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Theme: Dual Challenge of Substance use & Pregnancy

THEMATIC ARTICLES

- IMPACT OF PREGNANCY ON SUBSTANCE USE DISORDER
- IMPACT OF SUBSTANCE USE DISORDER ON PREGNANCY

SPECIAL COVERAGE

INCB REPORT 2024

SCAN ME

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Editorial

Navigating the Dual Challenge: Substance Use and Pregnancy

Vinit Patel, Ravindra Rao

Substance Use Disorders (SUDs) in women remain among the most under-recognized and stigmatized conditions in addiction treatment landscape globally, including in India. The last National Survey on Substance Use in India reported the prevalence of substance use among women to be substantially lower than among men — with less than 2% reporting alcohol use and under 0.2% reporting opioid use (1). However, these figures may not reflect the true burden, but an underassessment, shaped by gendered stigma, social invisibility, and limited-service engagement.

The stigma is both structural and internalized. Women who use substances face harsher societal judgment, often perceived as violating moral or maternal norms. Those who attempt to seek care may be further scrutinized as "unfit mothers" or labelled as deviant, resulting in delayed or avoided treatment-seeking (2). This gendered double stigma is well-documented in global and Indian literature and contributes to missed opportunities for early intervention — particularly during sensitive life stages such as pregnancy (3-5). Substance use during pregnancy carries well-established risks across the reproductive and perinatal continuum — impacting fertility, antenatal course, obstetric outcomes, and neonatal health. Yet in India, pregnant women with SUDs are rarely identified, engaged, or treated by existing healthcare systems. It is this silent but rising burden, and the dual vulnerability it poses for both mother and child, that informed our decision to dedicate this issue to the theme: "***Dual Challenge of Substance Use & Pregnancy***."

India's current addiction treatment infrastructure remains vertically organized and poorly integrated with general health services. Women-centric addiction services are rare, and many centres lack even the most basic provisions — such as separate inpatient wards, childcare support, or staff trained in managing reproductive health concerns. Simultaneously, obstetric and neonatal care systems often operate in hospitals, with little routine screening for substance use, and limited referral pathways to addiction treatment specialists. Obstetricians, despite being the primary point of contact during pregnancy, frequently lack training in identification of SUD, while trained addiction psychiatrists remain scarce across most government health facilities.

The theme is covered through two thematic articles, one written by a specialist in addiction treatment, especially women, and a specialist in Obstetrics care, to understand these service and knowledge gaps.

In "***Understanding the impact of pregnancy on substance use in women***," Dr. Piyali Mandal and colleagues explore the extent of the problem, pharmacological uncertainties, and treatment

barriers faced by pregnant women with SUDs. The article highlights the absence of India-specific clinical protocols, especially for opioids, alcohol, and tobacco, and calls for urgent development of multidisciplinary, adapted models of care. Their analysis is rooted in Indian epidemiological trends; but also draw on WHO and ASAM guidelines for treatment of SUD during pregnancy.

In "***Impact of substance use disorders on pregnancy***," Dr. Nilanchali Singh and colleagues provide a comprehensive clinical review of substance-specific risks, from alcohol and nicotine to opioids, stimulants, and cannabis on the pregnancy and fetus. The article also addresses intrapartum and postpartum challenges — including withdrawal management, pain control, postpartum depression, relapse prevention, and contraceptive planning — offering a stage-wise framework to support perinatal addiction care.

Together, these articles reinforce the reality that the dual challenge of substance use and pregnancy lies not only in its clinical complexity but in the structural neglect of this subpopulation. Despite WHO recommendations for universal screening for SUD during antenatal visits (6), India lacks consistent integration of addiction services with reproductive and maternal healthcare. Pregnant women who use substances often remain invisible to both systems — their silence shaped by legal fears, moral panic, and fragmented care pathways.

This systemic duality extends beyond clinical management to service organization itself: who should own care responsibility — addiction psychiatry or obstetrics? In many high-income countries, integrated perinatal addiction clinics have emerged, where addiction psychiatrists, obstetricians, paediatricians, and mental health professionals jointly manage care. These models are supported by national clinical practice guidelines (e.g., ACOG, ASAM, WHO) and health system funding (7). In India, such protocols and collaborative pathways are almost entirely absent, and even where intent exists, access to addiction treatment medications such as opioid agonist therapy (OAT) remains a major barrier within government hospitals, particularly for pregnant women.

The issue also arrives at a time of renewed global attention to these themes. At the 68th Session of the Commission on Narcotic Drugs (CND) in Vienna in March 2025, India chaired the proceedings for the first time in over two decades — a milestone in its evolving leadership in global drug policy. The session, presided over by Ambassador Shambhu S. Kumaran, India's Permanent Representative to the UN in Vienna, saw participation from over 2,000 delegates representing more than 150 countries. The Indian delegation included two leading technical experts in addiction psychiatry (and members of the Executive Committee of the APSI). One of the experts, Prof. Anju Dhawan, has penned down her experience in the CND, upon our request. Complementing this international momentum, Dr. Richa and colleagues provide a summary of the 2024 International Narcotics Control Board (INCB) report, featured under our

Special Section, which further advocates for gender-sensitive, rights-based, and inclusive treatment frameworks.

Our Section Updates delve into diverse, future-facing themes at the intersection of addiction science, technology, and underserved populations. We begin with two articles exploring the expanding role of artificial intelligence (AI) in addiction care. One highlights the potential of AI in drug repurposing, particularly for conditions like opioid use disorder where innovation has been limited. The other focuses on Best Practice Alerts (BPAs) integrated into Electronic Health Records (EHRs), illustrating how data-driven prompts can improve clinical decision-making and timely interventions, especially in general hospital settings. Another article examines the emerging role of GLP-1 receptor agonists — originally developed for diabetes and obesity — in reducing craving and relapse in substance use disorders. Their ability to address coexisting metabolic and reproductive health issues makes them particularly relevant to women of reproductive age. Extending the discussion across the life course, the section includes a compelling piece on geriatric substance use, based on SAGE Wave-3 data. While the prevalence of SUD appears lower in older adults, the absolute burden, diagnostic complexity, and neglect in care systems remain significant. The article advocates for routine integration of substance use screening into geriatric care, especially as India's population continues to age.

Finally, this issue's creative contribution, titled "***A Bird's-Eye View: Reframing Care for Women Who Use Substances***," offers a powerful visual metaphor. It challenges us to move beyond moral and medical reductionism and adopt a biopsychosocial, life-course lens. In the context of this issue's theme, it calls on us to view substance use in pregnancy not as a narrow clinical episode but as part of a broader continuum — influenced by social determinants, trauma, missed opportunities for prevention, and postnatal support gaps.

From this vantage point, the painting — like the issue itself — urges us to reimagine care systems, break down silos, and build a continuum of support that spans reproductive, neonatal and addiction services. It reminds us that women deserve to be seen not just as patients, but as persons, parents, and people — worthy of dignity and care.

We hope this issue fosters deeper understanding, meaningful advocacy, and — above all — system-level change. Because while knowledge alone may not heal, it can open the door to earlier diagnosis, integrated care, and dignity in treatment. We also urge you to provide your valuable feedback to improve the newsletter and to contribute to the creative section.

Happy reading!

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THEMATIC ARTICLES

Understanding the Impact of Pregnancy on Substance Use in Women

Piyali Mandal, Rajkumar Sanahan

The gender gap in substance use is narrowing worldwide. The World Drug Report (2024) observed that the pharmaceutical opioids were the most common illicit drugs used (43%), followed by ecstasy (28%), amphetamines (25%), cannabis and cocaine (24% each) and opiates (16%). Around one in 18 women with drug use disorders are in treatment (1).

Limited number of studies on Indian women have primarily focused on the pattern of alcohol and tobacco use. The prevalence of tobacco use ranged from 3-13%, while the prevalence of current use of alcohol ranged between 0.5-6% across various studies. The most recent national survey (2019) reported much less prevalence of all substances among women, with regional variations such as higher prevalence of alcohol use among women in central part of India and higher injecting drug use in northeastern part of India (2). Studies on the treatment-seeking population have highlighted higher prevalence of pharmaceutical opioids use, more complications, association with intimate partner violence, poor treatment seeking and multiple barriers to seek treatment (3).

MAGNITUDE OF SUBSTANCE USE PROBLEM IN PREGNANCY

Literature in this regard has been available only from certain parts of the world. As per the 2019 National Survey of Drug Use and Health data in the United States (comprehensive household survey), the last month use of illicit substances, alcohol and tobacco among pregnant women were 5.8%, 9.5% and 9.6% respectively. Literature also reports lower rates of substance use during pregnancy. Limited literature from other parts of the world suggests regional variation in the pattern. In India, despite various tobacco control measures taken by the government, nearly 5-8 per cent of pregnant women consume tobacco with 85% smokeless tobacco users. The pooled prevalence of tobacco uses among pregnant women in India, based on analysis of 7 studies with 69,552 participants, was 8.4%. For alcohol use, analysis of 3 studies involving 755 participants revealed a pooled prevalence of 20.9%. Furthermore, specific demographic subgroups with a higher likelihood of tobacco use were identified, including pregnant women aged ≥ 25 years, those with limited awareness regarding tobacco's adverse health effects, and those whose close contacts engaged in tobacco consumption. There is dearth of Indian literature on opioid use among women in pregnancy and there is no published literature on the treatment of opioid dependence during pregnancy (4, 5).

IMPACT OF PREGNANCY & POST-PARTUM ON SUBSTANCE USE DISORDERS

Pregnancy often serves as a catalyst for women to decrease or stop substance use, driven by concerns for fetal health and maternal well-being. However, due to fear of stigma and legal repercussions, treatment seeking for SUD and ante-natal care could be poor. Physiological changes occurring during pregnancy may alter metabolism of the psychoactive substance, in

turn, leading to altered impact on severity. The presence of psychiatric comorbidities such as depression and anxiety is known to be significantly higher in pregnant women hospitalised with substance use disorders (SUDs) compared to those without. Pregnancy-related stressors such as financial insecurity and intimate partner violence can exacerbate substance use or lead to relapse. The postpartum period also presents a high risk for relapse, treatment discontinuation, overdose and overdose deaths. Breastfeeding reduces the severity of neonatal-opioid withdrawal syndrome and decreases the need for pharmacologic treatment (6, 7).

CHALLENGES IN TREATING SUBSTANCE USE DISORDERS IN PREGNANCY

Challenges in treating SUD in pregnancy exist at various levels including individual, societal and systemic levels (4, 8):

- **Individual Barriers-** Psychological factors, such as high rates of trauma and severe mental illness, among women with SUDs can influence engagement with care. Nevertheless, SUD treatment services do not universally address trauma or have mental health services.
- **Social Barriers-** Harm reduction and other low-barrier treatment programs can become male-dominated and therefore limit women's access to services. Women who use drugs are also more likely than their male counterparts to enter dependent and/or violent relationships dominated by their partner, hindering their economic freedom and autonomy to seek treatment. Social stigma itself acts as a major hindrance too.
- **Systemic Barriers-** The criminalization of substance use and sex work, and stigma surrounding these while pregnant and parenting disproportionately impact women. Women face increased police violence while using illegal drugs and doing sex work.

In many countries, punitive legal policies and child welfare approaches to substance use while pregnant and parenting reinforce stigma, discourage health care access, and perpetuate substance use among women in many countries. In India, there is no legal provision for pregnant and lactating women under NDPS act.

MANAGEMENT OF SUBSTANCE USE DISORDER IN PREGNANCY

Substance use among pregnant women may remain unaddressed because of non-report, limited use of screening question/ questionnaire by health professionals. The treatment is divided into psychosocial and pharmacological treatment. However, the pharmacological options become restricted considering the unique physiological status of the mother-fetus/ infant dyad. Close collaboration with Obstetrician and Paediatrician is warranted while treating a substance-using mother in the perinatal period. In view of the poor quality of evidence related to the safety of various pharmacological agents during pregnancy, the use of

these agents is often left to the clinical discretion of the treating psychiatrist and may vary on case-to-case basis (6, 7).

- **Alcohol Use Disorder:** Management of alcohol withdrawal is often a challenging scenario. The data on the use of benzodiazepines for alcohol withdrawal in pregnancy are limited and conflicting. The 2019 World Federation of Societies of Biological Psychiatry (WFSBP) and International Association for Women's Mental Health guidelines do not currently recommend any pharmacologic therapy for AUD maintenance therapy. The safety and efficacy of medications used for alcohol dependence have not been established in pregnancy. However, these guidelines and the WHO recommend benzodiazepines in cases of alcohol withdrawal to prevent possible negative effects on the parent and fetus, potentially in an inpatient facility to monitor the parent and fetus. The role of psychosocial treatment extends to those using substances occasionally or in harmful pattern and as an adjunct to the long-term pharmacological treatment. However, psychosocial treatment could be the only long-term treatment in alcohol use disorders during pregnancy due to poor evidence for safety of the pharmacological agents (9).

- **Opioid Use Disorder:** Evidence suggests agonist maintenance treatment with either buprenorphine or methadone for opioid dependence during pregnancy and lactation. Considering higher rates of neonatal opioid withdrawal syndrome with continued illicit opioid use, it is better to start opioid agonist treatment as early in the pregnancy as possible. No standardized approach to dose increases with either methadone or buprenorphine is recommended, and dose adjustments need to be tailored to each patient. Clinicians should be aware that plasma levels of methadone progressively decrease, and clearance increases with advancing gestational age. Hence. increased and/or split doses may be needed as pregnancy progresses. After childbirth, doses may need to be adjusted (typically reduced) based on changes in weight and metabolism. The need to adjust dosing of buprenorphine during pregnancy is less common compared with methadone. Either buprenorphine or buprenorphine-naloxone could be used. Naltrexone may not be a preferred choice due to fear of relapse.

- **Nicotine Use Disorder:** The safety and efficacy of pharmacological interventions for nicotine smoking have not yet been established. A recent American College of Obstetricians and Gynecologists (ACOG) committee opinion advises that NRT be closely supervised and only initiated after a discussion about the known risks of continued smoking versus nicotine replacement.

- **Other substances:** For substances like cannabis, cocaine etc., non-pharmacological therapies remain the mainstay for which often expertise is often unavailable, particularly in resource-constraint settings.

CONCLUSIONS

Although substance use is less common in pregnant women relative to those who are not pregnant, the harmful effects of substances on both maternal health and fetal development is a significant public health concern. Opioid agonist treatment (OAT) is recommended for opioid use disorder in pregnancy. OAT leads to reduced risk of overdose, lower risk of infections (HIV, Hep C), improved prenatal care, reduced miscarriage and stillbirth risk, lower rates of preterm birth, improved fetal growth, reduced severity of Neonatal Abstinence Syndrome (NAS), better birth weight, shorter Neonatal Intensive Care Unit (NICU)stay, enhanced mother-infant bonding. However, much work is needed particularly with respect to improving treatments for alcohol and marijuana use in pregnant women. Multidisciplinary care models that combine prenatal care, addiction treatment, and mental health services are often the most effective approach. However, such models are not universally available, and their success depends on coordination between multiple healthcare providers.

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Impact of Substance Use Disorders on Pregnancy

Ridhima Rathod, Saloni Kamboj, Nilanchali Singh

Substance use disorders (SUDs) are a major, yet preventable, contributor to the global burden of disease. Biological, psychosocial, and cultural influences contribute to sex and gender differences in the prevalence, patterns, and experiences of substance use. Although men currently have higher rates of SUDs, this gender gap is narrowing, with an increasing number of women using nicotine, alcohol, and illicit drugs. The reproductive years, particularly adolescence and early adulthood, represent the highest risk period for the development of SUDs in women.

Women with substance use disorders are significantly less likely to access adequate antenatal care compared to those not using substances (1). In addition to reduced engagement with prenatal care, pregnant women using substances often contend with co-occurring psychiatric and physical health issues, as well as unstable and unsupportive social environments.
The World Health Organization (WHO) Guidelines for the Identification and Management of Substance Use and Substance Use Disorders in Pregnancy recommend that healthcare providers ask about substance use as early as possible in pregnancy and continue to inquire at every antenatal visit. This approach ensures timely identification, supports early intervention, and helps guide appropriate care for both the mother and fetus throughout the pregnancy.

ALCOHOL

Alcohol is a well-established teratogen, and fetal alcohol spectrum disorders (FASD) represent the leading known cause of preventable birth defects and developmental disabilities worldwide. Among women who consumed alcohol during pregnancy, 1 in 13 gave birth to a child diagnosed with FASD (2). The risk and severity of FASD are influenced by the amount, timing, and pattern of alcohol consumption during pregnancy. Beyond the diagnostic spectrum of FASD, prenatal alcohol exposure is associated with a range of adverse long-term child outcomes, including growth restriction, behavioural issues, and cognitive and motor impairments.

Heavy alcohol use in pregnancy further increases the risk of miscarriage, stillbirth, low birth weight, small-for-gestational-age infants, preterm birth, and infant mortality. In contrast, findings on the effects of low or very low levels of prenatal alcohol exposure remain inconclusive (3). Evidence from animal studies indicates that all stages of embryonic development are susceptible to alcohol's teratogenic effects, and even low levels of exposure can disrupt brain development (4). Accordingly, most national and international guidelines recommend complete abstinence from alcohol throughout pregnancy (5).

NICOTINE

Nicotine, the primary psychoactive compound in tobacco, readily crosses the placenta and poses significant risks to fetal development (6). In addition to nicotine, cigarettes contain numerous harmful chemicals, but research—particularly from animal models—has shown that nicotine alone can be toxic to the developing brain. Nicotine exposure in animal models has also been linked to adverse metabolic, reproductive, respiratory, and cardiovascular outcomes in offspring, suggesting that nicotine itself contributes substantially to many long-term health risks.

In humans, prenatal nicotine exposure has been associated with an increased risk of orofacial clefts and possibly other congenital anomalies. Cigarette smoking during pregnancy also elevates the risk of neonatal infections, cochlear dysfunction, sudden infant death syndrome (SIDS), and infant mortality. Longer-term outcomes for children include impaired cognitive development, behavioural problems, childhood obesity, hypertension, diabetes, and respiratory complications(7). A recent review by Holbrook concludes that prenatal nicotine exposure results in multiple irreversible adverse effects on child health, academic performance, and behaviour (8).

Pregnancy-related complications linked to cigarette smoking are numerous and include miscarriage, ectopic pregnancy, preterm premature rupture of membranes, placental abruption, placenta praevia, intrauterine growth restriction, small-for-gestational-age infants, preterm delivery, low birth weight, stillbirth, and perinatal death. The severity of outcomes often correlates with the amount and duration of smoking, with continuous smoking throughout pregnancy leading to worse outcomes. Importantly, smoking cessation during pregnancy is associated with significant improvements in birth outcomes, including reduced rates of low birth weight, preterm birth, and neonatal intensive care unit (NICU) admissions. Interestingly, cigarette smoking in pregnancy has been associated with a reduced risk of preeclampsia; however, the overall harms far outweigh any potential protective effects. Electronic nicotine delivery systems (ENDS), such as e-cigarettes, are sometimes perceived by pregnant women as safer alternatives to traditional cigarettes and potential tools for harm reduction. However, evidence supporting the safety or efficacy of ENDS in pregnancy is lacking. The World Health Organization (WHO) advises against their use during pregnancy due to concerns over potential long-term effects on fetal brain development. While some pregnant women use ENDS as a cessation aid, a recent systematic review and meta-analysis in nonpregnant populations found limited evidence supporting their effectiveness in reducing or quitting smoking (9).

OTHER DRUGS

Cannabis readily crosses the placenta and affects fetal brain development, yet many women perceive it as safe during pregnancy. It has teratogenic potential and has been linked to

anencephaly, smaller head circumference, learning and cognitive impairments (especially executive function), depression, aggression, and behavioural problems (10). Adverse pregnancy outcomes include low birth weight, small-for-gestational-age infants, preterm delivery, stillbirth, and NICU admission. Although medical cannabis is increasingly used, especially for hyperemesis, its safety in pregnancy is unproven, and ACOG recommends discontinuation.

Opioid use in pregnancy, including heroin and prescription opioids, has risen, accompanied by a surge in neonatal abstinence syndrome (NAS). While opioids are not strongly teratogenic, exposure is linked to SIDS, postnatal growth delays, and neurodevelopmental problems. Maternal risks include higher in-hospital mortality and complications such as preeclampsia, placental abruption, preterm labour, and stillbirth. NAS symptoms include irritability, tremors, and seizures, with nicotine co-use worsening severity and outcomes.

Cocaine use in pregnancy is associated with significant maternal morbidity, including hypertensive crises and cardiovascular events. It has teratogenic effects and is linked to malformations in the heart, brain, and limbs. Children exposed in utero may experience growth restriction, cognitive deficits, and behavioural problems. Pregnancy risks include preterm birth, placental abruption, and intrauterine death.

Methamphetamine is not directly teratogenic but is associated with fetal growth restriction, feeding difficulties, NICU admission, and increased neonatal and infant mortality. Long-term effects may include developmental delays and cognitive impairments. Pregnancy complications include low birth weight, shorter gestation, preeclampsia, hypertension, placental abruption, and stillbirth.

INTRAPARTUM CHALLENGES

Labor management for women with substance use disorders is generally similar to routine obstetric care. However, continuous fetal heart rate monitoring may be considered, given the uncertain effects of substance exposure on fetal tolerance to labor. Some women may present in labor without prior prenatal care. In opioid-dependent women, withdrawal may occur during labor. In such cases, methadone or buprenorphine can be initiated.Venous access may be difficult in patients with a history of intravenous drug use and may require extra time or advanced techniques. Epidural anesthesia is an effective and appropriate option for pain relief in labor.

POSTPARTUM CHALLENGES

Opioid-dependent women may experience lower pain tolerance due to alterations in pain pathways. A reasonable approach is to use higher or more frequent doses of oral opioids in the

early postoperative period, provide prescriptions at discharge, and schedule a follow-up visit 7 to 10 days postpartum to monitor pain and discuss further management.

The postpartum period is a high-risk time for relapse to substance use, primarily due to the absence of concerns about fetal exposure and the increased stress associated with parenting. Postpartum depression is more common in women with substance use disorders and can be a significant risk factor for relapse. Close follow-up, including a postpartum visit within 1 to 2 weeks, is recommended. During this visit, formal screening for postpartum depression, such as the Edinburgh Postnatal Depression Scale, should be conducted, and direct inquiry about cravings or substance relapse should be made.

Both methadone and buprenorphine are safe for breastfeeding mothers. The levels of these drugs in breast milk are unlikely to cause harm to the newborn and do not prevent or treat neonatal abstinence syndrome (NAS). However, breastfeeding and skin-to-skin contact can help alleviate some NAS symptoms.

Contraceptive plans should be discussed during prenatal care, with long-acting reversible contraception (LARC) encouraged, as it has a low failure rate and high patient satisfaction. Immediate post-placental intrauterine device (IUD) insertion is safe and may reduce barriers to follow-up care, eliminating the need for a separate outpatient visit at six weeks postpartum.

CONCLUSION

Substance use disorders (SUDs) in pregnancy pose significant risks to both mother and child, encompassing a range of challenges from prenatal exposure to specific substances like alcohol, nicotine, cannabis, opioids, cocaine, and methamphetamine, each with its own set of potential adverse outcomes. Intrapartum challenges include managing withdrawal, ensuring adequate pain relief, and addressing potential difficulties with venous access, while the postpartum period is marked by a high risk of relapse, increased rates of postpartum depression, and the need for careful consideration of pain management, breastfeeding safety, and contraceptive planning. Comprehensive care, including early screening, intervention, and close follow-up, is crucial to mitigating these risks and supporting the well-being of both mother and child.

TABLE 1: Summary of Substance Use in Pregnancy: Risks and Considerations

Substance	Key Risks and Considerations
Alcohol	• Fetal Alcohol Spectrum Disorders (FASD) are a leading cause of preventable birth defects and developmental disabilities. • Increased risk of miscarriage, stillbirth, low birth weight, and preterm birth. Complete abstinence is recommended.

Nicotine	• Toxic to the developing brain. • Increased risk of orofacial clefts, neonatal infections, SIDS, and infant mortality. • Longer-term outcomes include impaired cognitive development, behavioral problems, childhood obesity, hypertension, diabetes, and respiratory complications. • Pregnancy-related complications: miscarriage, ectopic pregnancy, preterm premature rupture of membranes, placental abruption, placenta previa, intrauterine growth restriction, preterm delivery, low birth weight, stillbirth, and perinatal death.
Cannabis	• Teratogenic potential; linked to anencephaly, smaller head circumference, learning and cognitive impairments, depression, aggression, and behavioral problems. • Adverse pregnancy outcomes: low birth weight, small-for-gestational-age infants, preterm delivery, stillbirth, and NICU admission.
Opioids	• Surge in Neonatal Abstinence Syndrome (NAS). • Linked to SIDS, postnatal growth delays, and neurodevelopmental problems. • Maternal risks include higher in-hospital mortality and complications such as preeclampsia, placental abruption, preterm labor, and stillbirth.
Cocaine	• Significant maternal morbidity (hypertensive crises, cardiovascular events). • Teratogenic effects; linked to malformations in the heart, brain, and limbs. • Children exposed in utero may experience growth restriction, cognitive deficits, and behavioral problems.
Meth-amphetamine	• Associated with fetal growth restriction, feeding difficulties, NICU admission, and increased neonatal and infant mortality. • Long-term effects may include developmental delays and cognitive impairments. • Pregnancy complications include low birth weight, shorter gestation, preeclampsia, hypertension, placental abruption, and stillbirth.

TABLE 2: Intrapartum and Postpartum Challenges in Women with SUDs

Phase	Challenges	Considerations/Management
Intrapartum	• Uncertain effects of substance exposure on fetal tolerance to labor. • Presentation in labor without prior prenatal care. • Withdrawal during labor (opioid-dependent women). • Difficult venous access (history of IV drug use). • Pain management.	• Consider continuous fetal heart rate monitoring. • Be prepared to initiate care and assess substance use history. • Initiate methadone or buprenorphine (buprenorphine must be started at a therapeutic dose before other opioids to prevent precipitated withdrawal). • Allow extra time and consider advanced techniques for venous access. • Epidural anesthesia is an effective and appropriate option.
Postpartum	• High risk of relapse to substance abuse (due to decreased concern about fetal exposure and increased stress related to parenting). • Postpartum depression (more common in women with SUDs; a risk factor for relapse). • Pain management (opioid-dependent women may have lower pain tolerance). • Breastfeeding concerns (related to medications). • Neonatal Abstinence Syndrome (NAS). • Contraception needs (avoiding future unintended pregnancies).	• Close follow-up (within 1-2 weeks). • Formal screening for postpartum depression (e.g., Edinburgh Postnatal Depression Scale); direct inquiry about cravings or relapse. • Consider higher/more frequent doses of oral opioids in the early postoperative period; provide prescriptions at discharge; schedule a follow-up visit to monitor pain. • Methadone and buprenorphine are generally considered safe for breastfeeding. Levels in breast milk are unlikely to harm the newborn or prevent/treat NAS. Encourage breastfeeding. • Breastfeeding and skin-to-skin contact can help alleviate some NAS symptoms. • Discuss contraceptive plans during prenatal care; encourage long-acting reversible contraception (LARC). Consider immediate post-placental IUD insertion.

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SPECIAL SECTION

68th Meeting of the Commission on Narcotic Drugs

Anju Dhawan

The Commission on Narcotic Drugs (CND) is described as the policy-making body of the United Nations Office On Drugs and Crime (UNODC) to supervise the application of the international drug control treaties. The CND holds annual meetings and has several preparatory consultations before these meetings. The member countries of CND are elected by the Economic and Social Council (ECOSOC) and as of now, there are 53 member countries. The resolutions passed in the annual meetings also guide its future work.

PREPARATIONS FOR THE MEETING

The CND meeting this year was particularly important as the Indian Ambassador to Vienna was the chair of the meeting. In India, the Department of Revenue is the nodal agency for the CND meeting. In addition, nominations were invited from the Narcotics Control Bureau, the Ministry of Home Affairs, the Ministry of Health and Family Welfare, and the Ministry of Social Justice and Empowerment. There was also representation from the Government Opium and Alkaloid Factories, the Central Bureau of Narcotics, and the Directorate of Revenue Intelligence. This year, the delegation was larger than in the previous years and comprised ten members, with three members being from the demand reduction sector. A steering committee was constituted to prepare for the CND meeting. Several meetings of the steering committee were held with an official from the Ministry of External Affairs and the Indian Embassy in Vienna sometimes joining for the meetings online to facilitate the coordination.

Every year the CND decides about scheduling of certain drugs based on the recommendations of the WHO Expert Committee on Drug Dependence. During the preparatory meetings, comments were sought from various stakeholders, including the Ministry of Health, to finalize India's position related to scheduling of these drugs. In addition, the resolutions which would be discussed in the Committee of Whole Meeting in the CND were shared in advance, and comments related to these were also sought from the appropriate stakeholders in India.

CND MEETING

Plenary Session

The plenary session, chaired by the Indian Ambassador, started with initial remarks by all UN stakeholders. This was followed by national statements, delivered usually in the local language by the head of the delegation from each country. These brief statements highlighted their country's focus on substance use supply and demand reduction efforts.

The interventions delivered by the Indian delegation from the demand reduction perspective under various agenda items included discussions on 1) use of long-acting depot formulations of

agonist medication and guidance on regulation of these products and 2) exploring meditation as a promising intervention for prevention and as an adjunctive treatment modality, with need for research, and recommendations regarding the same. Another intervention highlighted pro-active action taken by India in notification of certain medications as a psychotropic substance (Ketamine and Tramadol) under NDPS Act even in the absence of recommendation for scheduling by WHO.

The drugs proposed for scheduling by the WHO Expert Committee on Drug Dependence (ECDD) were put to voting in the plenary session and India also supported the scheduling. This year, six substances were placed under international control. These include four synthetic opioids, nitazenes, which have been linked to overdose, hexahydrocannabinol (HHC), a semi-synthetic cannabinoid, and carisoprodol.

Committee of Whole Meeting

The Committee of Whole Meeting (COW) took place as a parallel session in this CND meeting. Each statement of the resolution was read out in the COW meeting, and comments by various countries are noted, including any lack of consensus. It takes several hours for a 2-page resolution to be discussed and the content vetted by the member countries. I attended the session where two resolutions were discussed- 1) Promoting comprehensive, scientific, evidence-based and multi-sectoral national systems of prevention for children proposed by Chile, and 2) Promoting research on evidence-based interventions for the treatment and care of stimulant use disorders proposed by Thailand. Many of the comments made during the discussion are not really related to technical aspects, but to semantics or diplomatic positions. In the discussion this year, the most notable was the dissent to gender issues and SDGs by delegates from USA. It was a learning about procedural aspects and diplomatic situations.

Side Events and Bilateral Meetings

Many side events were happening in parallel during the CND. The Indian delegation delivered two side events on (1) Drug Demand and Harm reduction efforts by the delegates from the Ministry of Health and Family Welfare, and the Ministry of Social Justice and Empowerment and (2) Digital initiatives in Demand and Harm reduction by the Ministry of Health and Family Welfare, and the Narcotics Control Bureau. The experience of presenting a side event was very similar to presenting a symposium in an international conference.

We also attended bilateral meetings with Thailand, Netherlands, and Canada. These meetings were useful from both supply and demand reduction perspective. The discussions in the meeting by Netherlands highlighted their efforts towards prevention and their delegation shared their experience of age-appropriate preventive interventions. The delegation from Canada shared their efforts towards prevention of overdose deaths. Some of these bilateral meetings discussed mechanisms for sharing trafficking-related information between countries by the law enforcement officials. These bilateral meetings could open possible avenues for

future collaboration.

Overall, the CND was an enriching experience that provided political and diplomatic perspectives on interventions for substance use problems that shape global drug control efforts and gave an understanding of the procedural aspects of attending this meeting.

The 2024 Report of the International Narcotics Control Board: A Summary

Richa Tripathi, Lalchhandama Hauhnar

The International Narcotics Control Board (INCB) is an independent and quasi-judicial control organ, established as an independent body operating under the mandate of three international drug control treaties—the 1961 Single Convention on Narcotic Drugs (as amended), the 1971 Convention on Psychotropic Substances, and the 1988 Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. INCB's mission is to ensure that narcotic and psychotropic substances are available for legitimate medical and scientific use while preventing their diversion into illicit markets. The 2024 report, released on March 4, centres on the growing threats posed by synthetic drugs, gaps in medical access to essential medicines, and the need for a coordinated, health-oriented approach to drug policy (1). The report consists of four chapters which includes scenario and response to the synthetic drug use situation, functioning of the international drug control system, analysis of the world situation, and recommendations.

The Board focuses on one major theme every year in its annual report. The theme covered in the 2024 report is the rapid and far-reaching rise of synthetic drugs and rapid emergence of new synthetic drugs, which now represents an unprecedented global threat to public health and security. Unlike plant-based drugs, synthetic substances can be produced with relative ease in small or industrial-scale laboratories, often using precursor chemicals that have legitimate industrial or pharmaceutical applications and can be easily concealed as well. Their dependence, misuse and fatality has become a global problem. This dual-use nature allows criminal networks to stay one step ahead of regulatory controls, constantly developing new psychoactive substances (NPS) that circumvent international scheduling frameworks. In 2023 alone, 44 new psychoactive substances—primarily synthetic cannabinoids—were identified in 34 countries. The report draws attention to increasingly sophisticated trafficking methods that utilize e-commerce platforms, encrypted messaging apps, and international postal services to distribute drugs and their precursors, making detection and prevention more complex than ever.

The consequences of this surge in synthetic drug use are grave. Synthetic opioids such as fentanyl, carfentanil, and the emerging class of nitazenes are many times more potent than heroin or morphine, contributing to a dramatic rise in overdose deaths, particularly in North America. The inclusion of more potent synthetic opioids and their decreased potency-to-weight ratio allows trafficking network to improve their interdiction. Other synthetic drugs, including methamphetamine, MDMA, and ketamine, carry severe physical and psychological health risks and are associated with increased dependency and long-term cognitive harm. Compounding the issue is the toxic nature of synthetic drug production, which poses risks not only to users, but also to law enforcement personnel, customs officials, and communities exposed to

contamination from improper disposal or chemical leakage. The lighter weight of synthetic substances allows use of novel methods of drug delivery such as use of drones. The report also provides recommendations for a comprehensive response to this growing threat.

Regionally, the report notes distinct trends in drug production and consumption. North America continues to suffer from the widespread availability and use of synthetic opioids. In Africa and the Middle East, the proliferation of amphetamine-type stimulants such as captagon and synthetic drug mixtures like "kush" is raising significant public health concerns. There is also increased use of cocaine in Africa due to spillover effect. The Taliban's opium poppy ban in 2022 led to a reduction in heroin production in Afghanistan, but the report warns of a potential shift toward methamphetamine production in the region. Meanwhile, Europe remains a destination for synthetic drugs such as nitazenes or synthetic heroin trafficked through increasingly sophisticated supply chains, with criminal networks exploiting major shipping ports and online marketplaces. The illicit synthetic drug market in East and South-East Asia continues to grow at a concerning rate. It is largely because of increasing levels of organized crime, gaps in law enforcement, challenges to governance, political instability in Myanmar, and increasing levels of illicit manufacture of synthetic drugs. Myanmar is leading in both regional and global production of opium. Opium production increase in South Asia is identified as an important transit area for trafficking of opiate and methamphetamine across Indian Ocean through countries in the South Asian region. Seizure of ecstasy and methamphetamine have been reported frequently in the region. The Shyan state of Myanmar remains the epicentre of methamphetamine production in the region. Changes in legislation and policy have also been seen. The Narcotics Control Board of Thailand has rescheduled cannabis as a narcotic drug despite decriminalizing its use two years back. The board stresses that there is an insufficient availability of narcotic drugs and psychotropic substances in some countries of the region and emphasizes importance of availability of these substances for medical purpose.

The INCB's response to these evolving threats is multifaceted. Through platforms like Pre-Export Notification System (PEN) Online, Precursor Incident Communication Systems (PICS), and Project Ion Incident Communication System (IONICS), the Board facilitates real-time precursor tracking, intelligence sharing, and international cooperation. In 2024, the INCB reviewed thousands of estimates for medical drug needs, monitored chemical shipments, and recommended the international control of several new substances. The Board also supported training initiatives for over 1,400 officials across 154 countries to strengthen the implementation of the drug control treaties.

Despite these efforts, many low- and middle-income countries continue to face critical gaps in enforcement capacity, laboratory infrastructure, and access to treatment services. The INCB, therefore, calls for the formation of inter-agency task forces, expanded forensic capabilities,

and the integration of advanced technologies such as artificial intelligence to detect new substances. It also stresses the importance of public-private partnerships to prevent the diversion of industrial chemicals and equipment into the illicit market.

One of the report's most pressing concerns is the continued global inequality in access to opioid analgesics and other controlled medicines for legitimate medical use. There is imbalance despite sufficient global stocks of morphine and other essential medications. While developed nations report high levels of consumption, countries in Africa and South Asia suffer from severely limited access to pain relief. The INCB identifies restrictive national regulations, lack of physician training, and weak supply chains as key barriers. To address this disparity, it urges member states to strengthen their capacity to estimate medical requirements and streamline regulatory processes.

Treatment for opioid use disorder remains another critical area of concern. Although methadone and buprenorphine are recognized as effective opioid agonist therapies, globally only 10% of those in need have access to these medications. The report attributes this gap to stigmatization, limited infrastructure, and political resistance in some regions. It advocates for expanding treatment services and promoting public health-centred strategies rather than punitive approaches. The INCB encourages the member states to abolish or to commute death penalty for drug-related offenses. In addition to substance misuse, the 2024 report identifies the emerging threat of falsified pharmaceuticals, especially those sold online or through unregulated "shadow pharmacies." These counterfeit medications contain fentanyl analogues or designer benzodiazepines and are directly responsible for fatal overdoses. Operations such as "Zodiac" and "African Star" have targeted these illicit markets, but the INCB stresses the need for ongoing vigilance, better regulation of online pharmacies, and enhanced collaboration between governments and the private sector.

Another critical issue raised in the report is the impact of armed conflict on drug supply and access. The report discusses the effect of humanitarian crisis through example of conflict between Hamas and Israel. The INCB reaffirms that international drug control treaties, along with the Geneva Conventions, mandate continued access to controlled substances for medical purposes during emergencies. The report also addresses how technological innovation is shaping both criminal strategies and law enforcement responses. Drug traffickers are increasingly deploying counter-intelligence tactics, such as drones and GPS tracking, to avoid detection. The report also highlights other burning global issue such as development and updating of guidelines for the rational use of controlled substances in managing various health conditions.

The report concludes its final chapter with a series of strategic recommendations aimed at strengthening global drug control while upholding human rights. Key among them is the need for a coordinated response to synthetic drug proliferation, including early warning systems, cross-sector partnerships, and education campaigns. The Board also reiterates that legalizing controlled substances for non-medical use—such as cannabis—violates treaty obligations and may undermine global health and safety. However, the INCB emphasizes that criminal justice responses should be proportionate and grounded in human dignity, urging countries to reconsider harsh penalties like the death sentence for drug-related offenses.

In summary, the 2024 INCB Report presents a sobering picture of the global drug landscape which is marked by a dramatic rise in synthetic drug threats and ongoing disparities in access to essential medicines. While the challenges seem formidable, the report offers a clear forward path through a combination of strengthened international cooperation, technological innovation, and balanced, health-oriented drug policies.

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SECTION UPDATES

AI-Driven Drug Repurposing for Addiction Treatment

Anurupa Udupi, Ankita Chattopadhyay

Substance use disorders (SUD) are a pressing global concern and enhancing treatment of the same has become the need of the hour due to serious public health concerns associated with it. Various medications have been developed for SUDs, and some receive approval from the US Food and Drug Administration (FDA). However, the traditional drug discovery process for SUDs faces many obstacles such as high attrition rates during clinical trials and lengthy timeframes. While receptor-based drug design has yielded pertinent insights, it remains limited in addressing the complex neurobiological mechanisms of addiction, thereby emphasising the need for more therapeutic research. A faster and more efficient method of finding treatment options is by drug repurposing. It identifies new indications for previously approved drugs with established safety profiles, thereby accelerating the process.

How AI helps

The use of Artificial Intelligence (AI) for drug repurposing in addiction treatment is gaining wide popularity as it overcomes the challenges in processing and analysing vast amount of data. The use of machine learning algorithms by AI tools help screen through millions of compounds in large chemical databases, identify potential therapeutic targets, and predict drug efficacy, thereby reducing significant time and cost.

AI models use various robust and integrated datasets holding genetic, neurobiological, and clinical data from multiple databases such as ChEMBL, PubChem, DrugBank, Gene Expression Omnibus (GEO), Encyclopedia of DNA Elements (ENCODE), and Array Express quickly and efficiently, enabling discovery of new therapeutic targets. Drug discovery is driven by tools like knowledge graphs (KGs) which predict drug-target interactions (DTIs) and help identify potential protein targets in addiction research. These tools simplify the screening and design of potential drug candidates, thereby reducing the high attrition rates and lengthy timelines usually associated with any lead compound discovery.

A case study of Ketamine

In a study by Gao et al, who developed generalizable AI-driven drug discovery framework which utilized the power of knowledge graphs (KG-Predict) and combined it with advanced deep learning techniques to predict potential therapeutic indications for existing drugs. In a previous study by the same author, they had identified ketamine through the same framework and it was found to have improved remission rates in patients with cocaine-use disorders (1). Similarly, in this recent study in 2024, use of ketamine in patients with amphetamine-type stimulant use disorder (ATSUD) was found to be linked to significantly higher remission rates compared to other anaesthetics (Hazard Ratio [HR] = 1.58; 95% Confidence Interval [CI]: 1.15–2.17). Also, ketamine use among ATSUD patients with comorbid depression, showed greater

remission benefits when compared to traditional antidepressants (HR = 1.51; 95% CI: 1.14–2.01) or to newer molecules like bupropion or mirtazapine (HR = 1.68; 95% CI: 1.18–2.38). Subsequent functional pathway analysis further revealed the role of ketamine in modulating biological pathways implicated in ATSUD, including those related to neuroactive ligand-receptor interactions and amphetamine addiction. Thus, the potential of ketamine was explored as the top drug candidate via drug repurposing for ATSUD (2).

The computational predictions were validated by the researchers by turning to clinical corroboration through large-scale Electronic Health Records (EHRs). By analysing millions of patient records using AI, the association between repurposed drugs and improved outcomes in cocaine and amphetamine-type stimulant use disorder were studied.

AI driven drug repurposing has demonstrated good efficacy in opioid use disorder, where repurposed drugs such as tramadol, olanzapine, mirtazapine, bupropion, and atomoxetine have shown promise. Similarly in alcohol use disorder, drugs like topiramate, zonisamide, varenicline, and ondansetron have shown potential efficacy. Apart from this, molecular targets such as mTOR, mGluR5, and NMDAR, have been identified by researchers which could provide therapeutic solutions for both opioid and cocaine addiction.

However, AI-driven drug repurposing in addiction comes with its own limitations (3). The complexity of addiction mechanisms makes it challenging for AI models to predict drug efficacy accurately. This challenge is further aggravated by the lack of clear biomarkers to assess treatment outcomes, hindering the validation of AI-driven approaches. There are also ethical concerns emerging with respect to the transparency and decision-making processes employed by the AI models. The continuous learning nature of the ever-evolving AI approach also faces setbacks in the regulatory front as the FDA is still working to establish appropriate frameworks.

Despite the challenges, AI powered structured drug discovery framework has the potential to overcome existing barriers and provide innovative therapeutic solutions in the future. While clinical trials and robust validation remain essential, these approaches hold particular promise for resource-constrained settings like India, where treatment access remains limited. For all we know, it may emerge as the answer to the perennial quest of the addiction psychiatrist in finding the "right" drug to combat addiction.

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GLP-1 Receptor Agonists in Alcohol Use Disorder: Emerging Evidence

Darshan Shadakshari

Over the years, research has led to the approval of only three FDA-approved medications for Alcohol Use Disorder (AUD): disulfiram, naltrexone, and acamprosate. While these drugs are beneficial, they are not universally effective due to the complex nature of AUD and due to issues such as poor adherence, side effects, stigma, and limited provider awareness (1). These agents have often shown variable effectiveness. In this context, along with increasing understanding of the neurobiology of addictive disorders, there is growing interest in identifying novel agents that target diverse pathways, among which Glycogen-like peptide-1 receptor agonists (GLP1RA) are emerging as promising candidates, given their established use in managing diabetes and obesity. Dulaglutide, Exenatide, liraglutide, and semaglutide are GLP1RA approved by the FDA for the treatment of diabetes mellitus, with the latter two additionally being approved for Obesity as well. Beyond FDA approval, these medications are also used for Non-alcoholic fatty liver disease, Polycystic ovarian disease and prevention of cardiovascular illnesses.

Mechanism

GLP1RA mimic endogenous glucagon-like peptide-1 (GLP1), an incretin hormone involved in postprandial insulin release, appetite suppression, and gastric emptying through its action on the pancreas and gut. Apart from peripheral action, GLP1 is also produced at the central level through Preproglucagon neurons located in the nucleus tractus solitarius (NTS) of the brain stem, where it acts across various receptors in the brain, including the hypothalamus, addressing the appetite regulation and energy balance (2).

Based on the overlap of GLP1RA mechanism of action in obesity to reduce food cravings and hedonic eating, studies have hypothesized that they might also diminish cravings and reinforcement mechanisms related to drugs and alcohol. In AUD, the study hypothesised is that GLP1RA modulates mesolimbic dopaminergic pathways, thereby attenuating the rewarding properties of alcohol. By influencing the dopamine transporter activity, these agents attenuate the dopamine surge associated with alcohol consumption, reducing the salience of alcohol cues. Additionally, studies suggest that suppression of central appetite circuit by GLP1RA can reduce cravings and influence stress-related pathways involved in relapse (2).

From Bench to Bedside

- **Pre-clinical:** A recent systematic review provided a comprehensive synthesis of preclinical and clinical research on the role of GLP1RA in AUD. It included 19 preclinical studies and two clinical trials involving exenatide, liraglutide, and semaglutide. From the preclinical studies it was concluded that GLP1RA consistently reduced alcohol consumption, preference, and cue-induced reinstatement in rodent and non-human primate models and

these findings were attributed to GLP1R-mediated modulation of the mesolimbic dopamine system (2).

- **Clinical:** The data from two of the included clinical studies suggested mixed results. One study was a randomized controlled trial of exenatide that did not find a significant overall difference in heavy drinking days; however, subgroup analysis revealed meaningful reductions in alcohol intake among participants with obesity. Functional MRI data further supported this, showing reduced ventral and dorsal striatum activation in response to alcohol cues. Another study included was a retrospective cohort study, including 153 participants divided into 2 intervention groups (Semaglutide and Tirzepatide) and another control group. The semaglutide group found a significant reduction in alcohol consumption, reduced binge drinking odds compared to the control group, as well as a significant reduction in the AUDIT score within and between the groups.

Recent data

- A large Swedish observational study published examined over 227,000 individuals with AUD and found that treatment with semaglutide or liraglutide were associated with a significantly lower risk of hospitalization for AUD. Both drugs outperformed the standard AUD medications like naltrexone and disulfiram. These findings underscore the potential real-world effectiveness of GLP1RA in reducing alcohol-related harms, especially in those with comorbid diabetes or obesity (1).

- A randomized controlled trial by Hendershot et al., evaluated the effects of once-weekly semaglutide in individuals with AUD. The trial reported significant reductions in alcohol craving and drinks per drinking day, along with a trend toward reduced tobacco use, suggesting broader anti-addictive properties. Although reductions in overall drinking days or abstinence were not statistically significant, the treatment was well tolerated and showed moderate effect sizes (3).

- The SEMALCO trial, currently ongoing in Denmark, aims to assess the impact of semaglutide over 26 weeks in individuals with comorbid obesity and AUD (4). This trial combines pharmacological treatment with cognitive behavioural therapy and includes advanced neuroimaging and biochemical markers as outcome measures. Together with the systematic review, the above studies offer positive, updated evidence for the repurposing of GLP1RA in AUD and highlight the growing momentum in this area of addiction research.

Together with the systematic review, the above studies offer positive, updated evidence for the repurposing of GLP1RA in AUD and highlight the growing momentum in this area of addiction research.

TABLE 1: GLP-1 Receptor Agonists Studied in AUD – Dosage and Route

Drug Name	Study Type	Dosage Used in AUD Studies	Route of Administration
Exenatide	Randomized Controlled Trial	10 mcg twice daily	Subcutaneous (SC), twice daily
Liraglutide	Observational Study	Not specified	Subcutaneous (SC), once daily
Semaglutide	Observational Study, Randomized Controlled Trial, Ongoing RCT	1.7 mg/week (Hendershot et al.) 2.4 mg/week (SEMALCO trial)	Subcutaneous (SC), once weekly

Why does it matter to India?

India faces a high dual burden of alcohol use disorders and metabolic illnesses like diabetes and obesity. GLP-1RAs may offer a precision medicine approach for individuals with both conditions, particularly when traditional AUD pharmacotherapies fail or are poorly tolerated. Their once-weekly dosing may also improve treatment adherence compared to the daily regimens of existing AUD medications.

However, high cost and the injectable route of administration may pose barriers to access and patient acceptance. As patents expire and generics become available, these therapies are expected to become more affordable. Importantly, liraglutide and semaglutide are already approved and marketed in India for diabetes and obesity, making off-label use for AUD a feasible option, particularly for psychiatrists, endocrinologists, and physicians familiar with these agents. This provides an opportunity for integrated care approaches targeting both diagnosis patients in both public and private healthcare settings.

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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.

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Special Populations

Geriatric substance use: An ignored problem in a forgotten group

Tamonud Modak

A number of developed countries across the world face the problem of rapidly ageing populations, largely due to Increasing life expectancy and declining birth rates. In some countries, the shift in their demographic structure is so significant that it is causing economic pressure as well as healthcare strain. While India continues to have a predominantly young population, it's elderly demographic is also expanding. Currently, approximately 10.5% of the population is aged 60 and above—a significant increase of around 3% compared to a decade ago. This transition presents unique challenges for healthcare.

To better understand the healthcare challenges related to ageing and the demands that they are likely to pose to healthcare systems, the World Health Organization (WHO) has been regularly conducting the 'Study on Global Ageing and Adult Health' (SAGE). This study has been conducted in 3 waves; wave 3 was conducted between 2018 and 2019 across six countries: China, Ghana, India, Mexico, Russia, and South Africa. This wave built on previous data to provide longitudinal insights into ageing-related challenges, including chronic diseases, healthcare access, and quality of life. By focusing on nationally representative samples, SAGE Wave 3 aimed to inform policies and interventions tailored to specific populations (1).

In India, the study used a two-stage stratified sampling (for rural areas) and a three-stage design (for urban areas) covering 6,073 households and collected data from 7,885 individuals aged 50 and above. Although the study covered multiple health related domains, it has crucially covered tobacco and alcohol use and the results are interesting. About 12% of the respondents were current daily users of tobacco, which is a significant decrease compared to the earlier waves (SAGE Wave 1 (38%) in 2007 and SAGE Wave 2 (20%) in 2015). This decline was across both genders. Around 14% of persons aged 60-69 were current users. The quit rates tended to increase with age, with 27% of individuals aged 80 and over reporting as having quit tobacco use. For both women and men, Rajasthan had the highest proportion of tobacco users.

The SAGE Wave 3 findings reveal notable patterns in alcohol use among India's geriatric population. Like tobacco consumption, the prevalence of alcohol use witnessed a slight decline over the period from SAGE-1, to SAGE-3. There was gender disparity in consumption, with 18% men and 1% women reporting consumption. The states with the highest percentage of alcohol use were Assam, Karnataka and Rajasthan. As elsewhere in the world, alcohol use among older respondents was higher among males, individuals in lower wealth quintiles and some socially disadvantaged groups. The highest use was seen among scheduled tribes with 9% of older members reporting heavy drinking (compared to a national average of 2%).

These numbers, although small in percentage terms, are significant in absolute terms. Managing substance use among geriatric individuals is challenging due to multimorbidity, age-related

decline in function, and the natural aging process masking symptoms. Caring for older adults with substance use presents both medical and socially complex challenges. However, it is also heartening to note that older adults generally show higher treatment completion rates and better outcomes compared to younger adults. The challenge lies in early identification and tailored interventions, accounting for complexities of aging.

References

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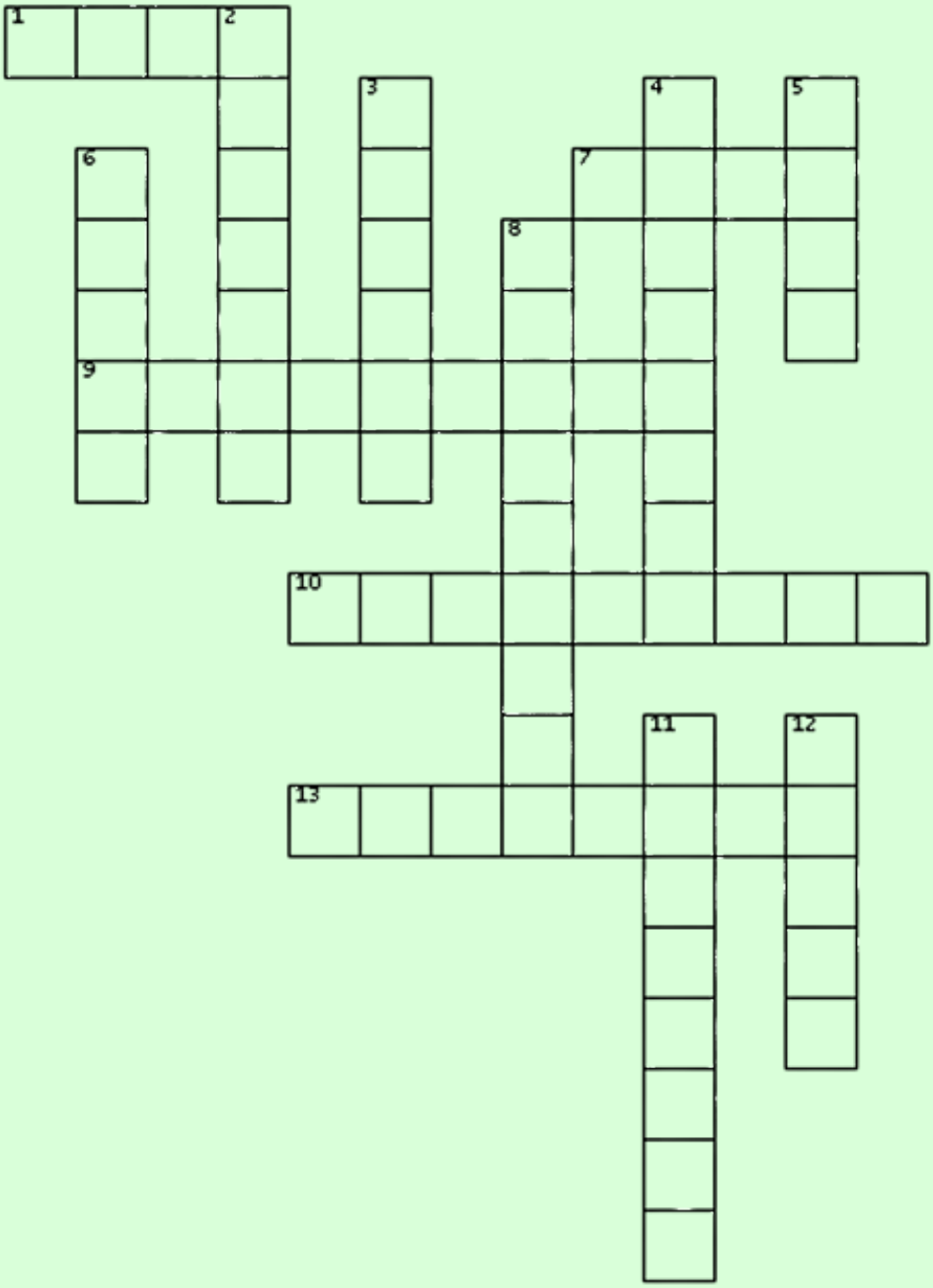
CREATIVE SECTION

Artwork
A Bird's-Eye View: Beyond the Medical Gaze

Gargi Sinha

This painting challenges the limitations of the moral and medical lenses.
A bird's-eye view urges us to look upstream—toward a biopsychosocial perspective.
Viewing hospital care and public health as a continuum reveals new opportunities for intervention.
This perspective helps reorient health services toward unmet areas of need.



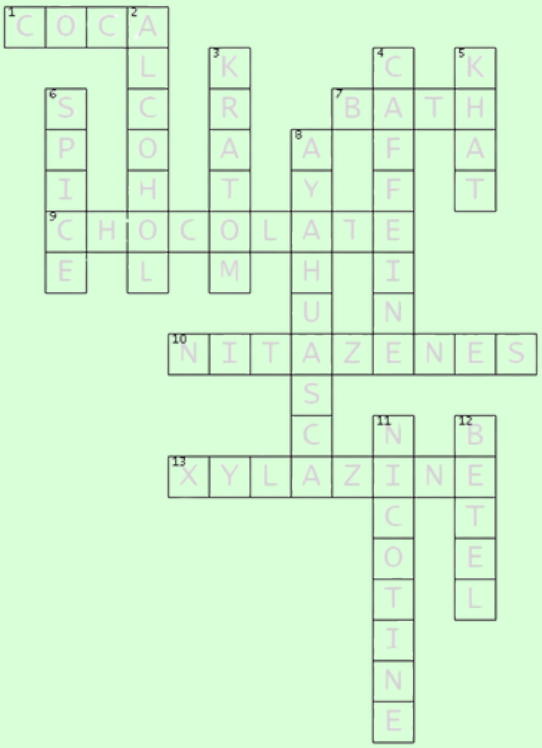
Across

1. The leaves of which plant, traditionally chewed by Andean people to combat altitude sickness, are also the raw material for cocaine?
7. Which new psychoactive substance (NPS) was falsely blamed for a "face-eating" incident in Florida in 2012?
9. Which sweet treat contains theobromine—a mild stimulant chemically related to caffeine?
10. Which class of newly emerging synthetic opioids is even more potent than fentanyl?
13. What eerie nickname is given to the synthetic opioid known for its skin-rotting effects, often called the “zombie drug”?

Down

2. What natural fermented beverage has been consumed by humans for over 10,000 years?
3. Which Southeast Asian plant has opioid-like effects and is used for pain relief and managing withdrawal symptoms?
4. What is the most widely consumed psychoactive substance in world?
5. Which stimulant leaf is traditionally chewed in East Africa & the Arabian Peninsula for its mild amphetamine-like effects?
6. Which synthetic drug, often marketed as "fake weed," can cause severe paranoia and hallucinations?
8. What hallucinogenic brew used by indigenous Amazonian tribes contains the DMT?
11. What legal natural stimulant has higher addiction potential than many illegal drugs?
12. What commonly chewed nut stains teeth red and has stimulant effects similar to nicotine?

Solutions Mindbender



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ADDICON, 2025

When: November 6-8, 2025

Where: Indore, Madhya Pradesh, India

Link: https://addictionpsychiatry.in/

36th Annual Meeting and Scientific Symposium

Organised by: American Academy of Addiction Psychiatry

When: November 6-9, 2025

Where: San Francisco, CA

Link: https://aaap.societyconference.com/v2/?card=registration

ISAM, 2026

Organised by: International Society of Addiction Medicine (ISAM) & Vereniging voor Vreemdelingenverkeer, Netherlands

When: Oct 1-3, 2026

Where: Rotterdam, Netherlands

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

57th ASAM Annual Conference

Organised by: American Society of Addiction Medicine

When: April 23 - 26, 2026

Where: Manchester Grand Hyatt, San Diego, CA

Link: https://www.asam.org/education/signature-courses/live-conference-events

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Links to the Addiction Psychiatry Society of India below