

Comparative Studies of Substance Use Disorder and Addiction Treatment Strategies in India and Developed Countries

Isha Goswami¹, Saiful Quamar Khan²

¹Student (Doctor of Pharmacy), Saraswati Institute of Pharmaceutical Sciences, Gandhinagar, Gujarat
Address – B-204, Sukh Shanti Apartments, Opp. Jekson Hydraulics, Changodar, Ahmedabad (382213), Gujarat
Phone No. - +91-8128909755
Email ID: [goswamiisha8\[at\]gmail.com](mailto:goswamiisha8[at]gmail.com)
ORCID ID - - <https://orcid.org/0000-0002-5171-6792>

²Student (Doctor of Pharmacy), Saraswati Institute of Pharmaceutical Sciences, Gandhinagar, Gujarat
Address – 704, Amber 2 Residency, Near Qadri Party Plot, TP-85, Juhapura, Ahmedabad (380055), Gujarat
Phone No. - +91-7771076570
Email ID: [saifulkhan.sk7\[at\]gmail.com](mailto:saifulkhan.sk7[at]gmail.com)
ORCID ID - <https://orcid.org/0000-0003-3239-0587>

Abstract: ***Background and Objectives:** All socio-cultural and economic domains are affected by substance use disorders and addiction to drugs. Most people still view addiction as merely a matter of willpower, and there is a dearth of awareness and among the populace. There is still a need to develop more effective and patient-centered solutions for the treatment of substance addiction, even if the therapy of individuals with SUD varies depending on the country. This review article compares drug addiction treatment methods used in India and other developing/developed nations. **Method:** We looked for articles published on the strategies for treating substance use disorder in PubMed, Embase, ProQuest databases, and Google Scholar. We also included quantitative studies of patients receiving de-addiction therapy from community hospitals through different journals. **Results:** A total of 44 articles are identified of which 36 were full-text reviews, 6 case studies were included and 2 were editorial letters. In which about 23 were on drug addiction epidemiology and treatment strategies in India and 21 included treatment strategies of developed countries. In 2020, there are estimated to be 79.08 million instances of substance use disorder in India, with a total recovery rate in that country of 6.9 percent, and 19.7 million cases in the USA, with a recovery rate of roughly 9.1 percent. **Conclusion and Interpretation:** According to a thorough analysis, developed nations have substantially higher rates of drug addiction recovery than India does. The alleged causes include a lack of medical facilities, effective treatment protocols, general attitudes regarding drug addiction, and terms used to manage treatment that have an impact on patients' recovery. By implementing more effective and patient-centered programs, addiction treatment tactics and protocols may be improved.*

Keywords: Drug addiction, Substance Use disorders, Treatment and Management, Strategies

1. Introduction

In the majority of countries, addiction remains a severe issue that affects people of all ages. In India, addiction is still seen as a personal decision rather than a physical illness. Additionally, therapeutic approaches differ from nation to nation. The majority of developing nations encounter numerous obstacles when trying to address substance use disorders. Traditional, societal, emotional, economical, or communicational hurdles may be present. It is possible to think of addiction as an illness involving the brain's reward regions. It interferes with the brain regions that control motivation, desires, and rewarding experiences. Three regions of the brain—the prefrontal cortex, extended amygdala, and basal ganglia—have been implicated in the beginning, development, and maintenance of substance use disorders, according to strong scientific evidence. Even though addiction may occasionally be a deliberate choice, most individuals with substance use disorders are completely unaware of this until it is pointed out to them. Some people who acquire substance use disorders do so as a result of using analgesics like opiate painkillers for their discomfort. Therefore, dealing with the treatment of substance use disorder involves very complex counselling issues and calls for professional expertise. The issue is that

people who suffer from substance use problems often lack education, as is the case in many nations like India. The National Survey on Drug Use and Health found that 19.7 million Americans (12 and older) had a substance use problem in 2017. (NSDUH). And roughly 75% of patients succeed in their objective of recovery, but after treatment, the relapse rate is about 85% within a year. Consequently, 19.7 million adults in the United States, or 9.1 percent, have overcome a substance use disorder. The most common disorder caused by illicit substances was marijuana use (4.1 million people). An estimated 2.1 million people, including 1.7 million people who misused prescription painkillers and 0.7 million people who misused heroin, had an opioid use disorder. In addition, a poll conducted by the UN Office on Drugs and Crime and India's Ministry of Social Justice found that out of India's slightly over one billion people, 62.5 million use alcohol, 8.75 million use cannabis, 2 million use opiates, and 0.6 million use sedatives or hypnotics. Approximately 17 to 26% of these people, according to the survey, are dependent users who need to receive rapid medical attention. Approximately 25% of opiate and cannabis users are likely to seek therapy, compared to approximately 16% of alcohol consumers. However, more than 128 000 individuals in India underwent drug addiction treatment during the fiscal year 2021 out of 2 million people who use opiates according to WHO. It was

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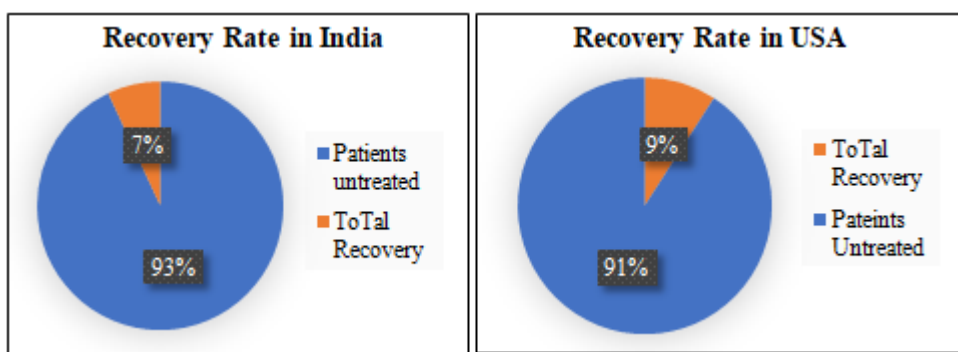
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significantly more than it was in the previous financial year. Nevertheless, this was still a drop from the total number of patients receiving addiction treatment in the 2016 fiscal year. Therefore, it may be assumed that when compared to other nations like the USA, India has a lower recovery rate and a higher prevalence of substance use disorder. SUDs are linked to a number of health risks, placing a significant burden on public health systems in terms of SUD prevention, treatment, and care, as well as the effects of SUDs on health. The lack of medical facilities, efficient treatment protocols, prevalent attitudes toward drug addiction, and terminology used to manage treatment that have an effect on patients' recovery are among the reported causes for low rate of recovery in substance use disorder. We did a study on the obstacles that could account for India's high prevalence rates and high incidence of post-treatment relapse. To combat the issue of drug use, various government agencies and ministries in India are involved.

To address the problem of drug usage, the same three general tactics are used as elsewhere in the world: "supply reduction," "demand reduction," and "harm reduction." The low rate of recovery is primarily caused by the treatment strategy or protocol used in addiction treatment.

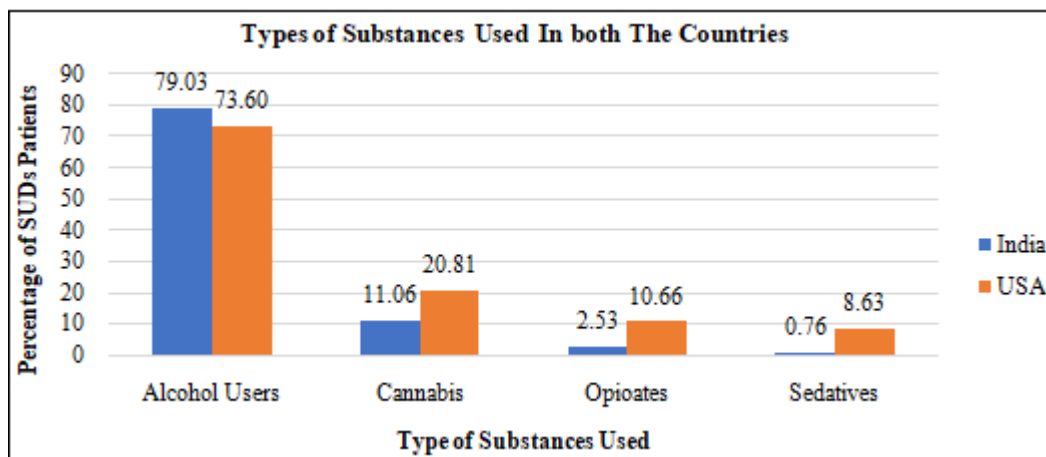
2. Recovery Rate Statistics

In India	
Patients untreated	73.63 million
Total Recovery	5.45 million
Total no. of SUDs patients	79.08 million
In USA	
Total no. of SUDs patients	19.7 million
Total Recovery	1.79 million
Patients Untreated	17.90 million



Statistics of types of Substances Used in Both Countries:

In India	millions	%	In USA	millions	%
Total No. of SUDs patients	79.08		Total No. of SUDs patients	19.7	
Alcohol Users	62.50	79.03389	Alcohol Users	14.5	73.60406
Cannabis	8.75	11.06474	Cannabis	4.1	20.81218
Opiates	2.00	2.529084	Opiates	2.1	10.6599
Sedatives	0.60	0.758725	Sedatives	1.7	8.629442



Source - NanditaSaikia, Benjamin Debbarma, The socioeconomic correlates of substance use among male adults in Northeast India, Clinical Epidemiology and Global Health, Volume 8, Issue 1, 2020, Pages 149- 157, ISSN 2213-3984, <https://doi.org/10.1016/j.cegh.2019.06.004>. (<https://www.sciencedirect.com/science/article/pii/S2213398418303403>)

3. Methods

The following are some of the main obstacles and variations in SUD treatment between India and other countries.

1) Differences in protocols or therapeutic regimes

In USA, the evaluation of a patient is done by methods such as RIPTEAR ("Risk of current use", "Initiation", "Pattern of

Use”, “Treatment attempts and outcomes”, “Effect of Substance Use”, “Abstinence”, “Return to Use Prevention Plan”). This stage aims to start the evaluation process and lay the groundwork for creating a treatment strategy. It consists of evaluating the patient's current drug use, learning when their addiction started, how much, how often, and how they administer the drug. It also includes gathering information about the patient's prior treatment for a substance use disorder and how they handled it. Questions should be asked about the patient's treatment goals, how well they were met, and for how long. Finally, questions should be asked about the effects of drug use, such as any negative or harmful side effects, and any previous abstinence periods. A physician can assess the best sort of treatment for the patient with the aid of evaluation procedures like RIPTEAR. This method implies a thorough examination of the patient's medical background and the development of an effective treatment strategy. There isn't any documentation that well-designed protocols are being employed in India to evaluate patients. Instead, the protocols now in use there involve asking patients a few simple questions about their usage patterns or, more frequently, how they became addicted in the first place. It is imperative that programmes like RIPTEAR be implemented in all public health care facilities, drug treatment facilities, rehabilitation facilities, and hospitals. In addition, the refer and initiate or stepped care model, which includes primary and family care providers in addition to other members of the treatment team, should be embraced. This approach includes specialty care in addiction treatment as one aspect of the system. It is considerably easier to overcome addiction when a variety of healthcare professionals with different specialties are involved. Other than that, the treatments and pharmaceuticals used to treat addiction vary greatly in India and other surrounding nations. For example, Naltrexone, Acamprosate, Disulfiram, Topiramate, and Gabapentin are the main medications that are utilized in nations such as the United States, as standard medications for the treatment of alcohol addiction. While these drugs may be provided in India, the public is not prepared for any side effects and is unwilling to travel for routine checks, which are crucial for assessing the effectiveness of addiction treatment. It also includes failing to properly educate and attend to patients in medical facilities. Another example is the medicine methadone, which has been used to treat substance use disorders since 1947 in the USA, but was only approved for use in treating SUD patients in India in 2012 by the UNODC (United Nations Office on Drugs and Crime) in cooperation with NDDTC (National Drug Dependence Treatment Centre). At a community clinic run by the NDDTC, Delhi, India, a cross-sectional observational study was done. The study looked at drug users' initial treatment encounters. The nine categories included "Traditional healer (TH)," "General practitioner (GP)," "Self-medication (SM)," "Local pharmacist (LP)," "Alternative medicine specialist/AYUSH (AM)," "General hospital (GH)," "Government-approved deaddiction center(GDC)," "Private deaddiction center(PDC)," and "Community deaddiction clinic(CDC)" according to the healthcare facilities and self-treatment options available for opioid users. Therefore, the patient's ability to overcome addiction is greatly influenced by the techniques or tactics utilized to treat substance use disorders. Utilizing both cutting-edge techniques and time-tested care

practices will help patient to get over the therapy's challenges.

Types of Addiction Treatment Programs and Recovery Rates in USA

S. No	Programs	Recovery Rate
1	Assisted recovery	54%
2	Unassisted Recovery	46%
3	Abstinence from Alcohol and all other drugs	52%
4	Abstinence from Alcohol and other drugs identified as problematic	73%
5	Self-Identify as being in recovery	46%
6	Do not Identify as Being in Recovery	54%
7	Formal Treatment	30%
8	Medication	9%
9	Recovery Support Groups	17%
10	Self-Health Groups	45%

Source – 1. Grant, B. F., Goldstein, R. B., Saha, T. D., Chou, S. P., Jung, J., Zhang, H., . . . Hasin, D. S. (2015). Epidemiology of DSM-5 alcohol use disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry*, 72(8), 757-766. doi: 10.1001/jamapsychiatry.2015.0584

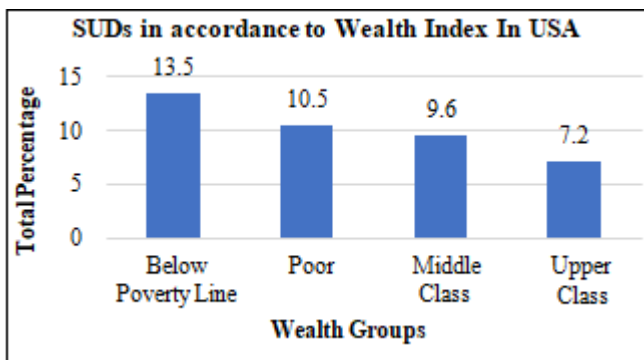
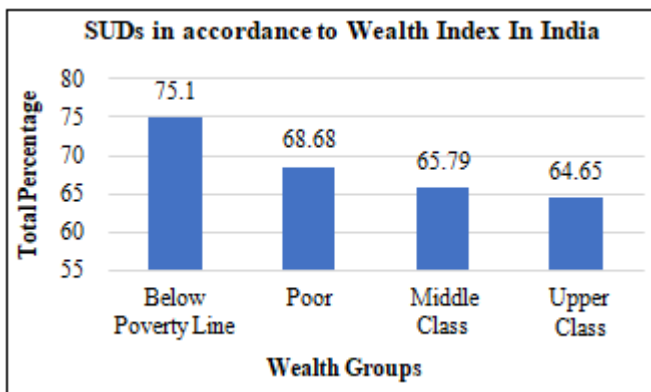
Source – 2. Nandita Saikia, Benjamin Debarma, The socioeconomic correlates of substance use among male adults in Northeast India, *Clinical Epidemiology and Global Health*, Volume 8, Issue 1, 2020, Pages 149- 157, ISSN 2213-3984, <https://doi.org/10.1016/j.cegh.2019.06.004>. (<https://www.sciencedirect.com/science/article/pii/S2213398418303403>)

2) Difference in Medical Facilities

According to the United States Addiction Rehab Industry Report 2020, there are 14000 drug rehab centres in the country by 2020. Numerous reports imply that India needs more drug rehabilitation facilities. The National Drug Dependence Treatment Centre (NDDTC) of the India AIIMS stated, "There is no data to assess the lack of treatment services, but the gap is enormous. Every part of the nation needs a de-addiction facility. Doctors from district hospitals and community health centres can give basic care and medications with some training, while more complex patients are transferred to higher centres like AIIMS." Self-medication is one of the common and preferred modes of therapy for patients in India with limited access to medical services. The majority of drug-control initiatives concentrate on limiting the flow of illicit narcotics. This is insufficient. By avoiding addiction and increasing the number of addiction treatment clinics, the emphasis must shift to demand reduction. While most psychiatric medications are prescribed in India, over-the-counter (OTC) medications can be purchased without a doctor's prescription. Due to a lack of regulatory oversight, many people can seek and buy them without a prescription, nevertheless. Most conventional protocols or medications do not receive the necessary attention or frequency in examinations due to a shortage of medical facilities. The provision of services such as residential care or recovery housing, where a person resides and is watched over for weeks in order to secure their safety or begin treatment, is not observable. In order to combat drug addiction and boost recovery rates, it is necessary to expand medical facilities and enact severe laws.

Prevalence Rate of Substance Use disorder in Accordance to Wealth Index in both the countries:

Wealth Groups	In India	In USA
Below Poverty Line	75.10%	13.5%
Poor	68.68%	10.5%
Middle Class	65.79%	9.6%
Upper Class	64.65%	7.2%



Source – 1. Grant, B. F., Goldstein, R. B., Saha, T. D., Chou, S. P., Jung, J., Zhang, H., . . . Hasin, D. S. (2015). Epidemiology of DSM-5 alcohol use disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry*, 72(8), 757-766. doi: 10.1001/jamapsychiatry.2015.0584

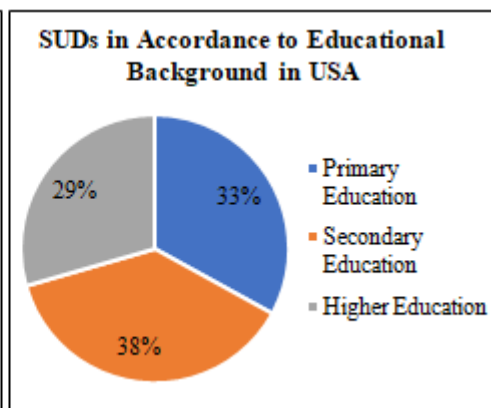
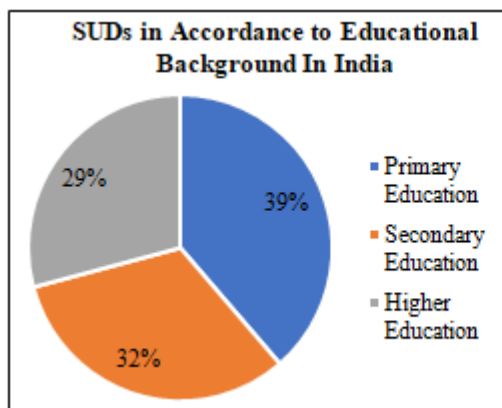
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3) Difference in Terminology Used and Attitude towards Patients

Addicts hardly ever receive that type of care and assistance. Due to the fact that substance use disorder is one of the most stigmatised illnesses, not only the patient but also the disease and treatment are stigmatised. Only around one in ten people with substance use disorders actually access treatment, which creates a significant treatment gap. Stigma is a major obstacle to treatment. Everyone can volunteer to modify the language we use to describe the patient, the condition, and the treatment in order to de-stigmatize substance use disorder, including healthcare professionals, families, and the media. Studies have shown that the environment in hospitals, the care patients receive, and the attitudes of medical professionals regarding their conditions all have an impact on how well patients stick to their therapy. A study conducted in south India suggests. In general, medical professionals ask about substance abuse but do not take any direct action. They have conflicting views on people with SUD, both favorable and negative. The amount of post-MBBS experience with techniques involving "brief-intervention" and "concerned and empathetic" attitudes was found to significantly positively correlate. The number of years of experience and "substance-specific management" approaches, however, showed a substantial negative association. The use of "short interventions" and the attitude of "concern and sympathy" were positively correlated. A mediation analysis showed that a caring and sympathetic attitude was able to mediate almost one-third of the overall influence of experience levels on brief intervention techniques. Therefore, serious efforts must be made to teach clinicians in the efficient management of SUD in order to develop an effective therapeutic modelling for addiction therapy. The attitudes of the doctors have an impact on procedures like short interventions. Programs aimed at altering doctors' attitudes may result in adjustments to their practices.

Prevalence Rate of Substance Use disorder In Accordance to Educational Background in both the countries:

Educational Background	In India	In USA
Primary Education	77	10.2
Secondary Education	64	11.6
Higher Education	58	9.1



Source 1: Grant, B. F., Goldstein, R. B., Saha, T. D., Chou, S. P., Jung, J., Zhang, H., . . . Hasin, D. S. (2015). Epidemiology of DSM-5 alcohol use disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry*, 72(8), 757-766. doi: 10.1001/jamapsychiatry.2015.0584

Source 2: Nandita Saikia, Benjamin Debbarma, The socioeconomic correlates of substance use among male adults in Northeast India, *Clinical Epidemiology and Global Health*, Volume 8, Issue 1, 2020, Pages 149- 157, ISSN 2213-3984, <https://doi.org/10.1016/j.cegh.2019.06.004>. (<https://www.sciencedirect.com/science/article/pii/S2213398418303403>)

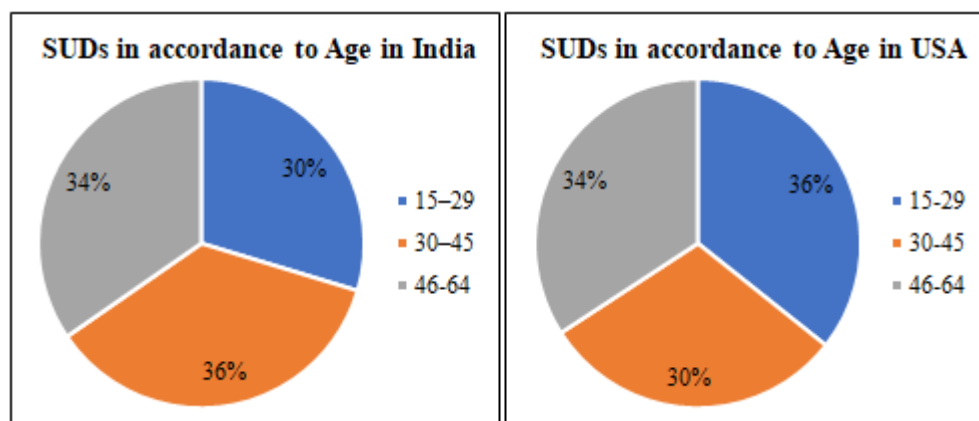
4) Differences in Education and Prevention Techniques

There are six crore alcohol addicts in India, which is more than there are people in 172 other countries combined, including Italy. A survey by the Social Justice and Empowerment Ministry and the All-India Institute of Medical Sciences (AIIMS) found that less than 3% of those with drinking problems receive any kind of treatment. 3.1 crore Indians, or 2.8% of the population, have admitted to using cannabis or cannabis-related substances, including Bhang, Ganja, Charas, Heroin, and Opium. Fewer than 1%, or about 1.18 crore people, use sedatives for recreational or non-medical purposes. The fact that many children and teenagers are affected is much more worrisome. The issue of child addiction is worst in Uttar Pradesh, Madhya Pradesh, Maharashtra, Delhi, and Haryana. The age range of 45 to 60 years old in India has the greatest prevalence rate of drug addiction (36percent). Additionally, rural areas (67.15 percent) exhibit a slightly higher rate of addiction than metropolitan areas (66 percent). Lack of education and the accessibility of substance used for addiction are two potential causes. Financial difficulties are another factor that fuels addiction. SUDs are found in populations with low incomes or those living below the poverty line in about 75.10% of cases. When compared to the USA, young people (16 to 30 years old) have a higher prevalence of addiction, which may be brought on by peer pressure or familial circumstances. In India, there should be more prevention initiatives to combat

substance use disorders that attempt to inform the underprivileged and destitute about addiction and its dangers. SAMSHA reported that in the previous year, "4.2 million adolescents between the ages of 12 and 17 got mental health care in a specialist setting. Inpatient or outpatient mental health treatments or prescription medication for a mental health concern were used by an estimated 41.4 million adults aged 18 or older in the previous year. The greater frequency of addiction in children is not attributable to a lack of information, but rather to the accessibility of the condition. The Indian government has many programmes in place to address the issue. In accordance with the spirit of the United Nations Conventions, the present Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985, and the NDPS Policy, 2012, the Ministry has developed a National Action Plan for Drug Demand Reduction (NAPDDR) for the years 2018 to 2023. NAPDDR aims to concentrate on preventive education, awareness generation, identification, counselling, treatment, and rehabilitation of drug dependent individuals as well as training and capacity building of service providers through collaborative efforts of the Central and State Governments and Non-Governmental Organizations. However, in order to reduce substance use disorder in the population, more educational programmes and prevention strategies still need to be implemented.

Prevalence Rate of Substance Use disorder In Accordance to Age in both the countries:

In India - Age	
15-29	192.79
30-45	232.22
46-64	224.87
In USA - Age	%
15-29	14.2
30-45	12
46-64	13.6
65 AND ABOVE	2



Source 1: Grant, B. F., Goldstein, R. B., Saha, T. D., Chou, S. P., Jung, J., Zhang, H., . . . Hasin, D. S. (2015). Epidemiology of DSM-5 alcohol use disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry*, 72(8), 757-766. doi: 10.1001/jamapsychiatry.2015.0584

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4. Results

The aggregate statistics showed that the recovery rate is 6.9% in India, where there are around 78.08 million people with substance use disorders, and about 9.1% in the USA, where there are 19.7 million people with substance use disorders. The data indicates that there are significantly fewer rehabilitation facilities than in the USA, and the treatment regimens for substance use disorders are not extensively documented. According to the polls, rehabilitation depends greatly on the terminology used in the treatment of substance use disorders as well as the manner in which the patient is treated. In India, just 3% of patients with alcohol use disorders actually obtain effective care.

5. Conclusion

A detailed investigation shows that developed countries have significantly greater rates of drug addiction recovery than India. The lack of medical facilities, efficient treatment protocols, prevalent attitudes toward drug addiction, and terminology used to manage treatment that have an effect on patients' recovery are among the reported causes. Addiction treatment strategies and procedures might be enhanced by the adoption of more successful and patient-centered programmes.

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Author Profile



Services)

Isha Goswami, Student of Doctor of Pharmacy at Saraswati Institute of Pharmaceutical Sciences, Dhanap, Gandhinagar. Co-founder of Mutagenex (Personalized Medicine and Patient Counselling



Saiful Khan, Student at Saraswati Institute of Pharmaceutical Sciences, Dhanap, Gandhinagar. Co-founder of Mutagenex (Personalized Medicine and Patient Counselling Services)