging for clinicians to distinguish between normal therapeutic responses to opioids and behaviours indicative of addiction. These neurobiological complexities are further elaborated in the first thematic Article by Dr Mahadevan and colleagues.

The criteria listed in various nosological systems present significant challenges for accurately diagnosing OUD or opioid dependence in patients with CNCP. The previous versions of ICD and DSM (ICD-10 and DSM-IV) had the possibility of over-diagnosing opioid dependence syndrome in patients who were prescribed opioids for pain conditions. A patient on long-term opioid treatment for pain conditions is expected to have tolerance and withdrawal due to physical dependence on opioids. If such patients are not provided timely opioids or are dosed inadequately, they may make repeated requests for their opioid dose, which may be mistaken for ‘craving’. As per ICD-10 criteria, such patients could be labelled, albeit mistakenly, as having opioid dependence. These ambiguities have substantial clinical implications, potentially resulting in patients being incorrectly labelled as having opioid dependence, overlooking early signs of problematic opioid use, or inadequate treatment of pain due to clinician fears of contributing to addiction (8). The current versions of the diagnostic guidelines have attempted to take care of this problem. For example, DSM-5 guidelines have explicitly disallowed use of the pharmacological criteria of tolerance and withdrawal for diagnosing use disorder when the individual is on psychoactive substances for treatment purposes.

Inadequate treatment of pain can also lead to ‘Aberrant drug-related behaviours’ (ADRBs) in which there may be frequent requests for early medication refills or unauthorized dose escalations. Historically, these behaviours were termed "pseudoaddiction," defined as drug-seeking behaviours arising primarily from insufficient pain relief rather than genuine addiction. The second thematic Article by Dr Pangasa and colleague discusses various strategies used for management of pain in chronic non-cancer pain conditions.

Opioid agonist therapies (OAT), including methadone and buprenorphine, have robust, evidence-based support for treating OUD. However, managing OUD becomes notably complex in patients who simultaneously suffer from CNCP, since standard treatments such as opioid antagonists (e.g., naltrexone) are unsuitable due to their lack of analgesic effectiveness. The third thematic Article by Dr Mukherjee and colleagues discuss these management challenges in detail. Evidence-informed approaches specifically addressing CNCP and OUD co-occurrence are essential to support clinicians in delivering safer and more effective patient-centred care.

Despite robust global evidence supporting opioids' effectiveness for pain relief, their usage remains disproportionately low in Low- and Middle-Income Countries (LAMICs), including India (1). This underutilization is driven by clinician apprehension ("opioidophobia"), inadequate training, societal misconceptions regarding addiction, and stringent narcotic regulations (10). As thoroughly analysed in the fourth thematic article by Dr Venkateswaran and colleagues, India's regulatory landscape demonstrates that despite legislative attempts such as the 2014 amendments to the Narcotic Drugs and Psychotropic Substances Act—intended to enhance medical opioid availability—substantial practical and administrative barriers continue to impede access. To effectively address these obstacles, targeted educational initiatives, increased awareness among healthcare providers and policymakers, and clearer regulatory guidance are essential.

Given the ongoing complexities and risks associated with opioid use in chronic pain management, identifying safer and effective analgesics remains an urgent clinical priority. The US FDA has recently granted approval to suzetrigine, a non-opioid, in pain management. Suzetrigine does not act on the opioid mu receptor; rather it targets pain signalling pathway involving sodium channels in the peripheral nervous system. This can potentially reducing addiction risks and side effects associated with traditional opioid medications (11,12). However, it would be premature to endorse such novel medications without thorough evaluation of their long-term risks and safety.

Effectively managing CNCP amidst the ongoing opioid epidemic requires enhanced diagnostic clarity, better clinician education, balanced regulatory policies, and cautious evaluation of new analgesics. Implementing these measures will empower clinicians to effectively manage pain while carefully mitigating risks associated with opioid misuse. Ultimately, the goal is neither the total avoidance of opioids nor unrestricted prescribing, but rather a carefully informed, context-sensitive approach that optimally balances patient safety, effective pain relief, and public health considerations.

## References

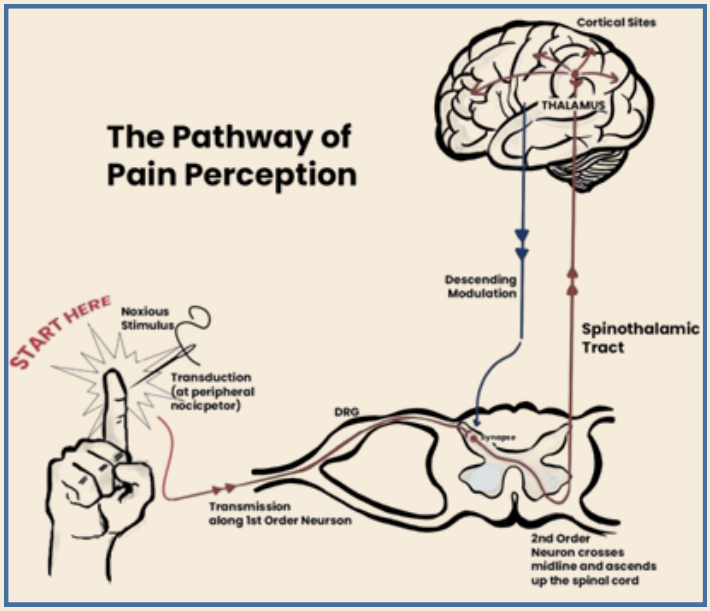

1. UNODC. World Drug Report - Special point of interest [Internet]. United Nations Office on Drug and Crime; 2024 [cited 2025 Mar 29]. Available from: https://www.unodc.org/documents/data-and-analysis/WDR_2024/WDR_2024_SPI.pdf
2. Ambekar A, Agrawal A, Rao R, Mishra AK, Khandelwal S, Chadda R kumar. Magnitude of Substance Use in India [Internet]. 2019 [cited 2023 Aug 21]. Available from: https://www.muktangan.org/pdf/Magnitude_Substance_Use_India_REPORT.pdf
3. Manchikanti L. Opioid Epidemic in the United States. Pain Physician. 2012 Jul 14;3S;15(3S;7):ES9–38.
4. The Lancet Regional Health – Americas. Opioid crisis: addiction, overprescription, and insufficient primary prevention. Lancet Reg Health - Am. 2023 Jul;23:100557.
5. Singh B, Rao R. Is there an opioid epidemic in India? J Public Health. 2021 Oct 8;43(Supplement_2):ii43–50.
6. Treede RD, Rief W, Barke A, Aziz Q, Bennett MI, Benoliel R, et al. Chronic pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). Pain. 2019 Jan;160(1):19–27.
7. Borchgrevink PC, Glette M, Woodhouse A, Butler S, Landmark T, Romundstad P, et al. A Clinical Description of Chronic Pain in a General Population Using ICD-10 and ICD-11 (The HUNT Pain Examination Study). J Pain. 2022 Feb;23(2):337–48.
8. Ballantyne JC, Sullivan MD. Intensity of Chronic Pain — The Wrong Metric? N Engl J Med. 2015 Nov 26;373(22):2098–9.
9. Koob GF, Volkow ND. Neurobiology of addiction: a neurocircuitry analysis. Lancet Psychiatry. 2016 Aug;3(8):760–73.
10. Rajagopal MR, Joranson DE. India: Opioid Availability—An Update. J Pain Symptom Manage. 2007 May;33(5):615–22.
11. Jones J, Correll DJ, Lechner SM, Jazic I, Miao X, Shaw D, et al. Selective Inhibition of NaV 1.8 with VX-548 for Acute Pain. N Engl J Med. 2023 Aug 3;389(5):393–405.
12. Osteen JD, Immani S, Tapley TL, Indersmitten T, Hurst NW, Healey T, et al. Pharmacology and Mechanism of Action of Suzetrigine, a Potent and Selective NaV1.8 Pain Signal Inhibitor for the Treatment of Moderate to Severe Pain. Pain Ther. 2025 Apr;14(2):655–74.

# THEMATIC ARTICLES

# Neurobiology of Pain and Opioid Use Intersection: Mechanisms, Adaptations, and Dysregulation

*Shivum Gakkhar, Babli Kumari, Jayant Mahadevan*

Pain is an unpleasant sensory and emotional phenomenon which serves as a protective mechanism to alert the body against potential or actual tissue injury. However, chronic pain is a maladaptive condition in which pain persists beyond normal healing due to neuroplastic adaptation (1). Pain perception occurs through distinct, but interconnected, pathways and can be broadly categorized into nociceptive, inflammatory, and neuropathic pain.




**1. Nociceptive Pain**

- Peripheral Nociception: Nociceptors sense noxious stimuli such as thermal, mechanical, or chemical injuries. Aβ fibres respond to non-noxious stimuli, Aδ fibres detect painful mechanical stimuli and mild thermal changes, while C fibres respond to intense mechanical, chemical, and heat stimuli.
- Spinal Cord Transmission: Nociceptive signals pass to dorsal horn of spinal cord, where they are modulated by excitatory neurotransmitters such as glutamate and substance P, and inhibitory neurotransmitters like GABA and glycine.
- Ascending Pain Pathways: Pain signals are transmitted to higher centres such as the somatosensory cortex and thalamus via spinothalamic and spino-reticular tracts for localization and processing.

**2. Inflammatory Pain**

- Peripheral Sensitization: Following tissue injury, inflammatory mediators such as prostaglandins, bradykinin, and cytokines (IL-1β, TNF-α) lower the activation threshold of nociceptors, leading to hyperalgesia.

**3. Neuropathic Pain**

- Pathologic Nerve Damage: Leads to neuropathic pain, producing abnormal signalling in

peripheral and central pathways.

- Ectopic Discharges: Spontaneous activity in injured nerves leads to abnormal pain responses and spontaneous pain, including hyperalgesia and allodynia
- Maladaptive Plasticity: Reorganization in cortical areas such as the prefrontal cortex and amygdala preserves pain perception even after healing from the original injury has taken place.

**4. Descending Pain Modulation**

Pain perception is regulated by descending pain modulatory systems, primarily involving the periaqueductal gray (PAG) and rostral ventromedial medulla (RVM). These structures contain opioid receptors, which modulate nociceptive transmission through endogenous opioids such as endorphins and enkephalins, helping to suppress pain signals. Additionally, monoaminergic regulation plays a critical role in pain modulation, as serotonin and norepinephrine from brainstem structures provide inhibitory control over pain pathways, regulating the intensity of pain perception (2) .

***Opioidergic System***

Endogenous opioids are categorized into several families based on their structure and function.

1. β-Endorphins, derived from pro-opiomelanocortin (POMC), are primarily found in arcuate nucleus of hypothalamus and nucleus tractus solitarius (NTS). They primarily act through mu (μ) and delta (δ) opioid receptors and are involved in pain relief, reward mechanisms, and stress regulation. Endomorphins, specifically Endomorphin-1 and Endomorphin-2, selectively bind to mu (μ) opioid receptors. Though their function is not yet fully understood, they are believed to play a role in pain regulation.

2. Enkephalins, including Leu-enkephalin and Met-enkephalin, originate from pre-proenkephalin (PENK) and are distributed in regions such as the thalamus, neocortex, hippocampus, and spinal cord. These peptides mainly act on delta (δ) opioid receptors and play a key role in modulating pain and emotional responses.

3. Dynorphins- Dynorphin A, Dynorphin B, and Neoendorphins, are derived from pre-prodynorphin (PDYN) and are present in the hippocampus, hypothalamus, nucleus accumbens, and the dorsal horn of the spinal cord. They primarily bind to kappa (κ) opioid receptors and are known to induce dysphoria, contribute to stress-induced analgesia, and provide neuroprotective effects.

4. Nociceptin/Orphanin FQ, derived from pro-nociceptin (PNOC), is structurally related to opioid but lacks the essential tyrosine residue required for classical opioid receptor binding. Instead, it interacts with the nociceptin receptor (NOP/ORL-1) and is involved in modulating pain, anxiety, and stress responses (5).

Primarily, there are three types of opioid receptors: mu (μ), kappa (κ), and delta (δ), each producing distinct physiological and pharmacological effects. The most recently discovered opioid receptor family is the nociceptin/orphanin FQ (N/OFQ) receptor (NOP). Table 1 depicts different opioid receptors and their primary effects (4).

**Table 1: Opioid receptors and their effects**

| RECEPTOR | PRIMARY ENDOGENOUS LIGAND | MAIN EFFECT |
|---|---|---|
| μ (MOR) | β-Endorphins, Enkephalins | Analgesia, euphoria, respiratory depression, sedation, physical dependence |
| δ (DOR) | Enkephalins | Analgesia, mood modulation, seizure protection, neuroprotection |
| κ (KOR) | Dynorphins | Dysphoria, analgesia (spinal), stress response, psychotomimetic effects |
| Nociceptin/orphanin FQ opioid peptide receptor (NOP-R) | Nociceptin | Anti-analgesic, modulates anxiety and stress |

### *Opioids*

Opioids form a class of analgesic drugs that produce pain relief, euphoria, sedation, and respiratory depression by acting on the endogenous opioid system. They act on G-protein-coupled receptors (GPCRs) to inhibit adenylyl cyclase, reducing cAMP levels and neurotransmitter release (glutamate, substance P). They also inhibit calcium channels (reducing synaptic transmission) and activate potassium channels (hyperpolarizing neurons), thereby dampening pain perception (3,4).

### *Pain and Opioids – Interaction*

Pain is a complex emotional, sensory and cognitive experience. The affective and sensory component are mediated by both dopaminergic as well as opioidergic systems. The mesolimbic pathway which is the primary reward pathway also mediates the affective component of pain relief. Dopamine is the major neurotransmitter of this pathway which is linked with reward associated behaviours. It is indirectly linked with hedonic experience of reward via its interactions with endocannabinoid and opioidergic systems. The role of the mesolimbic reward system in pain is, in part, dictated by variation in dopamine signalling associated with antinociception versus motivational valence/salience. Manipulation of dopamine and D2 receptor availability modulates the affective component of pain and motivated behavioural responses to pain relief. The Anterior Cingulate Cortex (ACC) is rich on

opioid receptors and through its connections with mesolimbic pathway also modulates affective component of pain.

### *Neuroadaptations to chronic opioid use: Tolerance, dependence and opioid-induced hyperalgesia*

Although opioids are strong analgesics, their chronic use precipitates development of tolerance. This would mean higher doses required in order to maintain analgesic affect. There are various mechanisms implicated in the same:

- The Mu opioid receptors (MOPr) within the periaqueductal gray (PAG) uncouple from downstream G-protein mediated signalling following chronic opioid use. This results in their reduced ability to suppress GABAergic neuron activity and in turn causes reduced disinhibition from PAG to rostral ventromedial medulla (RVM). Hence, the anti-nociception property is blunted over time leading to tolerance. Additionally, other MOPr agonists are unable to reduce voltage gated calcium channels in the PAG which further attenuates MOPr mediated GABAergic inhibition.

- At an intracellular level, chronic opioid use results in upregulation of cAMP. This has been shown to result due to a shift from inhibitory G proteins (Gi/Go) to excitatory Gs proteins, which increases overall excitation in descending pain pathway. Hence the anti-nociceptive property of opioids is blunted with time. Also, neuropeptides like Cholecystokinin (CCK) in descending pain pathway are implicated in tolerance development as evidenced by blockade of off-cells (which mediate descending anti-nociception) following administration of CCK. At the level of dorsal horn, tolerance has been shown to be mediated by upregulation of mammalian target of rapamycin (mTOR) post long term opioid use.

- Opioids are also potent activators of immune cells. Activation of glia and glial derived pro-inflammatory cytokines like Tumor Necrosis Factor (TNF) and Interlukin-1B (IL-1B) increase neuronal glutamatergic receptors (AMPA and NMDA). This in turn causes down regulation of GABAergic receptors and hence the inability of opioids to disinhibit neurons from PAG to RVM in descending pain pathway. Another pro-inflammatory mechanism implicated in opioid tolerance is the direct activation of toll-like receptor-4 (TLL-4). This immune mediated activation results in production of ceramide through sphingomyelinase, in turn activating three separate pro-inflammatory cytokine cascades.

To summarize, the descending pain pathway (PAG-RVM-DH) undergoes changes at receptor as well as cellular level mediated by immune competent cells which cause attenuation in anti-nociception and result in tolerance. There would be no relief from pain even if the user further increases their dose of opioids for managing their pain.

### *Opioid induced hyperalgesia*

Opioid induced hyperalgesia (OIH) is defined as increased pain sensitivity following acute or

chronic use of opioids. There is a paradoxical response whereby an individual receiving opioids for pain becomes more sensitive to nociception resulting in worsening of pain with escalating opioid dose. Initially described by Kayan and colleagues in 1971 after administration of morphine in rats, exact mechanism for the development of this phenomenon remains unknown. However, few possible mechanisms have been implicated. Among them, the central glutamatergic system activation after prolonged opioid exposure has been most commonly linked with OIH. Other mechanisms include CCK-mediated upregulation of spinal dynorphins and reversal of off and on cells functions in PAG-RVM pathway have also been postulated. Genetic influences (eg. COMT gene polymorphisms) have also been linked with variations in OIH among individuals although it requires more research at this stage.

### *Neurobiological Overlap Between Pain and Opioid Use Disorder (OUD): Shared pathways in reward and pain processing*

Chronic pain has been shown to produce a hypodopaminergic state which is mainly attributed to reduced presence of dopamine as well as D2 receptors. Patients with fibromyalgia and chronic back pain have altered blood oxygen level-dependent (BOLD) response of mesolimbic reward valuation circuitry to salient stimuli. Chronic pain also impairs ACC function and there is enough evidence to suggest that pain relief becomes less and less rewarding when dopamine levels are attenuated in ACC. Chronic pain also imbalances the reward and anti-reward (stress/negative effect upon withdrawal) with repeated sensitization of mesolimbic pathway. Chronic pain alters mood which in turn can lead to increased opioid use as a means of deriving hedonic pleasure and analgesic benefits which can increase risk of developing Opioid Use Disorder (OUD). As mentioned before, OIH complicates the scenario further in such cases. To conclude, the absence of positive affect and persisting pain can increase opioid seeking and higher doses will most likely complicate the existing pain and the associated affective state over time.

**References**


1. Besson JM. The neurobiology of pain. Lancet Lond Engl. 1999 May 8;353(9164):1610–5.
2. Fenton BW, Shih E, Zolton J. The Neurobiology of Pain Perception in Normal and Persistent Pain. Pain Manag. 2015 Jul 1;5(4):297–317.
3. Valentino RJ, Volkow ND. Untangling the complexity of opioid receptor function. Neuropsychopharmacology. 2018 Dec;43(13):2514–20.
4. Fairbanks CA, Peterson CD. The opioid receptor: emergence through millennia of pharmaceutical sciences. Front Pain Res [Internet]. 2023 Nov 1 [cited 2025 Mar 8];4. Available from: https://www.frontiersin.org/journals/pain-research/articles/10.3389/fpain.2023.960389/full
5. Benarroch EE. Endogenous opioid systems. Neurology. 2012 Aug 21;79(8):807–14.
6. Higginbotham JA, Markovic T, Massaly N, Morón JA. Endogenous opioid systems alterations in pain and opioid use disorder. Frontiers in systems neuroscience. 2022 Oct 19;16:1014768.
7. Lueptow LM, Fakira AK, Bobeck EN. The contribution of the descending pain modulatory pathway in opioid tolerance. Frontiers in neuroscience. 2018 Nov 27;12:886.

# Pain Management in the Context of Opioid Use Disorder: Challenges and Strategies

*Neha Pangasa, Ekta Gupta*

Opioid Use Disorder (OUD) presents a unique challenge in pain management. As the opioid epidemic continues to affect millions, the need for effective strategies in treating pain in individuals with OUD has never been more urgent. These patients often experience altered pain sensitivity, which complicates the management of both acute and chronic pain. This article delves into the altered pain perception in individuals with OUD, the risks and benefits of opioid versus non-opioid approaches to pain management, the role of multimodal strategies, and considerations for pain management in acute versus chronic pain scenarios.

## *Pain Perception in Patients with Opioid Use Disorder*

Patients with OUD often exhibit altered pain sensitivity. Chronic opioid use leads to changes in the nervous system that can affect how pain is perceived. These changes can result in an increased sensitivity to pain, known as hyperalgesia, where normal stimuli are perceived as more painful than they would be in individuals without opioid exposure. The central nervous system (CNS) of people with OUD undergoes neuroplastic changes that may enhance pain transmission. This phenomenon, often termed central sensitization, is thought to involve the amplification of pain signals in the spinal cord and brain, leading to a heightened state of pain sensitivity. These neuroplastic changes may persist even after opioid use has ceased, complicating pain management strategies and treatment outcomes. Moreover, Opioid-induced hyperalgesia (OIH) is a well-documented phenomenon in which prolonged use of opioids leads to an increased sensitivity to pain.1 The paradoxical effect of opioids exacerbating pain, challenges traditional approaches to pain management and requires careful consideration of opioid use, particularly in those with OUD.

## *Opioid vs. Non-Opioid Approaches: Risks and Benefits*

### Risks and Benefits of Opioid Analgesia

Opioids are potent analgesics, but their use in individuals with OUD presents several risks. The most obvious risk is the potential for relapse or overdose. Even short-term exposure to opioids in those with a history of OUD can lead to cravings and a return to illicit opioid use. The problem of tolerance also plays a significant role, as patients with OUD often develop higher tolerances to opioids, leading to the need for escalating doses to achieve adequate pain relief. This can increase the likelihood of misuse and overdose, especially given the risk of decreased tolerance after periods of abstinence. Additionally, opioids in the context of OUD can contribute to OIH which worsens pain over time. This paradoxical effect further complicates the idea that opioids, while initially effective, may ultimately contribute to worsening pain and opioid dependency.

Despite these risks, opioids remain a necessary part of pain management in certain circumstances. For patients undergoing major surgery or suffering from acute injury, opioid

analgesia may be required for effective pain relief. However, this use must be closely monitored, with strategies in place to prevent misuse, abuse, and overdose.

Given the risks associated with opioid analgesia in OUD, non-opioid pharmacological strategies are often the preferred first-line treatment for chronic pain. These alternative therapies offer a variety of benefits and come with fewer risks of addiction or overdose.

- **NSAIDs (Non-Steroidal Anti-Inflammatory Drugs):** NSAIDs, such as ibuprofen and naproxen, are commonly used for acute and chronic pain. They work by reducing inflammation, which can be beneficial in conditions like arthritis, musculoskeletal pain, and post-surgical pain. However, NSAIDs have their own risks, particularly in patients with gastrointestinal, renal, or cardiovascular issues, and should be used with caution.

- **Antidepressants:** Certain antidepressants, particularly **tricyclic antidepressants (TCAs) and serotonin-norepinephrine reuptake inhibitors (SNRIs)**, have been found to be effective in treating chronic pain, especially neuropathic pain. These medications work by modulating the pain-processing pathways in the brain and spinal cord. Antidepressants can be an excellent alternative for managing pain, particularly in patients who also suffer from mood disorders or anxiety.

- **Anticonvulsants:** Medications like gabapentin and pregabalin are particularly useful for managing neuropathic pain. These drugs help regulate abnormal nerve activity and can provide significant relief for conditions such as diabetic neuropathy, postherpetic neuralgia, and fibromyalgia. These medications are generally well-tolerated, with lower risks of abuse compared to opioids.

- Novel treatment options with **glial modulators** (2) like ibudilast, minocycline, dextromethorphan, pioglitazone and lowdose naltrexone has shown promise in enhancing opioid analgesia, reducing cravings and withdrawal symptoms, and improving cognitive function without increasing opioid tolerance agents.

- Convergent evidence studies provide early clinical and translational support for the use of **serotonergic psychedelics** (3) like LSD, psilocybin, ayahuasca and ibogaine for chronic pain and OUD (3).

### *Multimodal Pain Management: Combining Pharmacological and Non-Pharmacological Interventions*

Managing pain in patients with OUD requires a comprehensive approach, often referred to as multimodal pain management. Interdisciplinary pain programs use multiple psychosocial and physically oriented interventions for reducing pain intensity, pain interference, and psychological distress in patients with acute and chronic pain especially those with opioid use disorder.

1. **Cognitive Behavioral Therapy (CBT):** CBT helps to identify, challenge, and replace maladaptive pain and opioid-related thoughts and beliefs. Through cognitive restructuring and relaxation techniques, CBT can reduce pain perception and improve emotional regulation, leading to better pain outcomes without the need for increased medication use.

2. **Mindfulness-based interventions:** Mindfulness meditation practices to train attention to present-moment experiences and reduce judgment and reactivity to pain sensations and mindful movement practices (walking, gentle stretching movements) helps patient savour pleasant experiences.

3. **Acceptance and commitment therapy:** Acceptance and commitment therapy (ACT) focuses on functional improvement through defusing from (rather than replacing) unhelpful cognitions and increasing engagement in values-based activities.

4. **Hypnosis:** Hypnosis interventions use relaxation to focus attention and reduce peripheral awareness, thereby promoting one's capacity to respond to suggestions for making positive changes.

5. A novel evidence-based intervention, Mindfulness-Oriented Recovery Enhancement (MORE) unites complementary aspects of mindfulness training, cognitive behavioural therapy and principles from positive psychology to simultaneously address addictive behaviour, emotion dysregulation and chronic pain by targeting brain reward and stress systems (4).

6. **Acupuncture:** Though there is no strong and definitive evidence that acupuncture is effective in this category of chronic pain patients but patients treated with acupuncture have been found to take less rescue doses of tramadol.

7. **Yoga and physical activity:** Regular exercise (aerobics, resistance training, and yoga) can help manage pain in patients with OUD by improving health related quality of life.

8. **Music interventions:** They may also have a role in managing pain in patients with OUD.

9. **Interventional Procedures:** In some cases, interventional pain management techniques such as nerve blocks, epidural injections, or spinal cord stimulators may be necessary for pain relief, particularly in patients with refractory pain. These procedures can provide significant pain reduction and improve the quality of life for patients with chronic pain, helping to minimize or eliminate the need for opioid analgesia.

### *Considerations in Acute vs. Chronic Pain Management*

Managing acute and chronic pain in patients with OUD requires different strategies and considerations. While the fundamental principles of multimodal pain management remain consistent, the clinical approach differs based on the type and duration of pain.

**1. Acute /Perioperative Pain Management**

A patient with OUD is likely to be encountered in the acute pain setting after routine operative care or trauma. Though acute pain management can sometimes be extremely challenging in such patients, one must understand that undertreated pain can lead to drug-seeking behaviour (pseudo-addiction) and loss of trust between patients and caregivers. It is in patients' best interest to start early with a comprehensive multimodal analgesic plan including regional analgesia, NSAIDs (esp ketorolac), acetaminophen, NMDA receptor antagonists such as ketamine to decrease the total amount of opioid dose administered. Since patients with OUD generally report higher pain scores, treatment plans should be based on objective parameters like ambulation and effective deep breathing rather than NRS (Numerical Pain Rating Scale for pain) alone. Patients should continue with their pre-surgery or pre-trauma doses of their opioid medication used for treatment of OUD, especially if methadone was the agent.

**2. Chronic Pain Management**

The primary goal of treatment in patients with chronic pain whose opioid use disorder is in remission is based on using opioid agonist therapy (methadone or buprenorphine) well. To achieve satisfactory pain control in such patients, it is advised to divide the daily dose of these opioid agonists and administer them more frequently.5 The caregiver must expand the pain treatment plan to include specific relapse-prevention strategies in coordination with addiction medicine specialist.

However patients with untreated addiction are not candidates for chronic opioid therapy and more emphasis is put on detoxification (acute withdrawal management). Non-opioid medications, such as NSAIDs, antidepressants, and anticonvulsants, should be prioritized for chronic pain management. Psychosocial interventions such as CBT, mindfulness-based therapy, and pain coping skills training are crucial components of treatment (6).

## *Conclusion*

Pain management in the context of opioid use disorder is complex and requires a nuanced approach. Understanding altered pain sensitivity, opioid-induced hyperalgesia, and central sensitization is key to addressing the underlying mechanisms of pain in OUD patients. Clinicians must weigh the risks and benefits of opioid analgesia, utilizing non-opioid pharmacological alternatives when possible, and employ a multimodal approach that combines pharmacological treatments with psychosocial and physical interventions. Whether managing acute or chronic pain, it is essential to tailor pain management strategies to the individual's specific needs, ensuring both effective pain relief and long-term safety. With a comprehensive and patient-centred approach, healthcare providers can navigate the challenges of pain management in OUD while minimizing the risks of relapse and overdose. A multidisciplinary team involving chronic pain physicians and deaddiction psychiatrists is required for management of these complicated cases.

## References


1. Volkow ND, McLellan AT. Opioid abuse in chronic pain — misconceptions and mitigation strategies. N Engl J Med. 2016 Mar 31;374:1253-1263.
2. Schwartz EKC, De Aquino JP, Sofuoglu M. Glial modulators as novel therapeutics for comorbid pain and opioid use disorder. Br J Clin Pharmacol. 2024 Dec;90(12):3054-66.
3. Weleff J, Nunes JC, Costa GPA, Sofuoglu M, MacLean RR, De Aquino JP. From taboo to treatment: The emergence of psychedelics in the management of pain and opioid use disorder. Br J Clin Pharmacol. 2024 Dec;90(12):3036-3053.
4. Brintz CE, Cheatle MD, Dember LM, Heapy AA, Jhamb M, Shallcross AJ, et al. Non-pharmacological treatments for opioid reduction in patients with advanced chronic kidney disease. Semin Nephrol. 2021 Jan;41(1):68-81.
5. Liu O, Leon D, Gough E, Speed T, Hanna M, Jaremko K. A retrospective analysis of perioperative medications for opioid-use disorder and tapering additional postsurgical opioids via a transitional pain service. Br J Clin Pharmacol. 2024 Dec;90(12):3010-27.
6. Benzon HT, Rathmell JP. Practical management of pain. 5th ed. Philadelphia: Elsevier; 2004.

# Managing Opioid Use Disorder in Patients with Chronic Non-cancer Pain: Integrating Care and Reducing Harm

*Prakrithi Sivaprakash, Diptadhi Mukherjee*

Chronic non-cancer pain (CNCP) refers to moderate to severe pain that lasts for six or more months, typically beyond the normal tissue healing time. It is often due to conditions such as neuropathic pain, lower back pain, osteoarthritis, rheumatoid arthritis, fibromyalgia and other long-standing pain conditions, not due to active malignancy or end-of-life conditions [1]. In patients with CNCP being treated with long-term opioids, tolerance and withdrawal are expected; this, however, does not amount to opioid use disorder (OUD) when taken under strict supervision and as per recommended doses. Nevertheless, CNCP and OUD often coexist in a complex, bidirectional relationship that complicates both diagnosis and treatment. Chronic pain, by its nature, alters neurobiological pathways associated with pain processing, reward, and emotional regulation. Prolonged opioid therapy, while offering temporary relief, can contribute to neuroadaptive changes, including receptor desensitization and downregulation, contributing to tolerance and increased vulnerability to misuse and addiction.

Prescribing opioids to patients with OUD requires careful consideration—while opioid use may increase the risk of misuse or dependence, complete avoidance can lead to inadequate pain control, reduced quality of life, and potential drug-seeking behaviours. In addition to the complex clinical scenario, there is often fragmentation of care, with separate teams treating addiction and the pain condition. This article discusses the approach to managing OUD in patients with CNCP, focusing on practical points for evaluation in the clinic and treatment strategies, including the advantages of integrated care.

## *Pathophysiology and Risk Factors*

Chronic pain, by its nature, alters neurobiological pathways associated with pain processing, reward, and emotional regulation. Prolonged opioid therapy, while offering temporary relief, can contribute to neuroadaptive changes, including receptor desensitization and downregulation, contributing to tolerance and increased vulnerability to misuse and addiction.

A 2021 meta-analysis found more than a third of CNCP patients to have problematic opioid use, consisting of abuse, misuse, addiction, or aberrant behaviours [2]. A past or current history of substance use disorder (SUD) is one of the strongest predictors of developing OUD during opioid therapy [3]. Other risk factors are genetic predisposition, untreated psychiatric morbidity such as depression and anxiety and a younger age at opioid exposure for pain management [4]. Iatrogenic risk factors are higher prescribed dosages and long duration of opioid therapy [5].

## *Tailoring interventions to patient trajectories*

The clinical overlap of CNCP and OUD can be understood through three trajectories:

1. Iatrogenic OUD in CNCP, where prolonged opioid prescribing leads to dependence, requiring careful tapering and multimodal pain management

1. OUD in CNCP due to self-medication, where opioid misuse stems from undertreated pain or psychiatric comorbidities, necessitating integrated addiction and pain treatment
2. CNCP in individuals with pre-existing OUD, where opioid-induced hyperalgesia (OIH) can complicate management, warranting opioid rotation and non-opioid strategies.

Recognizing these patterns aids in personalized treatment planning, ensuring both pain relief and OUD management.

### *Clinical assessment in comorbid OUD and CNCP*

Identifying OUD in CNCP Patients: Early identification of OUD in patients with CNCP is vital for effective intervention. A comprehensive evaluation, including history, physical examination, and psychosocial assessment, is invaluable in tailoring an individualised management plan for such patients.

1. It's essential to distinguish between physical dependence and OUD. Physical dependence is an expected physiological adaptation to long-term opioid use, characterised by withdrawal symptoms upon cessation and a requirement for higher doses with time. In contrast, OUD also involves compulsive drug use, loss of control, and continued use despite harm. The International Classification of Diseases, 11th revision (ICD-11) or the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) criteria can be used to diagnose OUD.

2. Validated Screening Tools: Several tools have been developed to assess the risk of opioid misuse in chronic pain patients:
    a. **Screener and Opioid Assessment for Patients with Pain (SOAPP):** Designed to predict aberrant medication-related behaviours in chronic pain patients being considered for long-term opioid therapy [10].

    b. **Current Opioid Misuse Measure (COMM):** Assesses current misuse in patients already receiving opioid therapy for chronic pain [11].

3. Urine drug testing, pill count and prescription monitoring are used to identify patterns of problematic opioid use in patients with CNCP. Signs of intoxication (slurred speech, pinpoint pupils, sedation) or withdrawal (yawning, rhinorrhoea, dilated pupils, sweating, agitation) during visits (when the patient shouldn't normally be in such a state if using as prescribed) can indicate misuse.

4. When there is aberrant drug-seeking behaviour, before making a diagnosis of OUD or problematic opioid use, the following must be ruled out:
    a. Undetected physical problems, overlooked neurogenic causes such as deafferentation pain, central sensitisation or neuritic pain.

b. Pain related to withdrawal when medications are discontinued.
c. Self-medication to ameliorate non-pain symptoms such as sleep disturbance, depression, anxiety, etc.

5. Detailed exploration of pain onset, duration, quality, intensity, exacerbating/relieving factors, and response to prior treatments. Validated scales such as the Visual Analogue Scale, Brief Pain Inventory or Faces Scale are helpful to assess the severity of pain [12]. Beyond evaluating pain intensity, assessing the impact of pain on a patient's daily functioning provides a more comprehensive understanding of their condition. Functional assessments can guide treatment plans and help in monitoring the effectiveness of interventions, ensuring that the primary goal remains the improvement of the patient's quality of life.

6. Common psychiatric comorbidities, such as depression and anxiety, should also be screened.

### *Management of OUD in patients with CNCP*

This section describes pharmacological and non-pharmacological approaches, harm reduction, and integrated care approaches.

1. **Pharmacological treatments**

MAT with buprenorphine or methadone is the cornerstone of OUD management. Both drugs have been used in chronic pain and may confer dual benefits of treating pain and addiction. They also allow shifting from short-acting opioids such as tramadol or oxycodone to long-term agents, therefore reducing frequent and chaotic use to steady, clinically monitored opioid administration for pain. However, adverse effects such as drug-drug interactions and QTc prolongation, especially with methadone, must be kept in mind. The treatment plan must be clearly documented, along with all subsequent decision-making and care. The patient must avoid self-initiated treatment changes and must ideally obtain medications from a single provider.

Opioid tapering and deprescribing are helpful, especially in CNCP patients who develop OUD. The CDC recommends gradual tapering, i.e., reducing the dose by 5-10% every week, with careful monitoring and adjunct medications to treat withdrawal and pain [13]. If this is unsuccessful, a shift to MAT, as described above, is considered.

2. **Non-pharmacological treatments:** For OUD, the following have been studied, albeit with limited evidence:

- Motivational interviewing techniques to elicit change in opioid misuse behaviours.
- Contingency management where small incentives for drug-negative urine tests and treatment adherence.

- Relapse prevention therapy.
- Peer support groups such as Narcotics Anonymous [1].

3. **Integrated care approaches**

Considering the complex nature of this comorbidity, an integrated approach is ideal, one which incorporates pain management, addiction treatment and psychiatric care. Collaborative care models (CoCM) include a pain specialist and an addiction psychiatrist who work together to ensure that both issues are addressed simultaneously. By communicating, the team ensures that pain control efforts don't undermine addiction recovery and vice versa. A 2023 systematic review found that collaborative care interventions for chronic pain not only improved pain outcomes but also, in some cases, increased the likelihood of patients receiving buprenorphine treatment for OUD and achieving abstinence [14]. The co-location of all services in a single location increases patient convenience, improving engagement and adherence. Case management by social workers can address the complex needs of these patients, such as availing disability benefits and coordinating consultation with multiple teams and telephonic follow-ups.

The CoCM has potential to integrate behavioural health treatment into primary care settings. It has been effective in managing mental health conditions and shows potential for treating OUD [15]. Similarly, Patient-Centred Medical Homes provide coordinated care through a primary care physician who leads a team of healthcare professionals, ensuring continuous and comprehensive care that addresses both medical and behavioural health needs [16].

## Key Points

### Managing OUD and CNCP

- CNCP and OUD often coexist, requiring an integrated, multidisciplinary approach.
- Opioid-induced hyperalgesia (OIH) worsens pain in long-term opioid users, necessitating opioid rotation and multimodal pain management.
- Comprehensive assessment is key, differentiating OUD from physical dependence and addressing psychiatric and psychosocial factors.
- Non-opioid and non-pharmacological therapies should be prioritized whenever possible.
- Regular monitoring of opioid prescriptions through urine drug testing and prescription tracking helps detect potential misuse early.
- Medication-assisted treatment (MAT) with buprenorphine or methadone is preferred for CNCP patients with OUD.
- Treatment of comorbid psychiatric disorders such as depression and anxiety is essential.
- An integrated care approach (pain specialist, addiction psychiatrist, case management by a social worker) increases the likelihood of improved outcomes.

***References***


1. Genova A, Dix O, Thakur M, Sangha PS. Chronic Non-cancer Pain Management and Addiction: A Review. Cureus. 2020;12(2):e6963.
2. Jantarada C, Silva C, Guimarães-Pereira L. Prevalence of Problematic Use of Opioids in Patients with Chronic Noncancer Pain: A Systematic Review with Meta-analysis. Pain Pract. 2021;21(6):715-29.
3. Chang YP, Compton P. Management of chronic pain with chronic opioid therapy in patients with substance use disorders. Addict Sci Clin Pract. 2013;8(1):21.
4. Webster LR. Risk Factors for Opioid-Use Disorder and Overdose. Anesth Analg. 2017;125(5):1741-8.
5. American Academy of Family Physicians. Chronic Pain Management and Opioid Misuse: A Public Health Concern (Position Paper): AAFP. 2020. Available at: https://www.aafp.org/about/policies/all/chronic-pain-management-opiod-misuse.html#:~:text=of%20all%20U,27 (accessed February 27).
6. Veiga DR, Monteiro-Soares M, Mendonça L, Sampaio R, Castro-Lopes JM, Azevedo LF. Effectiveness of Opioids for Chronic Noncancer Pain: A Two-Year Multicenter, Prospective Cohort Study With Propensity Score Matching. The Journal of Pain. 2019;20(6):706-15.
7. World Health Organisation. WHO guidelines for the pharmacological and radiotherapeutic management of cancer pain in adults and adolescents. Geneva: World Health Organisation. 2018. Available at: https://iris.who.int/bitstream/handle/10665/279700/9789241550390-eng.pdf (accessed February 27).
8. Choudhary N, Singh S, Rathore P, Ambekar A, Bhatnagar S. Opioid Use Disorders among Patients on Long-Term Morphine for Management of Chronic Cancer Pain: A Pilot Study from a Tertiary Palliative Care Facility. Indian Journal of Palliative Care.27.
9. Tompkins DA, Campbell CM. Opioid-Induced Hyperalgesia: Clinically Relevant or Extraneous Research Phenomenon? Current Pain and Headache Reports. 2011;15(2):129-36.
10. Butler SF, Fernandez K, Benoit C, Budman SH, Jamison RN. Validation of the Revised Screener and Opioid Assessment for Patients With Pain (SOAPP-R). The Journal of Pain. 2008;9(4):360-72.
11. Butler SF, Budman SH, Fernandez KC, Houle B, Benoit C, Katz N, et al. Development and validation of the Current Opioid Misuse Measure. PAIN. 2007;130(1):144-56.
12. Fillingim RB, Loeser JD, Baron R, Edwards RR. Assessment of Chronic Pain: Domains, Methods, and Mechanisms. J Pain. 2016;17(9 Suppl):T10-20.
13. Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC Clinical Practice Guideline for Prescribing Opioids for Pain - United States, 2022. MMWR Recomm Rep. 2022;71(3):1-95.
14. Heavey SC, Bleasdale J, Rosenfeld EA, Beehler GP. Collaborative Care Models to Improve Pain and Reduce Opioid Use in Primary Care: a Systematic Review. J Gen Intern Med. 2023;38(13):3021-40.
15. Korthuis PT, McCarty D, Weimer M, Bougatsos C, Blazina I, Zakher B, et al. Primary Care-Based Models for the Treatment of Opioid Use Disorder: A Scoping Review. Ann Intern Med. 2017;166(4):268-78.
16. Hoff T, Weller W, DePuccio M. The Patient-Centered Medical Home:A Review of Recent Research. Medical Care Research and Review. 2012;69(6):619-44.

# Policy on Opioid Prescriptions for Pain Management in India: Legal Support or Regulatory Hurdle?

*MM Sunil Kumar, Shobha Nair, Chithra Venkateswaran*

Palliative care, encompassing access to pain management, has been notable in the context of the right to health during the development of human rights standards [1]. The International Covenant on Economic, Social, and Cultural Rights acknowledges the right of all individuals to acquire the best possible standard of bodily and mental health and to guarantee universal access to medical services and care for all illnesses [2].

### *National policies and programs related to palliative care*

The updated National Programme for Prevention and Control of Non-Communicable Diseases NP-NCD guidelines address palliative care exclusively in the context of cancer, overlooking the greater demand for such treatment in non-cancer conditions [3]. Home-based treatment is not mentioned and the emphasis is on initiating palliative care provision commencing exclusively at the district hospital [3].

Similarly, the National Program for Palliative Care (NPPC) was established in 2012 to improve palliative care services in India [4]. It faces obstacles owing to the absence of a designated budget and insufficient awareness. Despite these measures and even with NGOs providing palliative care services in different parts of the country, the need for palliative care is only met by less than 4% of the estimated 7-10 million individuals in need [5]. Palliative care has predominantly been accessible at tertiary healthcare institutions in urban regions [5].

The selected indicator in the NPPC guidelines evaluates access by measuring morphine-milligram equivalent (MME) intake of potent opioid analgesics per cancer-related death, which may not accurately represent the comprehensive availability of palliative care treatments [6]. The World Health Organization recommends utilizing per capita morphine intake as a core strategic indicator for monitoring palliative care development. Morphine utilization is a comprehensive metric to evaluate morphine accessibility and to compare advancements among nations [7].

### *Regulatory framework in India*

Despite India being a significant opium exporter, the stringent 1985 narcotics legislation designed to regulate the detrimental use of drugs has hindered the availability and accessibility of opioids for medical and scientific purposes. The Narcotic Drugs and Psychotropic Substances Act (NDPS Act), enacted by the Indian government in 1985, grants the federal government jurisdiction over poppy farming, opium collection and morphine manufacture. The principal objectives of the legislation were to outlaw substance usage and impose stringent penalties. A hospital necessitated four to five permits to stock and distribute morphine, with multiple agencies involved in the licensing procedure. Each state possessed distinct NDPS regulations governing the stocking and dispensing of substances. These bureaucratic hurdles discouraged

health care facilities and pharmacies from maintaining inventories of opioids due to the operational challenges and severe repercussions, even for minor administrative errors [8,9]. This resulted in a reduction of morphine use from 573 kg in 1985 to 18 kg in 1997.

Subsequently, recognizing the barriers to medical opioid access, the Indian government conducted a series of workshops, but with limited success for opioid access. Then, supported by the WHO Collaborating Centre at the Pain and Policy Study Group, Wisconsin, a group of experts studied the narcotic regulations in India, worked with Departments of Revenue and Health, Indian Association of Palliative Care (IAPC) and Palliative Care Society at Calicut, leading to the creation of a model opioid regulation by Department of Revenue. In 1998, the Indian government asked all state governments to revise their drug legislation and optimize the licensing procedure [9]. Despite modifications in laws by several states, the pervasive nature of tight drug regulation did not substantially enhance access to opioids [8].

In the years 1998-2014, the NDPS Act revision was drafted by the Department of Revenue of Government of India in consultation with civil society representatives, experts from the field of palliative care, IAPC, human rights lawyers, international policy experts and Indian Drug Manufacturers Association. The amendment was passed by the Indian Parliament in 2014. It aimed to maintain a balance between prohibiting the misuse of narcotic medications while simultaneously promoting their usage for medical and research purposes [8]. The central government designated six narcotic medications as Essential Narcotic Drugs (ENDs), which can be specified and governed uniformly by the centre across the nation. The Recognised Medical Institution (RMI) designation has been established for the storage and distribution of ENDs, granting the authority to designate an institution as RMI to a singular state agency—State Drug Controller (SDC) or Commissioner of Food and Drug Administration. The RMIs do not necessitate any supplementary licenses to stock and dispense ENDs. These rules are intended to facilitate the accessibility of opioids to those in need [8].

The 2014 amendment of this act instituted a new national regulatory framework to enhance access to necessary opioid analgesics. Even after the amendment, the oral morphine use for pain remains substantially lower than the estimated need, even in Kerala, one of the Indian states, where palliative care access is better than the rest of the country [10]. Measures can be taken by the government to ensure regular supply. Lack of training and awareness among medical professionals about procuring and dispensing opioids and apprehension regarding dependence should be addressed [10]. Undoubtedly, achieving a balance between access for medical use and the prevention of misuse of opioids is necessary.

### *Challenges in patient access to opioids for medical use*

In 2022, Europe and North America accounted for 86% of morphine use, while the remaining 14% was utilized by countries representing 80% of the global population; with this disparity apparent from 2000 to 2013 and continuing, [11,12]. In 2019, India's morphine equivalent

consumption in milligrams per 1,000 inhabitants per day was 3.45 mg, whereas Canada, North America, and the UK recorded consumption levels of 987.60 mg, 853.46 mg, and 638.72 mg, respectively [12]. The International Association for Hospice and Palliative Care (IAHPC) has released a List of Essential Medicines (EML) for palliative care, encompassing morphine formulations in injectable, tablet, and oral solutions in 2007. As of now, 17 of the 27 studied state governments and union territories in India have not incorporated oral morphine into their Essential Medicines List (EML) [13]. India has around 2,000 palliative care units, of which 80% are situated in Kerala. Kerala, with a population of 35 million, has a palliative care coverage rate of roughly 70% [14]. India's population estimated to be around 1.4 billion currently struggles to provide services, hindering access to morphine. There is scarce data available on how many of these units' stock and dispense morphine [15]. Misunderstandings like initiating opioid use signify the end of life; medical use inevitably results in addiction, opioids cause damage to the liver and kidneys, and leads to persistent lethargy and sleepiness, are common among people [16].

### *Barriers in Clinical Practice*

The physician's expertise is a primary issue in the accurate prescription of opioids. Misunderstandings about addiction, apprehensions about the diversion and misuse of opioids, and insufficient awareness of regulations and standards for opioid analgesics in India still exist. In addition, the lack of knowledge of WHO analgesic ladder for pain treatment or that certain opioids have been reclassified as ENDs compound the issue of opioid prescriptions. Administrative constraints associated with record keeping and the potential for monitoring by regulatory organizations or law enforcement agencies can be demotivating [17].

Not all physicians are authorized to prescribe ENDs for pain management. The individual must be registered as a medical practitioner under the Indian Medical Council Act, 1956, or as a dentist under the Dentists Act, 1948, and must have completed training in pain management and palliative care. If multiple qualified medical practitioners are present, one medical officer must be designated as the overall authority of the recognized medical institution (RMI) [18]. The penalty for minor quantity violations has been elevated from 6 months to 1 year [19].

### *Comparison with other countries*

The current opioid crises that exist globally are at two opposite poles – one affecting largely low- and middle-income countries (LMICs), where more than 80% of the world struggling with inadequate access to opioid medications for palliative care, pain relief, and treatment of substance use disorder, and the other in high income countries like US, Canada facing excess exposure, known as the overdose epidemic, to medical and non-medical opioids. In these countries, prescription users and recreational users have, until recently, had more access to both prescribed and illicitly trafficked opioids than is strictly necessary for rational medical use [20].

Some health systems in the world have made significant progress in establishing balanced opioid models wherein palliative care and services to reduce harm are integrated with the primary care system based on policies based on evidence and policies favouring rational consumption of opioids for medical use. Germany is an example for high income countries. With the exception of Japan and South Korea, opioid availability continues to be low throughout most of Asia. Most countries still have restrictive policies [21]. Thailand has also witnessed considerable progress recently, access to palliative care has improved tremendously on community hospital networks and improvement in access to immediate release morphine tablets [22].

### *Conclusions*

In India, the Amendment of the Narcotic Drugs and Psychotropic Substances (NDPS) Act in 2014 established a new national regulatory framework for improved access to essential opioid analgesics. However, progress at the ground level has not been significant. The heterogeneity and considerable range of variability in socioeconomic, cultural, and development of palliative care services contribute to the slow progress. Additionally, each state has its own challenges. State departments are still not familiar with the changes brought in by the amendment; not understanding the fundamental purpose, some seem slow in accepting the mandates. Drug manufacturers and dealers have their own concerns and fears.

Continued efforts from the civil society, palliative care organizations, institution and Indian Association of Palliative care have been encouraging. Consistent proactive engagement addressing governance structure, the state level procedures, and education of state departments ranging from drug control, revenue, excise, to health is a priority to achieve the balanced policy [8].

## References


1. Ezer T, Lohman D, de Luca GB. Palliative care and human rights: a decade of evolution in standards. Journal of pain and symptom management. 2018 Feb 1;55(2):S163-9.
2. UN General Assembly. International Covenant on Economic, Social and Cultural Rights. Available from: www.ohchr.org/EN/ProfessionalInterest/Pages/ CESCR.aspx
3. Revised operational guidelines of NP-NCD (2023-2030).PDF (2024) . Available at: https://www.Ministry of health and family welfare/revised-operational-guidelines-of-npncd-20232030pdf/265076635 (Accessed: 13 March 2025).
4. National Health Mission, Government of India. National Programme for Palliative Care (NPPC) [Internet]. India: National Health Mission; 2012. Available from: https://nhm.gov.in/index1.php?lang=1&level=2&sublinkid=1047&lid=609 [Accessed 19 Feb 2025].
5. Chandra A, Debnath A, Nongkynrih B. Palliative care need in India: a systematic review and meta-analysis. Indian Journal of Palliative Care. 2023 Nov 11;29(4):375
6. World Health Organization, 2021. Assessing the development of palliative care worldwide: a set of actionable indicators. In Assessing the development of palliative care worldwide: a set of actionable indicators. ( Accessed 14 March 2025)
7. World Health Organization. Left behind in pain: extent and causes of global variations in access to morphine for medical use and actions to improve safe access. World Health Organization; 2023 Jun 16.
8. Vallath N, Tandon T, Pastrana T, Lohman D, Husain SA, Cleary J, Rajagopal MR. Civil society-driven drug policy reform for health and human welfare—India. J Pain Symptom Manage. 2017;53(3):518-32.
9. Rajagopal MR, Joranson DE. India: opioid availability—an update. J Pain Symptom Manage. 2007 May;33(5):615-22. [cited 2025 Mar 10]; Available from: https://pubmed.ncbi.nlm.nih.gov/17482057/
10. Rajagopal, M. R., Karim, S., & Booth, C. M. (2017). Oral morphine use in South India: A population-based study. Journal of Global Oncology, 3(6), 720-727.
11. International Narcotics Control Board. Availability of narcotic drugs for medical use.[Internet] Available from: https://www.incb.org/incb/en/narcotic-drugs/Availability/availability.html. Accessed 9 March 2025.
12. Ju C, Wei L, Man KKC, Wang Z, Ma T-T, Chan AYL, et al. Global, regional, and national trends in opioid analgesic consumption from 2015 to 2019: a longitudinal study. Lancet Public Health. 2022 Apr;7(4):e335-e346. doi: 10.1016/S2468-2667(22)00013-5.
13. Agrawal, D., Shrinivas, D., Sharma, P., Rajagopal, M.R., Ghoshal, A., and Zadey, S. (2025) 'An evaluation of the adequacy of Indian national and state essential medicines lists (EMLs) for palliative care medical needs—a comparative analysis', ecancermedicalscience, 19, p. 1837.
14. Peter S. Community palliative care in India is a model for the world [Internet]. MercatorNet. 2022 May 13. Available from: https://www.mercatornet.com/community-palliative-care-in-india-is-a-model-for-the-world [Accessed 2025 Mar 9].
15. Pallium India. Directory of palliative care services [Internet]. Available from: https://palliumindia.org/clinics [Accessed 2025 Mar 10].
16. Ramanjulu R. Debunking common myths about opioids in palliative care [Internet]. Aster Hospitals. 2023 Nov 6. Available from: https://www.asterhospitals.in/blogs-events-news/aster-cmi-bangalore/debunking-common-myths-about-opioids-palliative-care [Accessed 2025 Mar 9].
17. Singh G, Gupta D, Singh S, Kaushal S, Kaushal A. A cross-sectional web-based survey of medical practitioners in India to assess their knowledge, attitude, prescription practices, and barriers toward opioid analgesic prescriptions. Indian J Palliat Care. 2019;25(4):557-561. doi: 10.4103/IJPC.IJPC_93_19.
18. Government of India. Narcotic Drugs and Psychotropic Substances (Third Amendment) Rules, 2015. New Delhi: Department of Revenue; 2015 May 5 [cited 2025 Mar 10]. Available from: https://goaf.gov.in/uploads/pdf/NDPS_rules_third_amendement.pdf
19. Tandon T. Drug policy in India. IDPC Briefing Paper. February 2015 [Internet]. Available from: https://www.allianceindia.org/wp-content/uploads/2015/02/IDPC-India-briefing-paper.pdf [Accessed 9 Mar 2025].
20. Pettus K, Radbruch L. Parallel opioid crises: brakes on sustainable development? Palliat Care Soc Pract. 2023 May 26;17:26323524231176574. doi: 10.1177/26323524231176574. PMID: 37255620; PMCID: PMC10226329
21. Cleary J, Radbruch L, Torode J, Cherny NI. Formulary availability and regulatory barriers to accessibility of opioids for cancer pain in Asia: a report from the Global Opioid Policy Initiative (GOPI). Ann Oncol. 2013 Dec;24 Suppl 11:xi24-32. doi: 10.1093/annonc/mdt500. PMID: 24285226
22. Thongkhamcharoen R, Phungrassami T, Atthakul N. Regulation of opioid drugs in thai government hospitals: Thailand national survey 2012. Indian J Palliat Care. 2014 Jan;20(1):6-11. doi: 10.4103/0973-1075.125548. PMID: 24600176; PMCID: PMC3931245.

# SPECIAL SECTION

# Special Section
## 2024 Global AIDS Update - Lessons for India

*Yesh Chandra Singh*

The Joint United Nations Programme on HIV/AIDS (UNAIDS) leads global efforts to end the AIDS epidemic by 2030 through advocacy, policy guidance, and strategic partnerships. UNAIDS releases its annual report, 'The Global AIDS Report' on the eve of the World AIDS Day commemoration on 1 December every year. The Global AIDS Report 2024 (hereinafter referred to as the '2024 Report') highlights progress, challenges, and the urgent need for fair access to HIV prevention and treatment (1). The 2024 report summarizes progress made against the 2025 targets developed with the Global AIDS Strategy 2021-26 (2). While the 2024 Report provides information on progress and challenges for each 2025 target, the present write-up focuses on people who inject drugs (PWID), a group that could be of particular interest to members of APSI. This group is at high risk due to unsafe injecting practices, limited access to harm reduction services, and legal barriers that prevent effective interventions.

### *Global status of the HIV epidemic*

The 2024 Report shows that compared to the previous years, the achievements on all the HIV indicators are much better. However, there is a substantial gap when the figures are compared with the 2025 targets. The global status of the HIV epidemic shows that 1.3 million new infections were reported in 2022, which is almost four-fold higher than the 2025 target of restricting the number of new HIV infections to under 370,000. Similarly, against the target of 50,000 new infections among adolescent girls and young women, 210,000 new infections were reported in this group. The coverage of combination HIV prevention ranged from 39 – 50% against the target of 95% coverage. Only 3.5 million (against the 2025 target of 21.2 million) people who were at a substantial risk of HIV received pre-exposure prophylaxis. About 67% (against the 2025 target of 90%) of adolescent boys and men had access to voluntary medical male circumcision. The HIV treatment coverage figures were much better – 30.7 million (against the 2025 target of 34 million) are on HIV treatment. The coverage against the '95-95-95' targets is also much better.

### *People Who Inject Drugs (PWID)*

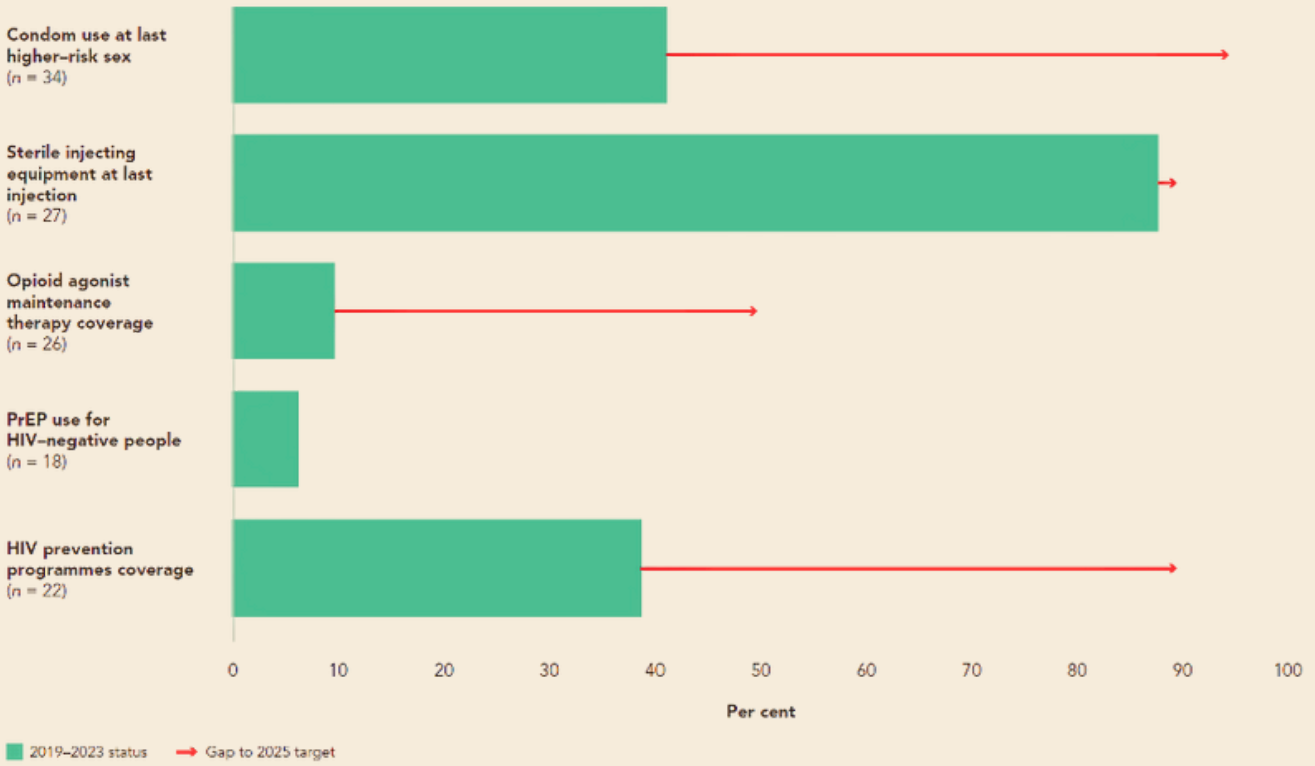
The 2024 Report informs that PWID are 14 times more likely to acquire HIV compared to the general adult population globally. The estimated global median HIV prevalence among PWID was 7%, which is 10 times higher than the general adult population (aged 15–49 years). The proportion of new HIV infections among PWID is increasing, making up 8% of all new infections in 2022, compared to 7% in 2010. Furthermore, the 2024 Report informs us that HIV prevalence is particularly high among women who inject drugs (15%) compared to men (9%). Women who inject drugs are also at a higher risk of HIV exposure due to unsafe injecting, sex work, and vulnerability to police abuse, intimate partner violence, and sexual assault.

Only 39% of PWID have access to effective prevention options such as condom use, sterile

injecting equipment, opioid agonist therapy, and pre-exposure prophylaxis (PrEP). This is far below the 2025 target of 95% access. In 22 reporting countries, only 39% of PWID received at least two prevention services in the past three months. In 34 countries, just 41% of PWID used a condom the last time they had sex. PrEP use also remains very low among PWID.

Only three countries (Bangladesh, China, and Myanmar) have met the 2025 target of distributing at least 200 needles and syringes per PWID per year. Out of 27 reporting countries, 12 countries, including India, have reported that at least 90% of PWID use sterile injecting equipment. However, access to opioid agonist therapy is very low—none of the eight WHO regions have reached the 50% coverage target for people with opioid dependence. Only Malaysia and Seychelles have achieved at least 50% coverage, while the median global coverage remains at just 10%.

Figure: Gap to achieve combination prevention targets among people who inject drugs, by intervention, global, 2019–2023




### *Prisons*

The 2024 Report acknowledges that the populations at the highest risk of acquiring HIV are also at increased risk of incarceration due to the criminalization of their high-risk behaviours. HIV prevalence is high in prisons due to sexual violence and a lack of prevention services. By 2023, only 9 countries provided sterile needles and syringes in prisons, and 59 countries offered opioid agonist therapy in at least one prison. Most countries providing harm reduction services in prisons were from Western Europe and North America.

### *Stigma and Discrimination*

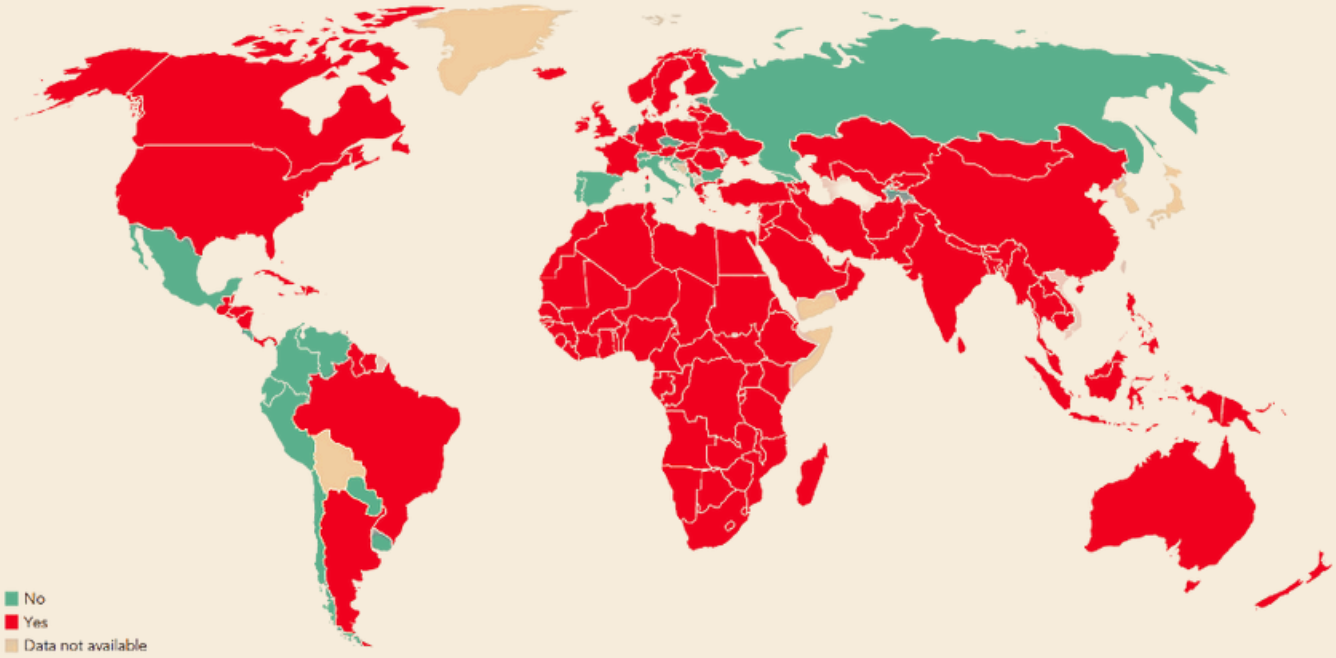
Stigma and discrimination remain serious challenges. 28% of PWID reported experiencing physical or sexual violence in the past year, and 40% faced stigma and discrimination. These

rates are far above the 2025 targets of less than 10%. In 15 of 19 countries, more than 10% of PWID avoided healthcare services due to stigma and discrimination. In India, this was as high as 30%. Among PWID living with HIV, 19% faced discrimination when seeking HIV-related services, and 28% experienced stigma in general healthcare settings. 26% of people living with HIV reported human rights abuses and sought legal action.

### *Criminalization*

Drug laws remain harsh worldwide. 152 out of 181 countries criminalize the possession of small amounts of drugs, and 34 countries still have the death penalty for some drug offences. Criminalization increases the risk of HIV and hepatitis C and worsens health and social outcomes.

Figure: Countries with laws that criminalize the possession of small amounts of drugs




In 2023, the United Nations Human Rights Council officially supported harm reduction and decriminalization for people who use drugs. However, most countries have not yet changed their drug laws or policies to follow a public health-based approach.

### *Community-Led Organizations and PWID*

The UNAIDS report highlights gaps in harm reduction services provided by community-led organizations. While one-third of countries allow needle-syringe programs, only one-tenth allow naloxone distribution. One-third of countries legally allow registration of organizations led by PWID, and many receive international donor funding. However, many nations lack laws enabling domestic funding for these organizations. Despite this, some organizations manage to secure funding through broader legal frameworks. In most countries, PWID are not consistently included in policy development for health services. While people living with HIV are often consulted, PWID and other marginalized groups are left out. Regarding HIV

prevention, the public sector mainly provides opioid agonist therapy, while NGOs and community organizations supply needles, syringes, and other harm reduction services.

### *Funding for the HIV Response*

The estimated global funding needed for prevention by 2025 is US$ 1.4 billion, with PrEP and opioid agonist therapy making up two-thirds of this amount. However, international funding has fallen by 60% - from US$ 1.4 billion in 2011 to US$ 591 million in 2023. At the same time, domestic funding has increased by 47%. The United States Government contributed 58% of all international HIV funding, while the Global Fund accounted for 28%. For PWID-specific programs, 70% of resources come from international sources, while 30% are from domestic funds.

### *Lessons for India*

India has made progress in reducing HIV transmission among people who inject drugs (PWID), achieving the 2025 target of at least 90% use of sterile equipment at the last injection. The country currently distributes around 189 needles and 140 syringes per PWID, as reported in the 6th edition of Sankalak, the annual report of the National AIDS Control Organisation, Ministry of Health and Family Welfare, Government of India (3). However, opioid substitution therapy (OST) coverage remains low at only 19%, far below the 50% target. Expanding harm reduction services such as needle and syringe programs (NSPs), opioid agonist therapy (OAT), and pre-exposure prophylaxis (PrEP) is essential to further reduce HIV transmission.

Policymakers must adopt a health-focused approach by decriminalizing drug use and prioritizing rehabilitation over punitive measures. Women who inject drugs face additional risks due to stigma, violence, and limited access to gender-sensitive interventions, highlighting the need for targeted support. With international funding for HIV programs declining, India must increase domestic financial support and empower community-led organizations to reduce reliance on external resources. Strengthening peer-led interventions and community-based services can enhance adherence to harm reduction programs while helping to combat the stigma associated with drug use and HIV.

### *Conclusion*

The UNAIDS Global AIDS Report 2024 reminds us of the urgent need to tackle the HIV epidemic among PWID. Scaling up harm reduction, integrating addiction treatment with HIV services, fighting stigma and discrimination, and increasing funding for HIV prevention can help India and the world move closer to the 2030 goal of ending AIDS.

**References**

1. UNAIDS. The Urgency of Now: AIDS at a Crossroads. Geneva: Joint United Nations Programme on HIV/AIDS; 2024.
2. UNAIDS. Global AIDS Strategy 2021-2026: End Inequalities. End AIDS. Geneva: Joint United Nations Programme on HIV/AIDS (UNAIDS); 2021.
3. National AIDS Control Organisation. Sankalak: Status of National AIDS & STD Response. 6th ed. New Delhi: NACO, Ministry of Health and Family Welfare, Government of India; 2024.

# SECTION UPDATES

# Highs and Lows: The Impact of Short- and Long-Term Cannabis Use on Brain Function

*Ankita Chattopadhyay, Sayani Bisoi*

Cannabis remains the most widely used drug worldwide with an estimated 228 million users according to the most recent World Drug report, 2024. Some countries have legalised cannabis and have made it available for medical as well as recreational use. There are reports of availability of cannabis products that have increased potency. Simultaneously, the users of cannabis products have reduced perception of harmful effects of cannabis (1). Against this background, it is necessary to properly investigate the harms of cannabis on different systems of the human body to be included in public health policy making(2). Already there is an increasing interest to investigate the effects of cannabis on neurocognitive functioning. Neuroimaging studies have demonstrated that the use of cannabis in adolescence is associated with thinning of the prefrontal cortex, the spatial pattern of which is related to cannabinoid (CB1) receptor density. Current literature including meta-analysis, indicate decrease in neural activation related to episodic verbal memory, executive function, emotion reward processing and social processing with cannabis use. However, the persistence of these effects after abstinence is unclear or have been demonstrated in studies with smaller sample size (of even less than 30 sample). Thus, though current research hints at the impact of cannabis on cognitive abilities of the brain, the extent and duration of such impact remains unclear.

In a recent study, Gowin and colleagues have tried to examine the effect of both recent and long-term use of cannabis on a range of brain functions particularly working memory and language tasks using data from the Human Connectome Project (3). They also employed fMRI to directly observe the brain functioning in cannabis users versus cannabis non-users. This cross-sectional study analysed 1005 young adults between 22 to 37 years old whose data of their brain fMRI were also available. Participants were assessed for recent cannabis use by testing their urine samples using a multidrug screen test. Semi-structured assessment for the Genetics of Alcoholism (SSAGA) was used for lifetime use, and participants were categorized into non-users, moderate users and heavy users. Episodic verbal memory and crystallized intelligence were evaluated using Form A of the Penn Word Memory Test and National Institutes of Health Toolbox Picture Vocabulary Test respectively. Brain imaging was performed on seven tasks examining neural response related to emotion, reward, motor function, working memory, language, relational or logical reasoning, and theory of mind or social information processing. Primary contrast (comparison of brain activity between task condition and control condition) was used for each cognitive task. Only the brain regions showing increased activity during task performance (positively activated) were analyzed. Positive activation was taken at activation levels with a p-value<0.001 (two-tailed) and having a strong effect size (Cohen d>1.00). The researchers then used the mean activation level across all regions for each task (working memory task and motor function task). Preprocessed brain images were acquired using a 3T

Connectome Skyra scanner. Group differences were assessed using ANOVA and post-hoc-t-test and adjusted for covariates.

The results show that heavy lifetime cannabis use was associated with reduced brain activation during the working memory task. This finding was valid even after excluding recent users suggesting persistence of effects of long-term use. The reduced brain activation was associated with cognitive function indicators like verbal episodic memory performance, intelligence, and education level. The reduction was more pronounced in regions of higher CB1 receptor density including dorsolateral prefrontal cortex, dorsomedial prefrontal cortex, and anterior insula. The authors have interpreted that the neural adaptation can be attributed to heavy cannabis use. Though recent cannabis use was associated with poorer cognitive performance and lower brain activation in the working memory and motor tasks, this association did not persist after false discovery rate correction, hinting towards the need for further research on this aspect.

Another interesting finding of this study is the absence of any association of a diagnosis of cannabis dependence with brain function abnormality. The authors explain that this may be due to less relevance of social and legal consequences of cannabis use in measuring the effect of cannabis on neurocognitive functioning, which otherwise indicate the possibility of cannabis dependence. Rather, markers like recent or cumulative exposure to pharmacologically active components of cannabis can act as better markers of cannabis use in this scenario, as suggested by the authors.

Though this uncontrolled cross-sectional study has put forward the effects of cannabis use on the cognitive functioning, the causality of this association could not be determined because of the study design. Other limitations include inclusion of only young adults from the community, who may not be representative of the entire cannabis using population. The authors also point out the lack of data on THC dose and potency or THC metabolite concentration, other constituents of cannabis, and route of cannabis administration along with the inability to investigate the brain activation during the acute intoxication phase. Overall, this study involving a large sample of young adults of both genders has demonstrated some interesting findings and stimulated discussion about the effect of both acute and chronic use of cannabis on the functioning of brain.

**References**

1. Gorelick DA. Cannabis-related disorders and toxic effects. N Engl J Med. 2023;389(24):2267-2275. doi:10.1056/NEJMra2212152
2. Jeffers AM, Glantz S, Byers AL, Keyhani S. Association of cannabis use with cardiovascular outcomes among US adults.J Am Heart Assoc. 2024;13(5):e030178. doi:10.1161/JAHA.123.030178
3. Gowin JL, Ellingson JM, Karoly HC, Manza P, Ross JM, Sloan ME, Tanabe JL, Volkow ND. Brain Function Outcomes of Recent and Lifetime Cannabis Use. JAMA Network Open. 2025 Jan 2;8(1):e2457069-.doi:10.1001/jamanetworkopen.2024.57069

# Alcohol and Tobacco

## Tobacco end game – Is tobacco-free generation policy relevant for India?

*Darshan Shadakshari*

The World Health Organization Framework Convention on Tobacco Control (FCTC) was developed in 2003 to address the health, social, and economic consequences of tobacco globally. In the last two decades, many signatories have taken steps to reduce tobacco supply and demand. Some of these countries are now targeting elimination rather than reduction with a tobacco end-game goal. The tobacco endgame is defined as a reduction in the prevalence of any form of tobacco to less than 5% or a reduction of smoking prevalence below 15% by the end of a set year. Countries worldwide have taken a multipronged approach to achieve this target, with the majority aiming for 2030 and beyond. Although most countries trying to implement this are from high-income groups, a few lower and middle-income countries have also taken the initiative (1).

Recently, a scoping review analysed the progress of countries worldwide in their efforts towards achieving the tobacco endgame (1). Countries were categorized into four clusters: endgame ready, almost endgame ready, more action needed, and early epidemic stage, based on the smoking tobacco definition of endgame (less than 15% prevalence) and FCTC implementation scores derived from Parties' reports on ten FCTC articles. Twenty-eight endgame-ready countries were identified with advanced tobacco policies and low smoking prevalence, with only five being part of tobacco endgame movements. The other twenty-three were from low-income or middle-income countries in Africa, Latin America, or Asia. Notably, although India is not part of the endgame movement, it was classified under the endgame category. The review highlighted the importance of addressing legal challenges from tobacco companies, including non-combustible tobacco products in targets, and focusing on public support and political will to achieve a successful tobacco endgame. It suggested the need for rigorous measures to protect policymaking from tobacco industry interference and stepwise approaches using novel measures.

Among the strategies used, one which has garnered interest in recent times is the Tobacco-Free Generation (TFG) strategy. *It is a birth date-based phased-out approach enforced by banning tobacco sales to individuals born after a stipulated date*(2). TFG aspires to protect future generations, leaving older nicotine-dependent cohorts unaffected. The principle behind this approach is to prevent the initiation of tobacco use among adolescents rather than delay it and to ensure access to tobacco for the dependent cohort to prevent surges in illicit trade. Various territories and countries have attempted to implement TFG. Balanga City in the Philippines was the first to actualize TFG for individuals born after 2009, observing a significant decline in youth smoking from 32% in 2014 to 1.63% in 2015. New Zealand later attempted to implement the law in 2022, which was repealed by the new government in 2024. Similarly, the UK introduced a bill in April 2024 focusing on banning the sale of combustible tobacco products. In contrast, Brookline,

Massachusetts, plans to phase out any nicotine product (including vapes) for anyone born after January 1, 2000, to prevent adolescent initiation. Other countries considering this approach include the European Union, Singapore, Malaysia, Australia, and Norway (2,3). Berrick, 2025, suggests a few prerequisites to implement TGF, including targeting areas with relatively high current age limits for tobacco product sales, lower tobacco advertising and sponsorships, existence of retail licensing, as well as good public support evidenced by surveys and strong political will (2).

India has been actively working towards a tobacco endgame, but there isn't a single, unified target date for completely phasing out tobacco use. Instead, it has implemented various strategies and policies to reduce tobacco consumption and protect vulnerable populations, especially the youth. The latest consensus statement from a national consultation including 40 experts across various sectors doesn't allude to the Tobacco-free generation policy. The consensus statement highlights short-term goals like an anti-tobacco curriculum, expanding cessation services, creating a national task force, training, monitoring, and strengthening the Tobacco Control Act. Intermediate priorities include advancing tobacco taxation, creating Tobacco-Free environments, implementing FCTC Article 5.3 (preventing tobacco industry interference in public health policies), enhancing National Tobacco Testing Laboratories, and licensing vendors. Long-term priorities involve developing a comprehensive strategy and maintaining resources for sustainable tobacco control to achieve a tobacco-free India (4).

A 2024 review by Indian public health experts concluded that the TFG concept aligns well with existing tobacco control measures in India such as COTPA, the NTCP, tobacco-free educational institution policies, and novel policies like vendor licensing (5). Both governmental and non-governmental agencies are making efforts to support TFG at the state level in states like Karnataka, Tamil Nadu, Rajasthan and Haryana. Prerequisites like retail licensing are implemented in a few regions, such as the state of Himachal Pradesh and a few districts of West Bengal, Rajasthan, and Karnataka.

Although these steps are promising, many challenges could be anticipated, including the vast unregulated markets of tobacco, socio-cultural acceptance of tobacco in various regions, possible resistance from the tobacco industry, concerns over the possible economic impact of the strategy as well as weak and inconsistent enforcement mechanisms and monitoring of TFG policies. Moreover, there are concerns about the feasibility and compliance of a TFG law, given the low compliance with existing tobacco control provisions. These challenges can be carefully addressed by strengthening the implementation of existing tobacco control laws, enhancing public awareness campaigns to shift social norms, and encouraging collaboration among multiple stakeholders. Considering the federal structure of India, implementing the strategy in smaller geographical areas with gradual progress towards universal implementation based on evidence-based practices would be a practical approach. These areas can serve as pilot sites to

to test the feasibility and effectiveness of the Tobacco-Free Generation policy, allowing for adjustments and improvements before scaling up to a national level.

**References**


1. Tamil Selvan S, Yeo XX, van der Eijk Y. Which countries are ready for a tobacco endgame? A scoping review and cluster analysis. Lancet Glob Health. 2024 Jun;12(6):e1049–58.
2. Berrick J. Guidance for Introducing the Tobacco-Free Generation Policy. Int J Health Plann Manage. 2025 Jan 4;
3. Silbaugh K, Del Valle L, Robertson C. Toward a Tobacco-free Generation — A Birth Date–Based Phaseout Approach. New England Journal of Medicine. 2024 May 30;390(20):1837–9.
4. Goel S, Bhatt G, Walia D, Singh RJ, Pandey A. India's consensus statement tobacco control priorities: Review of current strategies and the way forward. Indian Journal of Tuberculosis. 2024 Dec;
5. Gupta R, Goel S, Bostic C, Bhatt G, Gurung D, Cyril A, et al. Tobacco-free generation: reflecting on progress globally and its potential feasibility in India. Tob Control. 2025 Jan 7;tc-2024-059064.

# Advancing Treatment for Stimulant Use Disorder: Exploring the Potential of Lisdexamfetamine

*Shinjini Choudhury*

As the global prevalence of stimulant misuse continues to rise, the search is on for effective evidence-based management strategies. Acknowledging the growing need for such interventions, UNODC launched the #ScaleUp initiative in March 2024 to strengthen the evidence base for scalable interventions for stimulant use disorders which would benefit different populations and regions in an equitable manner. The American Society of Addiction Medicine (ASAM) and the American Academy of Addiction Psychiatry (AAAP) also published the Clinical Practice Guideline on the Management of Stimulant Use Disorder in 2024, based on current evidence and clinical judgment to enhance the quality of treatment for patients with stimulant use disorder (1).

While non-pharmacological treatment, particularly contingency management, remains the treatment with most evidence, recommendations for pharmacological treatment options for stimulant use disorders are mostly of low certainty and are conditional recommendations (1). Therefore, the need for better quality of evidence for pharmacological treatment of stimulant use disorders cannot be overstated. Prescription psychostimulants have been a target group for treatment of stimulant use disorders. A meta-analysis of ten randomized controlled trials suggested that treatment with prescription stimulants (methylphenidate – 7 studies, dextroamphetamine – 3 studies) may reduce use and craving for Amphetamine Type Stimulants (ATS) (2). The effect size was limited, but there were indications that higher doses had more effect.

Lisdexamfetamine, a prodrug of dexamphetamine has certain characteristics which make it a promising drug from the perspective of an agonist like treatment approach. A slower onset and longer duration of action reduces the propensity for misusing the drug due to less chances of positive reinforcement (3). Studies have also shown that it doesn't have any differential subjective effect if injected (4). Previous studies suggest that the dose of lisdexamfetamine required for treatment of methamphetamine dependence is higher than that required for other indications such as attention deficit hyperactivity disorder (ADHD) (2).

A recently published study evaluated the efficacy and safety of lisdexamfetamine in reducing methamphetamine use in people with methamphetamine dependence (5). The phase-III study was conducted across six clinics in Adelaide, Melbourne, Sydney, and Newcastle in Australia, between 2018 and 2021. One-hundred and sixty-four adults (62% male, 38% female; mean age of 39 years) with methamphetamine dependence who reported using at least 14 out of the last 28 days were the study participants. The study employed a double-blind randomized placebo-controlled, fixed-dose, parallel design. The participants were randomised either to oral lisdexamfetamine or identical matched placebo in a 1:1 ratio. Lisdexamfetamine was given at a

dose of 250 mg daily for 12 weeks in addition to initial 1 week induction phase and a 2 week taper at the end. Both groups were also given structured, manual-guided, 4-session Cognitive Behaviour Therapy (CBT) for methamphetamine dependence, delivered as part of standard care by trained therapists under supervision.

The study found that the number of days of methamphetamine use among those receiving daily 250 mg lisdexamfetamine reduced when compared with placebo (difference = 8.8, 95% confidence interval (CI) = 2.7–15.0; P = 0.005) during the 12-week treatment period. However, this evidence weakened at the primary end point of past 28-day use at week 13 [adjusted difference in days of methamphetamine use = 2.2, 95% CI –0.5 to 5.0; (p 0.49)]. Nausea was the most common adverse events reported and 5% reported serious adverse events, but no unexpected safety concerns arose at this dose. The study also yielded favourable results in terms of self-reported treatment effectiveness and treatment satisfaction.

While this study had a number of limitations, such as low retention rates, interruptions by the COVID -19 pandemic, not accounting for comorbidities such as ADHD while determining the effect of treatment, the positive response noted during the treatment period would raise questions such as which parts of the treatment were effective and whether there are particular subsets of the population with methamphetamine dependence who would benefit more from this drug.

To conclude, there is a need for studies with robust study designs such as well powered Randomised Controlled Trials looking into the avenue of potential agonist-like treatment for stimulant use disorders. Existing evidence suggests the potential of higher dosages and longer acting, slower release formulations to have beneficial outcomes.

**References**


1. Clinical Guideline Committee (CGC) Members ; ASAM Team ; AAAP Team ; IRETA Team. The ASAM/AAAP Clinical Practice Guideline on the Management of Stimulant Use Disorder. J Addict Med. 2024;18(1S Suppl 1):1-56. doi:10.1097/ADM.0000000000001299
2. Sharafi H, Bakouni H, McAnulty C, et al. Prescription psychostimulants for the treatment of amphetamine-type stimulant use disorder: A systematic review and meta-analysis of randomized placebo-controlled trials. Addiction. 2024;119(2):211-224. doi:10.1111/add.16347
3. Ermer J, Homolka R, Martin P, et al. Lisdexamfetamine Dimesylate: linear dose-proportionality, low Intersubject and Intrasubject variability, and safety in an open-label single-dose pharmacokinetic study in healthy adult volunteers. J Clin Pharmacol. 2010; 50: 1001–1010.
4. Jasinski DR, Krishnan S. Human pharmacology of intravenous lisdexamfetamine dimesylate: abuse liability in adult stimulant abusers. J Psychopharmacol. 2009 Jun;23(4):410-8.
5. Ezard N, Clifford B, Siefried KJ, et al. Lisdexamfetamine in the treatment of methamphetamine dependence: A randomised, placebo-controlled trial. Addiction. Published online December 19, 2024. doi:10.1111/add.16730

# Special Populations

## Telemedicine Intervention: A Promising Breakthrough for Individuals with Injecting Drug Use and Co-Morbid HCV Infection

*Gaurav Kumar Singh*

Hepatitis C virus (HCV) disproportionately affects people who inject drugs (PWID). The World Health Organization (WHO) identifies PWID as a priority population and calls for increased utilisation of HCV treatment and harm reduction as key steps for HCV epidemic control in its plan to eliminate HCV by 2030. Studies, including meta-analysis, show that harm reduction interventions result in at least fourfold decrease in HCV transmission (1). Peers are the backbone in delivery of harm reduction interventions. A new modality of delivery of harm reduction interventions, Tele-HCV intervention, is a packaged intervention consisting of both low-barrier access to telemedicine for HCV intervention and peer-based harm reduction. The effect of telemedicine services with peer-based services on engagement in reducing drug related risky behaviours was tested in a recent pragmatic randomised controlled trial (RCT) and was presented in a recent paper (2, 3).

### *Analysis of findings of RCT*

This paper describes analysis of secondary outcomes from all the participants from Oregon HOPE Tele HCV randomised control trial. This study included population with HCV RNA levels > 15 IU/ml and self-reporting of injecting in the past 90 days. The participants were selected from 7 oregon counties and randomised in two groups: 1) peer-assisted telemedicine group (Tele HCV), and 2) peer-assisted usual care (Enhanced usual care arm EUC). Peers typically met clients at syringe exchanges or outreach events. HCV treatment was covered by participants' insurance, and providers prescribed 8- or 12-week regimens of direct-acting antivirals (DAA). In both groups, peers facilitated phlebotomy visits, with the TeleHCV arm offering virtual visits and the EUC arm connecting participants with local peers for care navigation. The primary outcome was sustained virologic response (SVR) 12 weeks after treatment or 32 weeks for those who did not start treatment. Participants were surveyed at baseline and follow-ups, with cash incentives provided for participation. Peers worked to minimize dropout throughout the study.

Participants were surveyed at baseline, SVR12, and SVR36, reporting how often they injected drugs in the past 30 days. Those who reported injection drug use were asked additional questions on using reused syringes and other injecting equipment in the previous 30 days. Changes in HCV risk behaviours over time were analysed using mixed-effects logistic regression. A staged modelling approach was used for each exposure (randomization group, treatment initiation, cure, and peer interaction frequency) and outcome (injection equipment sharing and drug use). Models with and without interactions between exposure and time were compared using a likelihood ratio test to determine if changes over time differed by exposure.
The 203 participants had an average age of 41.6 years (SD 11.2), with 62% being male and 88% White. The median number of substance-use days in the past 30 days was 30 (IQR 15-30), with

88% using methamphetamine and 62% using opioids, and 58% using both. 93.5% were HCV treatment-naïve at baseline. About half initiated HCV treatment (48%), and 39% were cured by SVR36. In the EUC group (n = 103), 13% initiated treatment and 16% were cured, while in the TeleHCV group (n = 100), 85% initiated treatment and 63% were cured. Response rates decreased over time, from 203 at baseline to 171 at SVR12 and 129 at SVR36. Compared to the EUC group, TeleHCV participants were less likely to report injection drug use at SVR12 (adjusted OR = 0.42, p 0.02) and at SVR36 (adjusted OR = 0.48, p 0.08). Additionally, more peer interactions were associated with reduced injection drug use at SVR12 (aOR for third quartile of peer contacts vs. first = 0.75, p = 0.04). At baseline, 34% of participants who injected drugs reported sharing injection equipment, which decreased to 8.7% at SVR12 and 9.2% at SVR36. Timepoint-specific comparisons showed that more frequent peer interactions were associated with less injection equipment sharing at SVR36 (aOR for third quartile of peer contacts vs. first = 0.08, p = 0.047) (4).

### *Clinical relevance and future directions*

This study suggests that peer-assisted telemedicine for HCV effectively reduces drug-related risk behaviours among rural people who use drugs (PWUD). While risky behaviours declined over time, there was no significant difference between those who initiated HCV treatment and those who did not. However, injection drug use significantly decreased in the TeleHCV group compared to the EUC group, with the benefit lasting up to 36 weeks post-treatment. More frequent peer interactions were linked to reductions in injection drug use and equipment sharing, highlighting the importance of peer-based services. Peer involvement likely explains the reductions in risky behaviours in both arms, even in the EUC group, which had low treatment initiation and cure rates. Limitations include potential type-I error, and the self-reported nature of risky behaviour data, which may lead to underreporting. The findings may not be fully generalizable outside rural U.S. settings with limited harm reduction services. Despite these limitations, the study contributes valuable insights into peer-assisted telemedicine interventions for harm reduction. Telemedicine can be used as tool to optimise the services which can reduce the prevalence of HCV as well as injecting drug use.

**References**

1. Platt L, Minozzi S, Reed J, Vickerman P, Hagan H, French C, et al. Needle syringe programmes and opioid substitution therapy for preventing hepatitis C transmission in people who inject drugs. Cochrane Database Syst Rev [Internet]. 2017 Sep 18 [cited 2024 Apr 18];2017(9). Available from: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD012021.pub2/full
2. Bouchard M, Hashimi S, Tsai K, Lampkin H, Jozaghi E. Back to the core: A network approach to bolster harm reduction among persons who inject drugs. Int J Drug Policy [Internet]. 2018 Jan 1 [cited 2025 Mar 17];51:95–104. Available from: https://pubmed.ncbi.nlm.nih.gov/29227844/
3. Seaman A, Leichtling G, Stack E, Gray M, Pope J, Larsen JE, et al. Harm Reduction and Adaptations Among PWUD in Rural Oregon During COVID-19. AIDS Behav [Internet]. 2021 May 1 [cited 2025 Mar 17];25(5):1331–9. Available from: https://pubmed.ncbi.nlm.nih.gov/33471243/
4. Spencer H, Gregoire D, Leichtling G, Herink M, Seaman A, Korthuis PT, et al. Harm Reduction in Peer-Assisted Telemedicine for Hepatitis C: Secondary Outcomes of a Randomized Controlled Trial. Viruses [Internet]. 2024 Sep 1 [cited 2025 Feb 25];16(9). Available from: https://pubmed.ncbi.nlm.nih.gov/39339931/

# CREATIVE SECTION

# Poem
## The Man Who Chased Oblivion

*Amisha Vashisht*

*It began with pain, dull and deep,*
*A burn in his gut, no rest, no sleep.*
*The pills they gave did little to mend,*
*Until **Tramadol** became his friend.*

*At first, relief—a fleeting grace,*
*A weight unshackled, a warm embrace.*
*Then euphoria, sweet and bright,*
*A golden hour trapped in night.*

*I listened, enthralled, as he spoke with ease,*
*Of how the high made the world freeze.*
*"Doctor, you don't know what it's like,"*
*"To have a pill turn dark to light."*

*His hands shook now, his frame grown weak,*
*A man once whole, now worn and bleak.*
*Once, he worked, he laughed, he played,*
*Now he counted the hours until he could fade.*

*The doses climbed, the days blurred past,*
*What started slow took hold too fast.*
*Nine tablets, then twelve, then more to chase,*
*A craving etched in time and space.*

*The shopkeeper knew but turned away,*
*Fear and profit in a silent ballet.*
*"You understand?" he asked, leaning near,*
*"That ride back home was the best all year."*

*His daughter once had owned his world,*
*He'd spin her, laugh, her hair unfurled.*
*Now, she called, but he stayed still,*
*Lost inside the hunger's will.*

*Then came the crash, withdrawal's wrath,*
*Sweat-drenched nights, a shattered path.*
*Aching bones and sleepless nights,*
*A body that shook, a mind that fights.*

*They locked him in, they took his stash,*
*He pleaded, wept, then burned to ash.*
*"One tablet, please, just let me be,"*
*"I'll quit tomorrow—set me free!"*

*The streets still called, the dealers grinned,*
*He found his fix and dove back in.*
*Until he lost it all—his name, his place,*
*A ghost still walking in empty space.*

*Two rehabs, a hundred pills,*
*A cycle spinning against his will.*
*And now he sat, eyes cast low,*
*Too tired to fight, too lost to go.*

*"Doctor, tell me, do you see?"*
*"I was never meant to break this free."*
*"I don't belong, I don't deserve,"*
*"Some men are made to bend and serve."*

*And I? I marveled, torn inside,*
*At the way his sorrow burned with pride.*
*A man, consumed, yet craving more,*
*Knocking at death's familiar door.*

*Some chase heaven, some chase pain,*
*Some just live to run again.*

*This poem is an excerpt from the book "**Echoes of the Mind**" by the same author Dr Amisha. The above poem portrays opioid addiction through the lens of a young psychiatrist, captivated by both its intoxicating pull and the wreckage it leaves behind. It highlights the spiral from pain relief to euphoria to destruction, showcasing both the addict's craving and their resignation to fate—a man who chased oblivion and found only emptiness.*

# Artwork
## Bidi Smoking

*Upendra Bhojani*

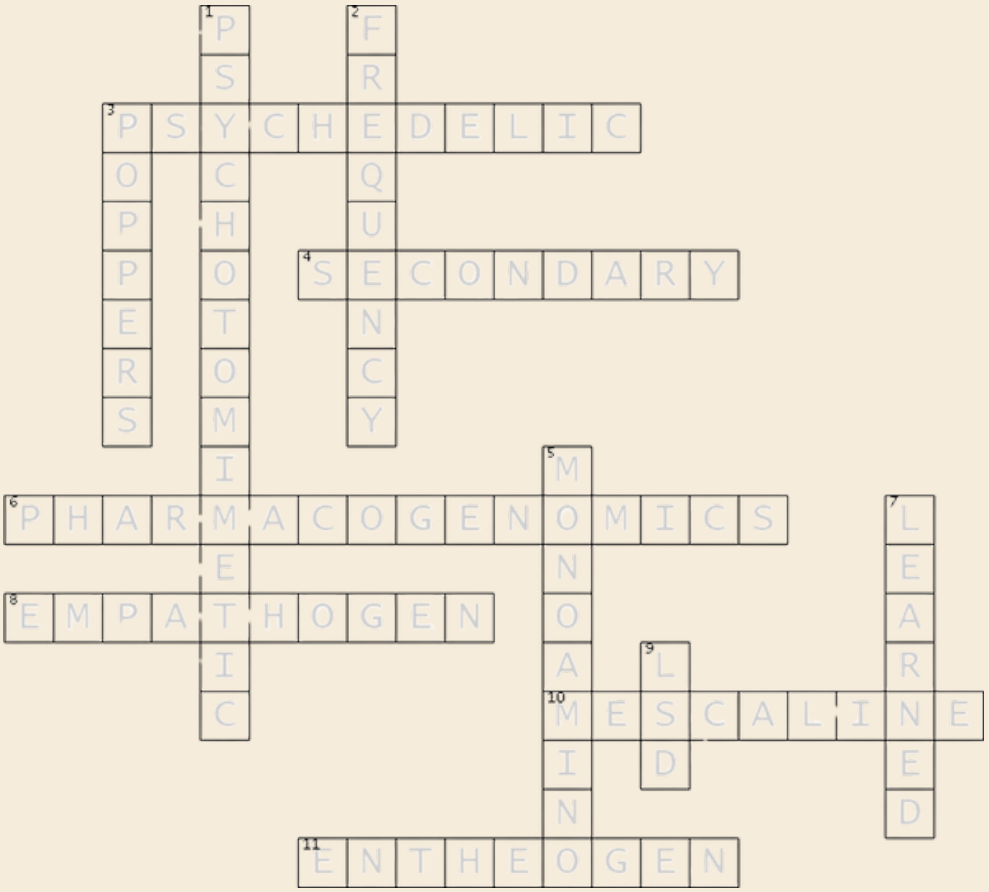

This sketch is of a woman pilgrim at the Gangasagar Mela, a second largest congregation of Hindu pilgrims after the famous Kumbh Mela. Lakhs of pilgrims congregate at the Gangasagar, confluence of the river Ganga (Hooghly) and the Bay of Bengal in West Bengal for an annual celebration. Pilgrims take a dip in Ganga seeking forgiveness for their misdeeds.

Bidis, made of uncured tobacco rolled into leaves tied with a thread at one end, dominate the smoking tobacco market in India. As per the Global Tobacco Adult Survey (2016-2017), 14% of men and 1.2% of women in India were current bidi smokers. Among women, bidis are the most prevalent form of smoking tobacco. Some believe bidi smoking to be less harmful than cigarette smoking, which is untrue. Bidi smoking is associated with similar health hazards as cigarette smoking including greater risk of cancers, heart diseases, lung diseases and several other illnesses. Bidi use is more concentrated among lower socioeconomic groups.

*This sketch is based on a photograph (CC license) by Biswarup Ganguly.*

# APSI Mindbender - 5 Solution

*Preethy Kathiresan*




## ACROSS

*3. - The term used to emphasize the subjective experience of expanded consciousness produced by hallucinogens*

*4. - Humans who smoke tobacco get_____ reinforcement from the irritant effectsof nicotine on the tissuesof the mouth and throat*

*6. - The study of how a person's genesaffect their response to drugs*

*8. - The term used to emphasize the subjective feeling of emotional openness caused by MDMA*

*10. - Psychoactive component in Peyote*

*11. - the term used for hallucinogens to emphasize the spiritual aspects of the experience when used*

## OWN

*1. - The term that is used to stress the similarity between hallucinogen intoxication and psychotic illness*

*2. - Benzodiazepines increase the_____ of GABA mediated chloride ion channel opening*

*3. - Street name for recreational drugs belonging to Alkyl Nitrate Group*

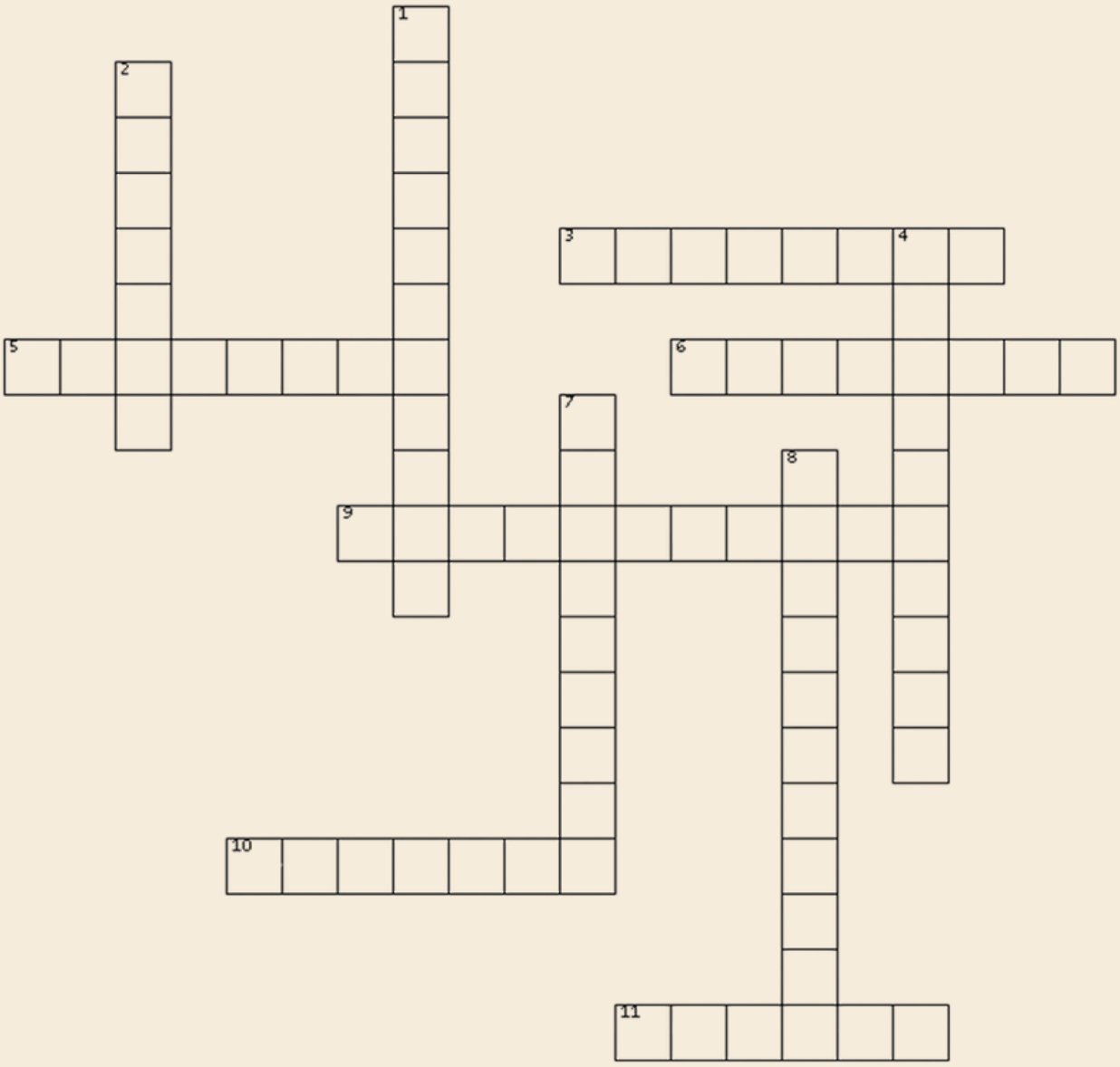
*5. - The perceived benefit of tobacco smoking by some depressed patients is due to inhibition of_____ oxidase enzyme*

*7. - Abilityfor workersat heightsto walkin astraight line despite motor impairmentfrom alcoholintoxication is called as _____ tolerance*

*9. - Psychoactive drugderived from Claviceps Purpurea*

# APSI Mindbender - 6

*Preethy Kathiresan*



## Down

1. '_____ Management' is a behavioural therapy that uses reward to reinforce treatment goals
2. Atrial Fibrillation commonly triggered by binge alcohol drinking is known as '_____' Heart
4. Medication used for long term management in both alcohol use disorder and opioid use disorder
7. Antidepressant used in smoking cessation therapy
8. A nicotine receptor partial agonist used for smoking cessation

# Across

3. The psychoactive substance, whose 'Use disorder' has been included under 'Conditions for Further study' in DSM 5

5. Practice of combining multiple substances or medications for enhanced effects

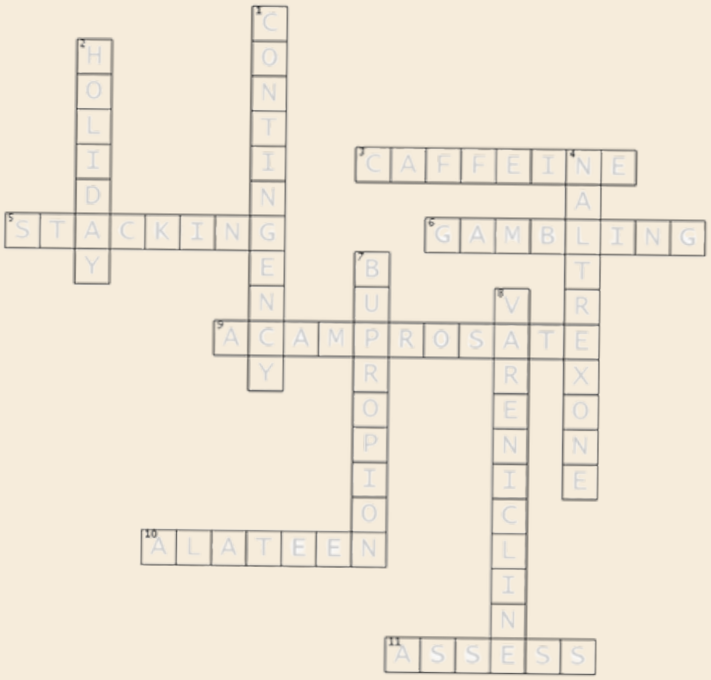
6. Which behavioural addiction is included under 'Substance-Related and Addictive Disorders' in DSM 5?

9. NMDA receptor modulator used as anti craving agent for alcohol dependence

10. Name of the support group that helps teenagers affected by a family member's alcohol use disorder

11. The five A's in BRIEF intervention for tobacco stands for Ask, Advise, _____, Assist and Arrange

## Solutions -Mindbender 6



## The Harm Reduction International Conference, 2025

**Organised by:** Harm Reduction International

**When:** April 27-30, 2025

**Where:** Bogotá, Colombia

**Link:** https://hr25.hri.global/hr25-virtual/

## Annual ISAM Global Congress 2025

**Organised by:** International Society of Addiction Medicine and Institute for Interdisciplinary Addiction and Drug Research (ISD)

**When:** May 26-28, 2025

**Where:** Hamburg, Germany

**Link:** https://www.isam-hamburg.com/

## 18th Annual ISSDP Conference, 2025

**Organised by:** The International Society for The Study of Drug Policy (ISSDP)

**When:** June 11 and 13, 2025

**Where:** Manchester Metropolitan University

**Link:** https://www.issdp.org/conferences-and-events/

## ADDICON, 2025

**Organised by:** Index Medical College Hospital & Research Center

**When:** November 6-8, 2025

**Where:** Indore, Madhya Pradesh, India

**Link:** https://addictionpsychiatry.in/


Click here

Share your personal experience / Narrative / Painting / Poem

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**Links to the Addiction Psychiatry Society of India below**