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Analysing Opioid Substitution Therapy in India: A Comprehensive Narrative Review

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ABSTRACT

The state of opioid substitution therapy (OST) in India is critically examined in this comprehensive narrative analysis. It gives an extensive investigation of medication use designs, the effects of narcotics, the viability of OST on human physiology, and the regulative and administrative structures that oversee OST rehearses in the country. Setting the stage, the presentation resolves the multi-layered issues presented by drug use in India and underlines the requirement for a complete arrangement to relieve its ramifications. With a complete survey of the standards and viability of Narcotic Replacement Treatment (OST), the subject is contextualized inside the more extensive system of narcotic use.

The fundamental part of the examination takes a gander at the physiological effects of OST and outlines its benefits with clever contextual investigations. The examination cautiously considers the benefits and difficulties of OST reception, giving an understanding into how treating sedative reliance and withdrawal symptoms may be utilized. The study examines Indian travel regulations and laws as it pertains to the legal landscape. It investigates existing systems, featuring areas of underutilization and presenting the Defense for changes by adjust strategies to a sympathetic way to deal with general wellbeing.

A summary of the most important findings and some well-thought-out recommendations round out the study. These proposals stress the need to address narcotic reliance from a wellbeing driven perspective and advance the consideration of OST in general wellbeing drives. In order to contribute to a comprehensive discussion on addressing opioid dependency in the Indian context, the study concludes with a comprehensive understanding of the difficulties and potential solutions.

Keywords: *Opioid Substitution Therapy, Opioid, Narcotics, NDPS Act, Effectiveness of Human Physiology, Opioid Use Disorder.*

I. INTRODUCTION

Over the course of millennia, the cultural and historical context of India has developed a complex and sometimes contradictory relationship with opioids. Over the course of its history, the nation of spirituality, diversity, and spices has struggled with opioids' twin effects: their

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crucial role in both traditional medicine and the present opioid abuse and addiction issue. Information from the 2004 Public Family Study and the 2011 statistics feature the pressing worry of the rising frequency of medication and liquor use in India.

Extrapolations uncover amazing numbers, with around 130.1 million liquor clients, 18.6 million pot clients, and around 4.3 million sedative clients in the country. Even though these numbers are concerning, adding the comparable number of dependent users increases the severity of the issue. There are a critical number of individuals who require treatment: an expected 21.8 million are reliant upon liquor, 4.7 million on marijuana, and around 0.95 million on sedatives². These figures demonstrate the pressing need for all-encompassing and focused interventions, such as successful drug-abuse treatment programmes, to address the growing public health crisis of drug and alcohol addiction in India. The journey of India with opioids is a kaleidoscope of traditions, socio-economic forces, and contemporary health crises, encapsulating a narrative that mirrors the nation's rich diversity. As the sun rises over the Gangetic plains and sets behind the Western Ghats, it casts shadows on a dynamic interplay between tradition and modernity, medicine and addiction, cultural heritage, and the relentless tide of change. Talking about it geographically, since India is located between the world's two main illegal opium-producing regions - the "*Golden Crescent*" and the "*Golden Triangle*," it is prone to becoming both a destination and a transit route for opioids³.

To unravel the intricate layers of India's relationship with opioids is to embark on a journey through time, traversing the sacred scriptures of Ayurveda, navigating the bustling pharmaceutical markets, and confronting the harsh realities of opioid-related challenges that echo in the narrow alleys of urban slums and the quiet corners of rural hamlets. India is one of the world's major legal opium growers. Not unexpectedly, India has a long history of using the opioid class of medications. Indeed, a large number of individuals in India take opioid medicines, are addicted to them, and seek therapy for them. The prevalence of opioid usage was determined to be 0.7% of the general population in India's first and only nationwide study on drug use to date, with around 22.3% of those identified to be opioid dependent⁴. Currently, it is believed that approximately 4 million individuals across the country engage in the use of

² Anju Dhawan, Anita Chopra, and Rajat Ray, Preferences for Treatment Setting by Substance Users in India, National Library of Medicine, PMID: 27011401, 38(1): pp. 42–45, (Jan- Feb, 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4782443/>

³ United Nations Office on Drugs and Crime. South Asia Regional Profile. India: United Nations Office on Drugs and Crime 2005. https://www.unodc.org/pdf/india/publications/south_Asia_Regional_Profile_Sept_2005/10_india.pdf

⁴ Rao R, Ambekar A, Agrawal A. Opioid Substitution Therapy under National AIDS Control Programme: Clinical Practice Guidelines for Treatment with Methadone. National AIDS Control Organisation, Ministry of Health and Family Welfare, Government of India. 2017 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6201667/#ref2>

opioids, a figure that casts a shadow on the scale of the issue⁵, further more alarmingly, within this vast cohort, around 1 million individuals are reported to be opioid-dependent, indicating a significant health crisis that demands urgent attention. The national survey published in 2004 estimates the prevalence of current opioid use to be 0.7% in general population⁶. A particularly stark illustration of this predicament emerges from a recent study focused on the state of Punjab. This region alone shoulders a substantial burden, with an estimated 232,000 individuals grappling with opioid dependence⁷. These figures highlight the severity of the issue by highlighting the worrisome rates of dependency in several regions of the nation in addition to the frequency of opioid use. The frightening numbers cause to notice a perplexing issue that goes past straightforward numbers and investigates the complicated medical services, financial, and social factors that add to India's narcotic pandemic. India has complex medication guidelines that are essentially administered by the Opiate Medications and Psychotropic Substances Act (NDPS Demonstration) of 1985. Based on their perceived risk and intended use in medicine, this law divides medications into schedules. Some drugs, like cannabis, are still mostly illegal, but others, like methadone and buprenorphine, are legal under strict rules for certain medical conditions, like opioid substitution therapy. In spite of these authoritative achievements, the country actually deals with issues with drug dealing, dependence, and restricted admittance to out-of-state treatment choices. This highlights the requirement for continuous endeavors to upgrade drug control guidelines and extend admittance to successful treatment choices.

II. OVERVIEW OF OPIOID SUBSTITUTION THERAPY

Opioid Substitution Treatment (OST), also known as *Opioid Agonist Therapy (OAT)*, is a medical intervention designed to treat individuals with opioid dependence, particularly those addicted to heroin or other opioids. The primary goal of OST is to reduce the harms associated with opioid use, enhance the overall well-being of individuals, and support their journey towards recovery. Before delving into the topic of opioid substitution therapy, it is essential to establish a foundational understanding of what opioids are.

⁵ Dhawan A, Chopra A, Ray R. Preferences for treatment setting by substance users in India. *Indian J Psychol Med.* 2016;38:42–5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4782443/>

⁶ Ravindra Rao, The journey of opioid substitution therapy in India: Achievements and challenges, *National Library of Medicine, PMCID: PMC5419011, PMID: 28529359, 59(1): pp. 39–45, (Jan-Mar, 2017),* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419011/>

⁷ Ambekar A, Kumar R, Rao R, Agrawal A, Kumar M, Mishra AK. Punjab Opioid Dependence Survey. 2015. [Last accessed on 2018 Sep 19]. Available from: [http://www.pbhealth.gov.in/scan0003%20\(2\).pdf](http://www.pbhealth.gov.in/scan0003%20(2).pdf)

(A) What is Opioid?

Opioids represent a class of substances, encompassing natural, synthetic, and semi-synthetic chemicals, that exert their effects by interacting with opioid receptors located on nerve cells throughout the body and brain⁸. The Opioids constitute a broad class of medications, structurally linked to the natural alkaloids found in opium, sourced from the resin of the opium poppy, *Papaver Somniferum*. These natural alkaloids, commonly known as opiates, encompass significant pain-relieving compounds like morphine and codeine⁹. Originating from the *opium poppy plant*, opioids have been integral to medical practices for centuries due to their potent analgesic properties. Morphine, a key opiate, remains a cornerstone in managing severe pain, while codeine is widely used for milder pain. The primary purpose of these drugs is to diminish the intensity of pain signals and alleviate the corresponding feelings of pain. This interaction disrupts the transmission of pain messages, ultimately providing relief for individuals dealing with moderate to severe pain. Patients recovering from surgery or enduring severe pain linked with cancer, as well as adults and children who have been wounded playing sports or who have been gravely injured in falls, traffic accidents, or other situations, utilize them. Opioids bind to opioid receptor proteins on nerve cells in the brain, spinal cord, stomach, and other regions of the body. When this happens, opioids block pain sensations delivered from the body to the brain via the spinal cord. While opioids can successfully treat pain, they are not without hazards and can be extremely addictive¹⁰. When opioids are used to treat chronic pain over a long period of time, the risk of addiction is very significant.

Within this class of drugs, there exists a spectrum ranging from legal prescription pain medications to illicit substances. Heroin, an illegal opioid, falls within this category, as does fentanyl, a synthetic opioid that is significantly more potent than some natural opioids, in addition to this there are various prescription medications that fall under this classification, including well-known drugs like oxycodone, hydrocodone, codeine, and morphine, among others¹¹. These prescription opioids are commonly used to manage post-surgical pain, chronic pain associated with conditions like cancer, and other situations where pain relief is necessary.

⁸ Opioid, Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, (Last Reviewed: January 26, 2021), <https://www.cdc.gov/opioids/basics/terms.html>

⁹ Opioid, Clinical and Research Information on Drug-Induced Liver Injury [Internet]. Bethesda (MD): National Institute of Diabetes and Digestive and Kidney Diseases; 2012, PMID: 31643200 Bookshelf ID: NBK547864, (24 Nov 2020), <https://pubmed.ncbi.nlm.nih.gov/31643200/#:~:text=The%20opioids%20are%20a%20large,the%20opium%20poppy%2C%20Papaver%20somniferum.>

¹⁰ What are Opioid?, American Society of Anaesthesiologists, <https://www.asahq.org/madeforthismoment/pain-management/opioid-treatment/what-are-opioids/>

¹¹ *Supra* note 6

(B) Classification of Opioids

Naturally occurring	Semi-synthetic compounds	Synthetic compounds
Morphine	Heroin	Pethidine
Codeine	Dihydromorphone	Fentanyl
Thebaine	Buprenorphine	Methadone
Papaverine	Oxycodone	Alfentanil
		Remifentanil

Table Source: *Basic Opioid Pharmacology, Rev Pain*¹²

A prescribed drug that is pharmaceutically related to substance-causing dependence is administered to individuals with substance dependence under medical supervision in order to achieve specific therapeutic goals. This approach is known as substitution therapy, also known as agonist pharmacotherapy, agonist replacement therapy, or agonist-assisted therapy¹³.

(C) Insights into Opioid Substitution Treatment (OST)

Opioid substitution treatment (OST) is a specialized healthcare approach tailored for individuals dependent on heroin and other opiates. This intervention utilizes prescribed opioid agonists with properties akin to heroin and morphine, furthermore to it, these medications, such as methadone or buprenorphine, act on the same receptors in the brain, mitigating withdrawal symptoms and curbing cravings for illicit opiates¹⁴. By providing a controlled, regulated dosage of a safer opioid, OST helps individuals manage their addiction in a supervised and medically supported environment. This therapy involves replacing the problematic opioid, often one with a high risk of abuse and overdose, with a safer, longer-acting opioid medication.

a. Treating Opioid Addiction

Two commonly used medications in opioid substitution therapy are:

1. Methadone: A synthetic opioid that helps reduce cravings and withdrawal symptoms

¹² Dr John Williams, Table 1, *Basic Opioid Pharmacology, Rev Pain*, 1(2):pp 2–5 (Mar. 2008), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4589929/>

¹³ Andrej Kastelic, Jörg Pont, Heino Stöver, *Opioid Substitution Treatment in Custodial Settings*, ISBN 978-3-8142-2117-5, pp. 1-91, 15, https://www.unodc.org/documents/hiv-aids/OST_in_Custodial_Settings.pdf

¹⁴ *Id.*

without producing the intense euphoria associated with drugs like heroin.

2. **Buprenorphine:** A partial opioid agonist that can alleviate withdrawal symptoms and cravings while having a lower risk of overdose compared to full opioid agonists.

Naloxone¹⁵, classified as an opioid antagonist, functions by binding to opioid receptors and has the capability to reverse or obstruct the effects induced by other opioids. This critical medication acts swiftly to restore normal respiration in individuals whose breathing has been compromised due to the abuse of substances like heroin or prescription opioids, or the inadvertent ingestion of excessive pain medication. Emergency medical personnel and first responders extensively deploy naloxone to counteract opioid overdoses effectively¹⁶. The prescribed opioid agonists in OST serve a dual purpose, they alleviate the physiological discomfort associated with withdrawal, making the detoxification process more manageable, and they diminish the psychological drive to seek out and use illicit opiates. This approach recognizes the chronic nature of opioid dependence and aims to improve overall well-being, reduce the risk of relapse, and enhance the individual's capacity to engage in broader aspects of life, including social and occupational activities. OST, coupled with comprehensive support services, constitutes a compassionate and evidence-based strategy within the broader context of harm reduction and addiction treatment. Opioid substitution therapy is considered an evidence-based approach to treating opioid use disorder and is an important component of harm reduction strategies in addressing the opioid epidemic. OST encompasses two integral components: a pharmacological facet and a psychosocial dimension.

The *pharmacological* element entails the substitution of illicit opioids with a regulated, prescribed alternative, often utilizing medications like methadone or buprenorphine¹⁷. These replacement opioids, acting on the same receptors as illicit substances, effectively alleviate withdrawal symptoms and diminish cravings, providing individuals with a controlled and safer therapeutic option. Complementing the *pharmacological* aspect, the psychosocial element involves supportive counseling and therapeutic interventions¹⁸. This facet aims to assist individuals in stabilizing their lives while on the replacement opioid and fosters positive changes in behaviour and lifestyle. The psychological and social components of addiction are addressed by psychosocial treatments, including as behavioural therapy and psychotherapy,

¹⁵ Naloxone—A Potential Lifesaver, National Institute on Drug Abuse Advancing Additional Science, (4 March 2014), <https://archives.nida.nih.gov/news-events/noras-blog/2014/03/naloxone-potential-lifesaver> on 2023

¹⁶ *Id.*

¹⁷ OST (Opioid Substitution Therapy), Assam State AIDS Control Society, Govt. of Assam.,(Last Reviewed & Updated: 18 Nov 2023), <https://asacs.assam.gov.in/information-services/ost-opioid-substitution-therapy>

¹⁸ *Id.*

which support long-term recovery. Although OST may be used for a variety of opiate addictions, illegal heroin usage is typically its main emphasis. OST offers a comprehensive approach to addiction therapy by fusing extensive psychosocial treatments with pharmaceutical assistance. By assisting patients in managing their reliance and implementing significant and long-lasting changes in their life, this dual-component approach improves the efficacy of therapy and promotes long-term recovery from opioid use disorder.

III. EFFECTIVENESS OF OPIOID SUBSTITUTION THERAPY

The growing opioid epidemic has had a detrimental impact on world health, trapping people in the cycle of addiction and endangering their health. Opioid Substitution Therapy (OST), which provides a revolutionary method of treating opioid use disorder (OUD) and saving lives, has become a ray of hope amongst this spiralling crisis. OUD is a complex issue that is defined by the obsessive and continuous use of opioid medications, even in the face of negative consequences on one's physical and mental health as well as a wish to stop. Further into this Three main drug classes are used in medication-assisted therapy (MAT) to treat opioid use disorder (OUD): buprenorphine, methadone, and naltrexone¹⁹. OUD is described by the World Health Organisation (WHO) as a pattern of continued opioid use that causes damage to physical and mental health. OUD and the associated risks are a major and worsening global problem and in 2016, the global burden of OUD was 26.8 million cases²⁰. Buprenorphine and methadone, both opioid agonists, alleviate withdrawal symptoms and cravings, facilitating a controlled tapering off opioids. Naltrexone, an opioid antagonist, blocks the euphoric effects of opioids, acting as a deterrent. These medications, integrated into comprehensive treatment plans, aim not only to manage the physiological aspects of addiction but also to support individuals in reclaiming control over their lives. MAT, tailored to individual needs, reflects a nuanced approach in navigating the complex terrain of OUD, fostering recovery and reducing the societal burden of opioid dependence.

At its core, OST involves the substitution of illicit opioids with medically supervised, long-acting opioid medications such as methadone or buprenorphine. This approach aims not only to alleviate withdrawal symptoms but also to address the underlying cravings and compulsions associated with opioid dependence. The fundamental premise of OST is rooted in harm

¹⁹ Opioid Use Disorder (OUD) Market, Pharmaceutical, Fortune Business Insight, Report ID: FBI102674, <https://www.fortunebusinessinsights.com/opioid-use-disorder-oud-market-102674>

²⁰ Natasha Yvonne Hall, Long Le, Ishani Majmudar, Cathrine Mihalopoulos, Barriers to accessing opioid substitution treatment for opioid use disorder: A systematic review from the client perspective, *Drug and Alcohol Dependence*, Volume 221, 108651, (1 April 2021), <https://www.sciencedirect.com/science/article/abs/pii/S0376871621001460>

reduction, acknowledging the complexities of addiction while providing a structured and supportive framework for individuals to regain control of their lives.

(A) Studies made on the Effectiveness of OST

The pursuit of effective interventions for opioid dependence in India embarked on a significant trajectory concurrent with the clinical adoption of OST in the early 1990s²¹. A pivotal moment in this journey is captured in the work of Mohan and Ray, who reported findings from a groundbreaking project focused on community-based treatment for heroin addiction utilizing buprenorphine. In this pioneering initiative, 108 male patients grappling with heroin dependence underwent a course of sublingual buprenorphine administered over a period of 6–11 months, complemented by psychosocial interventions. The outcomes, revealed at follow-up, painted a promising picture – approximately 70% of the participants demonstrated improvement, showcasing either complete abstinence or significantly reduced heroin use²².

In the pursuit of understanding and establishing the effectiveness of OST in India, another small-scale study can lay the groundwork for this research to be more comprehensive research initiatives in nature. A notable study conducted in *Nagaland* focused on 54 male opiate-dependent patients, who were provided buprenorphine and monitored over a six-month period and the results were promising, with an impressive retention rate of 81.5% at 24 weeks²³. Follow-up assessments revealed significant improvements across various parameters, including scores on the Addiction Severity Index and a reduction in the frequency of drug use. Despite their limitations in sample size and geographic scope, these early studies offered valuable insights into the potential efficacy of buprenorphine-based OST.

Addressing the shortcomings of previous endeavors, a milestone in the exploration of OST effectiveness in India emerged through a multisite study led by the *All-India Institute of Medical Sciences, New Delhi*, with the support of the *United Nations Office on Drugs and Crime*. This ambitious initiative sought to overcome the limitations of earlier studies by encompassing diverse locations and expanding the sample size. The involvement of the United Nations Office on Drugs and Crime underscored the global significance of understanding effective interventions for opioid dependence²⁴. Beyond structured prospective studies, a wealth of

²¹ Atul Ambekar, Ravindra Rao, Alok Agrawal, and Preethy Kathiresan, Research on opioid substitution therapy in India: A brief, narrative review, National Library of Medicine, PMCID: PMC6201667, PMID: 30405250, 60(3): pp. 265–270, (Jul-Sep 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6201667/#ref2>

²² Mohan D, Ray R. Community Based Treatment for Heroin Dependence in an Urban Slum of Delhi (India) – Report Submitted to WHO. New Delhi: SEARO; 1997

²³ Mohan D, Dhawan A, Chopra A, Sethi H. A 24-week outcome following buprenorphine maintenance among opiate users in India. *J Subst Use*. 2006;11:409–15

²⁴ Dhawan A, Jain R, Chopra A. Opioid Substitution – Buprenorphine in India. New Delhi: UNODC, Regional

insight into the effectiveness of OST in India has been gleaned from naturalistic, observational studies utilizing a chart review approach. These studies, conducted in diverse settings ranging from tertiary care teaching institutions to community-based settings, provide a real-world perspective on the impact of OST on individuals grappling with opioid dependence.

A pivotal contribution to this body of research comes from *Bandawar et al. in 2015*²⁵, who conducted a significant study comparing the outcomes of buprenorphine maintenance, naltrexone maintenance, and psychosocial interventions. Notably, the findings illuminated the superiority of buprenorphine maintenance in treatment retention. The study revealed that individuals on buprenorphine maintenance were 4.5 times more likely to stay in treatment compared to those on naltrexone maintenance and seven times more likely than those undergoing psychosocial interventions alone. This underscores the pivotal role of pharmacological interventions, particularly buprenorphine, in enhancing treatment engagement and continuity. Furthermore, a study evaluating the long-term retention rates of patients on buprenorphine maintenance unveiled a notable 35% retention rate at the end of 6 years in a community *outreach clinic in New Delhi*²⁶. This extended perspective underscores the sustained impact of buprenorphine-based OST in real-world, community-driven healthcare settings. The findings emphasize the durability of treatment engagement, a critical factor in achieving positive outcomes and fostering long-term recovery.

In a trial assessing the practicality and effectiveness of buprenorphine as Opioid Substitution Therapy (OST) within *Tihar prison in New Delhi, 220 inmates* with opioid dependence underwent initiation. Notably, the retention rate within the prison environment was exceptionally high at 98%, and those retained displayed perfect compliance. The study revealed a significant reduction in inmates reporting the use of injected drugs, a result corroborated by urine drug screening²⁷. However, a distinct challenge arose post-release, characterized by a considerable attrition rate. This underscores the necessity for sustained endeavors to improve support post-release and ensure the continuity of care, aiming to optimize the advantages of

Office for South Asia; 2010.

²⁵ Mrunal Bandawar, Arun Kandasamy, Prabhat Chand, Pratima Murthy, and Vivek Benegal, Adherence to Buprenorphine Maintenance Treatment in Opioid Dependence Syndrome: A Case Control Study, National Library of Medicine, PMID: 26664083, 37(3): 330–332, (Jul-Sep 2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4649800/>

²⁶ Rao R, Kedia Gupta S, Ramshankar P, Agrawal A, Ambekar A, Dhawan A. Factors affecting long-term retention on opioid agonist maintenance treatment in a community drug treatment clinic: A retrospective cohort study. *Am J Addict.* 2018;27:311

²⁷ Jhanjee S, Jain R, Sethi H. United Nations Office of Drugs and Crime-Regional Office of South Asia. Rolling out OST in Tihar Prisons, India. A Scientific Report. 2013. [Last accessed on 2018 Sep 20]. Available from: http://www.unodc.org/documents/southasia/reports/Scientific_Report25-06-13V-3.pdf

OST beyond the prison setting.

(B) OST's Influence on Human Physiology: Examining the Health Impacts

In the realm of public health, the battle against addiction stands as a formidable challenge, demanding innovative and effective interventions to combat its devastating consequences. Among the various forms of addiction, opioid dependence occupies a particularly concerning position, with its widespread prevalence and detrimental impact on individuals and society at large. In India, the opioid epidemic has reached alarming proportions, with millions trapped in the cycle of addiction, their lives ravaged by the consequences of opioid dependence. Amidst this crisis, Opioid Substitution Therapy (OST) emerges as a beacon of hope, offering a scientifically proven and compassionate approach to treating opioid dependence and restoring lives.

As explained in the above paragraphs, OST is a proven treatment method that entails substituting illicit opioids with medically prescribed, extended-release opioids like methadone or buprenorphine²⁸. This substitution approach is designed to stabilize the opioid system in the brain, effectively diminishing cravings and withdrawal symptoms, which are the main triggers for relapse. Unlike approaches focused on complete abstinence, OST recognizes the significant physiological and psychological impacts of opioid dependence, offering a pragmatic and lasting route to recovery. The physiological implications of OST go beyond simply addressing symptoms. Through the stabilization of the opioid system, OST facilitates the restoration of regular brain function, resulting in enhanced cognitive abilities, better emotional control, and overall improved well-being. Additionally, OST lowers the likelihood of overdose, a prevalent cause of mortality in individuals with opioid use. Extensive research in India has thoroughly examined and recorded the influence of OST on human physiology. Consistent findings reveal that OST is successful in diminishing opioid consumption, enhancing treatment adherence, and lowering the chances of overdose, HIV transmission, and harms associated with injecting (such as abscesses, septicemia, and endocarditis)²⁹ and other adverse effects linked to opioid use. Moreover, OST has demonstrated positive outcomes in mental health, social functioning, and overall quality of life, providing a comprehensive approach to recovery that considers the diverse effects of opioid dependence.

(C) Positive Impact of OST

²⁸ *Supra* note 22

²⁹ Satyakam Mohapatra, Mihir Ranjan Nayak, and Manaswini Dash, A Clinical Study of Opioid Substitution Therapy in a Tertiary Care Center of Eastern India, National Library of Medicine, PMID: 29284807, 39(6): pp. 756–759, (Nov- Dec, 2017),

Like in other parts of the world, opioid replacement treatment has typically favourable benefits on human physiology when administered appropriately and under appropriate medical care in India. The following are some major effects:

1. Reduction of Withdrawal Symptoms: In opioid substitution therapy, the reduction of withdrawal symptoms entails the administration of drugs such as buprenorphine or methadone to ease the physical and psychological discomfort that people encounter upon stopping opioid use. These treatments lessen cravings and withdrawal symptoms by giving a controlled and regulated amount of less dangerous opioids, facilitating a more steady and managed transition away from illegal narcotics. In addition to improving people's physical health, this decrease makes the process of recovering from opioid dependency easier and more long-lasting.
2. Stabilization of Opioid Dependence: One of the main objectives of opioid substitution therapy is to provide medication, such as buprenorphine or methadone, to control and lessen the effects of opioids. These therapies work by giving patients a consistent and regulated dosage, which reduces cravings and obsessive drug-seeking behaviours and helps them achieve a more stable and balanced state. This stabilisation leads to fewer relapses and allows patients to resume their daily activities without the disruptive influence of uncontrolled drug use. It likewise fills in as a fundamental initial move towards resolving the hidden issues connected to narcotic reliance and advances a more steady and reasonable life for those getting treatment.
3. Risk Decrease for Irresistible Sicknesses: Opioid substitution therapy significantly reduces the risk of infectious diseases linked to opioid use. People are less likely to use risky injection methods like sharing needles if controlled doses of methadone or buprenorphine are made available. This mischief decrease approach assumes a urgent part in forestalling the transmission of blood-borne diseases, outstandingly HIV and hepatitis, inside the weak populace of individuals with narcotic reliance³⁰. Subsequently, lower frequency of irresistible diseases benefit the bigger populace. This aspect of opioid replacement therapy emphasizes the impact it has on public health and the requirement for all-encompassing strategies that manage addiction while also minimizing the potential negative effects on society of high-risk opioid use. Accordingly, the more extensive local area benefits from diminished paces of irresistible infections. This part of narcotic replacement treatment highlights its general wellbeing

³⁰ *Id.*

influence, underscoring the significance of complete methodologies that address dependence as well as alleviate the possible cultural results of high-risk ways of behaving related with narcotic use.

4. Worked on In general Wellbeing: Balanced out narcotic reliance is the objective of narcotic replacement treatment, or OST. By offering controlled medications, for example, buprenorphine or methadone, OST decreases the adverse impacts of unlawful narcotic use on one's wellbeing. This adjustment works on emotional wellness, diminishes the actual impacts of withdrawal, and lets loose individuals to zero in on having better existences. Controlling longings makes it simpler to partake in exercises that advance wellbeing. OST users frequently report having easier access to healthcare, which leads to improved physical and mental health. In light of everything, the all encompassing methodology of OST regards dependence as well as advances a more careful and durable improvement of individual prosperity.
5. Psychosocial Advantages: Narcotic replacement treatment (OST) has psychosocial benefits that go past physiological factors and embrace the mental and social parts of restoration. The many-sided connection among dependence and emotional well-being is tended to by OST, which consolidates medicine with guiding and support administrations. It provides a systematic framework within which individuals can investigate coping mechanisms, improve their sense of self, and cultivate resistance to triggers. Furthermore, the remedial association that creates during guiding assists with building local area and trust, which decreases sensations of forlornness. OST improves social functioning by encouraging stronger connections and lessening the stigma associated with opioid dependence. In light of everything, the psychosocial benefits of OST support a more exhaustive recuperation by engaging individuals to remake their lives, reintegrate into society, and gain the abilities important for supported balance.
6. Decrease in Crime: One significant consequence of OST is the diminishing in criminal way of behaving. Using medications, for example, buprenorphine or methadone to settle those experiencing narcotic reliance, OST means to treat the basic reasons of criminal conduct connected with drug use and compulsion. At the point when desires and withdrawal side effects diminish, there is to a lesser degree an inspiration to carry out violations to get narcotics. By breaking the pattern of wrongdoing associated with drug use, this damage decrease procedure lessens drug-related offenses and the comparing lawful repercussions. As well as aiding people, OST decreases crime and has bigger social repercussions, remembering expanded public security and less strain for the law

enforcement framework. This helpful impact features the few benefits of narcotic substitution treatment in advancing recuperation, bringing down recidivism, and reputable local area. Moreover, OST's attention on complete restoration, including guiding and support administrations, assists fiends with procuring survival techniques and fundamental abilities, limiting their need on unlawful strategies to keep up with their fixation. Furthermore, the strength that OST offers works on mental capability and navigation, which assists individuals with pursuing better choices and are more averse to perpetrate indiscreet violations. OST has displayed to impact psychological wellness in the Indian setting, notwithstanding side effect treatment. It has been exhibited that the treatment assists with emotional well-being issues like uneasiness, sorrow, and different side effects that as often as possible go with narcotic use. Through the regulation of the mind's narcotic framework, OST upgrades close to home control and mental execution, advancing a more steady emotional well-being climate for those getting treatment. Furthermore, social working — a vital part of restoration — is one more benefit of OST in India. By working on friendly working, individuals might get back a feeling of having a place and reintegrate into their interpersonal organizations, which decreases the shame connected to narcotic reliance and cultivates a really reassuring climate for recuperation.

7. Working on broad personal satisfaction is maybe one of the most broad advantages of OST on human physiology in India. OST helps people live happier, more content lives by treating the emotional and physical aspects of opioid dependence. Given the numerous negative effects of opioid use on one's health, this development is especially noteworthy. OST makes it possible for people to lead healthier, more satisfying lives by reducing the negative effects of opioid use, thereby improving not only their own well-being but also the well-being of their communities. The comprehensive and efficient OST approach addresses the intricate interaction of psychological, physiological, and social factors that contribute to opioid dependence in the Indian context.

(D) Challenges to Expanding OST coverage

Narcotic Replacement Treatment (OST) has many advantages, yet its accessibility and availability are seriously confined in India. The persistent stigma associated with opiate use and treatment is the most significant obstacle to the expansion of OST coverage.

- a) The stigma associated with opioid treatment and use: Individuals are deterred from getting the fundamental consideration due to the broad cultural obstruction of disgrace related with sedative use and treatment. As a result of deceptions about habit, narcotic

clients much of the time experience disgrace, segregation, and social rejection³¹. This stigma prevents people from seeking out therapies like Opioid Substitution Therapy (OST) and hinders their desire to talk about their issues. Fear of being judged by society and classified as a "drug user" can lead to a culture of silence that impedes public health initiatives and prevents honest conversations about addiction. In order to create a supportive atmosphere, motivate people to seek treatment, and advance a more compassionate awareness of the difficulties associated with opioid use and recovery, it is imperative that this stigma be addressed.

- b) Limited access to OST services: It is a major obstacle, especially in rural India where there are little resources of this kind. Disparities in geography exacerbate unequal distribution by making it more difficult for people living in isolated areas to receive necessary medical care. The impact of opioid dependency is made worse by the lack of OST services, which further perpetuates health disparities by putting obstacles in the way of people seeking assistance. In order to increase access, deliberate steps must be taken to close the gaps in the healthcare system between urban and rural areas. This will guarantee that all people, no matter where they live, can get inclusive and efficient OST treatments.
- c) Inadequate funding for OST programs³²: The problem is exacerbated by financial limitations, because OST programmes frequently struggle with little funding. These programmes' insufficient finance limits their ability to provide complete services, which in turn narrows the extent of their efficacy and outreach. Sufficient financing is essential for outreach and awareness campaigns that de-stigmatize opioid use and highlight the advantages of outpatient therapy, in addition to service growth.

A multifaceted strategy comprising improved public awareness, destigmatization initiatives, and smart investments in both urban and rural healthcare facilities are required to address these difficulties. By overcoming these obstacles, India can optimize the potential of OST as a vital tool in combating opioid dependence, fostering better public health outcomes, and improving the overall well-being of individuals grappling with opioid-related challenges.

³¹ Natasha Yvonne Hall, Long Le, Ishani Majmudar, Cathrine Mihalopoulos, Barriers to accessing opioid substitution treatment for opioid use disorder: A systematic review from the client perspective, *Drug and Alcohol Dependence*, Volume 221, 108651, (1 April 2021), <https://www.sciencedirect.com/science/article/abs/S0376871621001460>

³² *Id.*

IV. REGULATORY LANDSCAPE: LAWS GOVERNING OST

Drug dependence syndrome is recognized as a complex medical condition characterized by a multifactorial health disorder that often manifests as a relapsing and remitting chronic disease³³. Acknowledging the global significance of addressing drug-related issues, India, along with many other countries, has endorsed and ratified three key international conventions on drug-related matters.

The first is the *Single Convention on Narcotic Drugs*, adopted in 1961³⁴, which establishes a framework for the control of narcotic drugs to ensure their availability for medical and scientific purposes while preventing diversion for illicit use. The second is the *Convention on Psychotropic Substances, enacted in 1971*³⁵, which addresses the control of substances with potential psychoactive effects beyond those covered by the Single Convention. The third is the *UN Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, established in 1988*³⁶, aiming to combat drug trafficking and related offenses globally.

(A) Constitution and Narcotic Drugs and Psychotropic Substances Act

India's commitment to the prevention of drug abuse and trafficking is demonstrated through its legislative actions. The *Narcotic Drugs and Psychotropic Substances Act of 1985 (NDPS Act 1985)*³⁷ and its accompanying Rules represent a significant legal framework in this regard. Enacted to align with international conventions, the NDPS Act provides the legal basis for regulating the production, manufacture, possession, sale, purchase, transport, warehousing, use, consumption, import, inter-State, export inter-State, import into India, export from India, or transshipment of narcotic drugs and psychotropic substances³⁸. This legislation has undergone amendments in 1989, 2001, and 2014, reflecting evolving perspectives on drug-related issues and aligning with international standards. The amendments have aimed to enhance the effectiveness of enforcement measures, improve the legal framework to address emerging challenges and ensure compliance with evolving international obligations. The NDPSA

³³ Principles of Drug Dependence Treatment; Discussion paper. UNODC & WHO. 2009. [Last accessed on 2018 Sep 18]. Available from: http://www.unodc.org/docs/treatment/Principles_of_Drug_Dependence_Treatment_and_Care.pdf

³⁴ Mehanathan MC. Law of Control on Narcotic Drugs and Psychotropic Substances in India. 2nd. ed. New Delhi: Capital Law House; 2007

³⁵ *Id.*

³⁶ *Id.*

³⁷ Narcotic Drugs and Psychotropic Substances Act 1985, Act of Parliament, 1985, India, <https://iddashboard.legislative.gov.in/actsofparliamentfromtheyear/narcotic-drugs-and-psychotropic-substances-act-1985>

³⁸ Suresh Bada Math, Ashwin Mohan,1 and Naveen C Kumar, Opioid substitution therapy: Legal challenges, National Library of Medicine, PMID: PMC6201678, PMID: 30405251, 60(3): pp. 271–277, (Jul- Sept, 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6201678/>

classifies methadone and buprenorphine, the two most commonly used OST medications, as Schedule H drugs, which means that they have a high potential for abuse but also have legitimate medical uses.

*Article 47 of the Directive Principles of the Indian Constitution*³⁹ serves as the foundation for the nation's policy towards narcotic narcotics and psychotropic substances. This article lists the main responsibilities of the State, with a focus on raising living standards, nutrition, and public health. It especially calls for attempts to outlaw substances and alcohol that are damaging to one's health. Even though these Directive Principles are unenforceable, punitive drug laws sometimes use them as justification. The Indian Constitution divides the authority to enact laws between the Central and State Legislatures, with "drugs and poisons" falling under the concurrent list. This enables both the federal and state governments to adopt legislation relating to drugs. The distribution of legislative authority has significantly influenced the creation of several drug-related state laws, rules, and policies in addition to the federal government's federal drug policies. The way constitutional principles, legislative power, and policy initiatives are intertwined demonstrates India's comprehensive and cooperative approach to addressing the issues produced by drugs and psychotropic substances.

The laws controlling Opioid Substitution Therapy (OST) in India are complex. Professionals in the medical and legal fields frequently struggle with determining the proper legal framework for Out-of-Service (OST) services. Drugs used in over-the-counter treatments are subject to regulations pertaining to registration and licencing under the 1940 Drugs and Cosmetics Act. Furthermore, a significant piece of law that governs the purchase, handling, distribution, and prescription of medications and psychotropic substances used in over-the-counter treatment (OST) is the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985. In addition, by addressing concerns about the mental health and rights of those receiving OST, the Mental Healthcare Act of 2017 and the Rights of Persons with Disabilities Act of 2016 both expand upon the regulatory framework. In addition, by addressing concerns about the mental health and rights of those receiving OST, the Mental Healthcare Act of 2017 and the Rights of Persons with Disabilities Act of 2016 both expand upon the regulatory framework. OST service providers need to negotiate and abide by many laws, which differ based on the particular drug prescribed, the kind of services provided, and the surrounding environment, in order to guarantee the effective and lawful supply of OST services.

Using the power granted by clause (viii a) of Section 2 of the NDPS Act of 1985, the central

³⁹ Constitution of India 1949, Art. 47, Act of Parliament, 1949, India

government publicly identified on *May 5, 2015*, the narcotic drugs that are needed for their medical and scientific usage under *Section 8 of the NDPS Act*⁴⁰. Among the drugs on this list are morphine, methadone, codeine, hydrocodone, oxycodone, and fentanyl; buprenorphine is noticeably missing. Before making such announcements, governments must implement evidence-based procedures and participate in lengthy consultations. A list of Essential Psychotropic Drugs must be created immediately, and buprenorphine must be included in this crucial inventory. Expanding Opioid Substitution Therapy (OST) programmes across the public, non-public, and commercial sectors—including inpatient and outpatient facilities—requires this kind of inclusiveness⁴¹.

(B) Analysis of Section 27 and 64A of NDPS Act

*Section 27*⁴² of the Narcotic Drugs and Psychotropic Substances (NDPS) Act criminalizes the illegal possession of small quantities of narcotic drugs or psychotropic substances, primarily intended for personal consumption. The severity of punishment depends on the type of substance involved. For substances like cocaine, morphine, or diacetylmorphine, the penalty includes *rigorous imprisonment for up to 1 year, a fine up to 20,000 rupees, or both. For other substances, the prescribed punishment is imprisonment for up to 6 months, a fine up to 10,000 rupees, or both.* However, under *Section 64 A of the NDPS Act*⁴³, those who willingly seek therapy are exempt from punishment. Someone who chooses to enter a deaddiction after being charged with drug usage or small-scale possession is not prosecuted. According to the legislation, the conviction is to be kept pending as long as the person completes their deaddiction therapy within a year. If the court finds that the programme was successfully completed, the offender may be released with specific restrictions, such as refraining from offences for three years. Immunity might be withdrawn if you don't comply.

But there are problems with this clause. It lays a heavy expectation on patients to "complete" deaddiction and fails to adequately appreciate the ongoing relapsing nature of addiction. The focus on a "abstinence" paradigm might not be in line with the reality of treating addiction, as recovery is frequently a non-linear process and relapses are frequent. Furthermore, people receiving addiction treatment may have various and unique demands, making it unfeasible to mandate satisfactory completion within a set timeframe. A more flexible and nuanced approach that acknowledges the complexity of addiction and the individual road to recovery might be

⁴⁰ Narcotic Drugs and Psychotropic Substances 1985, sec. 8, Act of Parliament, (1985), India

⁴¹ Ashwin M, Pramod K Opioid Substitution therapy (OST); Using Buprenorphine (IPS – IAPP Task Force Recommendations for Organizing, Implementing and Scaling up of OST in India), 2017

⁴² Narcotic Drugs and Psychotropic Substances 1985, sec. 27, Act of Parliament, (1985), India

⁴³ Narcotic Drugs and Psychotropic Substances 1985, sec. 64A, Act of Parliament, (1985), India

beneficial in lessening the emphasis on finishing deaddiction treatment as a requirement for exemption.

A recent review by the *Vidhi Centre for Legal Policy in Punjab*⁴⁴ has revealed the underutilization of *Section 64A of the Narcotic Drugs and Psychotropic Substances (NDPS) Act*. Many substance users in the state are languishing in jails without receiving proper treatment. Notably, the *Central Rules of the Mental Healthcare Act, 2017*, mandate the availability of Opioid Substitution Therapy (OST) as part of minimum standards for mental health care in prisons. Recognizing opioid use as a medical illness demanding treatment, there is an urgent call to decriminalize the consumption of opioid substances. In order to address the public health concern of opioid use and harmonise legal frameworks with a more humane and efficient method of supporting those who are struggling with substance use disorders, it is imperative that treatment be made available, including OST.

V. FINDINGS AND SUGGESTIONS

In order to further improve the efficacy of OST in India, the recommendations stress the significance of a comprehensive and multifaceted strategy that includes healthcare, legislative changes, and ongoing research. It takes a mental adjustment to view opiate usage as primarily a health issue rather than an enforcement one. This point of view ought to be represented in policy, ensuring that patients get rights-based, compassionate treatment.

Opioid Substitution Therapy has to be incorporated into public health initiatives and firmly established in national drug policies. The creation of a unified system for OST centre licencing, registration, and recognition is necessary for simplified governance. OST makes the District Mental Health Programme more approachable and helpful. Promoting OST, particularly on an outpatient basis, among licenced medical professionals and private psychiatrists encourages a wider reach. It is imperative that OST regulations be streamlined and standardized across the country in order to provide a consistent framework that supports a humane and successful public health approach to the problems associated with opioid dependency.

Several significant findings are shown by the thorough narrative evaluation of Opioid Substitution Therapy (OST) in India. First off, as seen by the great retention rates and compliance seen, OST is clearly successful in stabilising people with opiate dependency, especially in confined settings like prisons. The efficacy of OST in mitigating injectable drug

⁴⁴ From Addict to Convict: The Working of the NDPS Act, 1985 in Punjab. Vidhi Centre for Legal Policy. 2018. [Last accessed on 2018 Sep 21]. Available from: <https://www.vidhilegalpolicy.in/reports/2018/8/23/from-addict-to-convict-the-working-of-the-ndps-act-1985-in-punjab>

usage and enhancing overall results in constrained environments is demonstrated by the accomplishments of programs like the Tihar prison pilot project. The evaluation does, however, draw attention to difficulties that arise after release, highlighting the necessity of a more comprehensive continuum of treatment outside of the regimented prison environment. The post-release attrition rates underscore the challenges associated with sustaining positive outcomes and the continuous vulnerability of individuals during their recuperation journey.

One legislative framework that significantly influences the development of OST is the Narcotic Drugs and Psychotropic Substances (NDPS) Act. It is vital to examine several legislative characteristics in order to bring them into line with a more humanitarian and public health-focused approach due to the underutilization of laws like Section 64A.

The review emphasises the advantages of OST, but it also emphasises the need to deal with problems that crop up after discharge and advocate for changes in laws that would increase the general effectiveness and accessibility of treatment for opiate addiction in India.

VI. CONCLUSION

In the process of evaluating the state of Opioid Substitution Therapy (OST) in India, a thorough narrative review and an analysis of particular study findings illuminated the many obstacles and potentially effective treatments in treating opioid dependency. Like many other nations, India struggles with the intricate interactions between the social, legal, and medical facets of opiate abuse. The narrative overview reveals the complex nature of opioid dependency, recognising it as a medical illness with far-reaching effects rather than just a behavioural problem. The complex physiological, psychological, and social aspects of opioid dependency need an approach to addiction treatment that is more nuanced and comprehensive than that of conventional models.

The Narcotic Drugs and Psychotropic Substances (NDPS) Act, which is the legislative framework governing the country, is a significant factor in determining how India responds to opioid abuse. Underutilised is Section 64A, which grants amnesty to addicts who volunteer for treatment. Examining the legal environment makes it necessary to reevaluate some provisions and shift the focus to public health. Legalisation of the use of opioids and the provision of all-encompassing treatment options, such as outpatient therapy (OST), are critical first steps towards bringing legal systems into compliance with modern healthcare requirements.

To sum up, the opioid substitution treatment in India represents advancements as well as obstacles. Although OST is clearly effective, its revolutionary potential will only materialise if society, legislators, and medical professionals adopt a new perspective on opiate addiction. It is

crucial to implement a comprehensive plan that incorporates post-release care for patients, legal reforms, and evidence-based treatments. India can lead the way in addressing opioid dependency in a more humane and efficient manner by promoting a holistic strategy that prioritises the rehabilitation and well-being of both people and communities.
