

Drug Invasion and Drug Invasion in India

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ABSTRACT: A drug is any chemical substance that causes a change in an organism's physiology or psychology when consumed.^{[1][2]} Drugs are typically distinguished from food and substances that provide nutritional support. Consumption of drugs can be via inhalation, injection, smoking, ingestion, absorption via a patch on the skin, suppository, or dissolution under the tongue.

In pharmacology, a drug is a chemical substance, typically of known structure, which, when administered to a living organism, produces a biological effect.^[3] A pharmaceutical drug, also called a medication or medicine, is a chemical substance used to treat, cure, prevent, or diagnose a disease or to promote well-being.^[1] Traditionally drugs were obtained through extraction from medicinal plants, but more recently also by organic synthesis.^[4] Pharmaceutical drugs may be used for a limited duration, or on a regular basis for chronic disorders.^[5]

KEYWORDS: drug, invasion, India, diagnose, disease, medicinal, chronic disorders, treatment, abuse

I.INTRODUCTION

Pharmaceutical drugs are often classified into drug classes—groups of related drugs that have similar chemical structures, the same mechanism of action (binding to the same biological target), a related mode of action, and that are used to treat the same disease.^{[6][7]} The Anatomical Therapeutic Chemical Classification System (ATC), the most widely used drug classification system, assigns drugs a unique ATC code, which is an alphanumeric code that assigns it to specific drug classes within the ATC system. Another major classification system is the Biopharmaceutics Classification System. This classifies drugs according to their solubility and permeability or absorption properties.^[8]

Psychoactive drugs are substances that affect the function of the central nervous system, altering perception, mood or consciousness.^[9] These drugs are divided into different groups like: stimulants, depressants, antidepressants, anxiolytics, antipsychotics, and hallucinogens. These psychoactive drugs have been proven useful in treating wide range of medical conditions including mental disorders around the world. The most widely used drugs in the world include caffeine, nicotine and alcohol,^[10] which are also considered recreational drugs, since they are used for pleasure rather than medicinal purposes.^[11] All drugs can have potential side effects.^[12] Abuse of several psychoactive drugs can cause addiction and/or physical dependence.^[13] Excessive use of stimulants can promote stimulant psychosis. Many recreational drugs are illicit and international treaties such as the Single Convention on Narcotic Drugs exist for the purpose of their prohibition.

A *medication* or *medicine* is a drug taken to cure or ameliorate any symptoms of an illness or medical condition. The use may also be as preventive medicine that has future benefits but does not treat any existing or pre-existing diseases or symptoms. Dispensing of medication is often regulated by governments into three categories—*over-the-counter* medications, which are available in pharmacies and supermarkets without special restrictions; *behind-the-counter* medicines, which are dispensed by a pharmacist without needing a doctor's prescription, and *prescription only* medicines, which must be prescribed by a licensed medical professional, usually a physician.^[19]

In the United Kingdom, behind-the-counter medicines are called pharmacy medicines which can only be sold in registered pharmacies, by or under the supervision of a pharmacist. These medications are designated by the letter P on the label.^[20] The range of medicines available without a prescription varies from country to country. Medications are typically produced by pharmaceutical companies and are often patented to give the developer exclusive rights to produce them.

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Those that are not patented (or with expired patents) are called generic drugs since they can be produced by other companies without restrictions or licenses from the patent holder.^[21]

Pharmaceutical drugs are usually categorised into drug classes. A group of drugs will share a similar chemical structure, or have the same mechanism of action, the same related mode of action or target the same illness or related illnesses.^{[6][7]} The Anatomical Therapeutic Chemical Classification System (ATC), the most widely used drug classification system, assigns drugs a unique ATC code, which is an alphanumeric code that assigns it to specific drug classes within the ATC system. Another major classification system is the Biopharmaceutics Classification System. This groups drugs according to their solubility and permeability or absorption properties.^[8]

Some religions, particularly ethnic religions, are based completely on the use of certain drugs, known as entheogens, which are mostly hallucinogens,—psychedelics, dissociatives, or delirants. Some drugs used as entheogens include kava which can act as a stimulant, a sedative, a euphoriant and an anesthetic. The roots of the kava plant are used to produce a drink which is consumed throughout the cultures of the Pacific Ocean.

Some shamans from different cultures use entheogens, defined as "generating the divine within"^[22] to achieve religious ecstasy. Amazonian shamans use ayahuasca (yagé) a hallucinogenic brew for this purpose. Mazatec shamans have a long and continuous tradition of religious use of *Salvia divinorum* a psychoactive plant. Its use is to facilitate visionary states of consciousness during spiritual healing sessions.^[23]

Silene undulata is regarded by the Xhosa people as a sacred plant and used as an entheogen. Its roots are traditionally used to induce vivid (and according to the Xhosa, prophetic) lucid dreams during the initiation process of shamans, classifying it a naturally occurring oneirogen similar to the more well-known dream herb *Calea ternifolia*.^[24]

Peyote, a small spineless cactus, has been a major source of psychedelic mescaline and has probably been used by Native Americans for at least five thousand years.^{[25][26]} Most mescaline is now obtained from a few species of columnar cacti in particular from San Pedro and not from the vulnerable peyote.^[27]

The entheogenic use of cannabis has also been widely practised^[28] for centuries.^[29] Rastafari use marijuana (ganja) as a sacrament in their religious ceremonies.

Psychedelic mushrooms (psilocybin mushrooms), commonly called *magic mushrooms* or *shrooms* have also long been used as entheogens.

The major drug laws of India are the Narcotic Drugs and Psychotropic Substances Act (1985) and the Prevention of Illicit Trafficking in Narcotic Drugs and Psychotropic Substances Act (1988).

II.DISCUSSION

Nootropics, also commonly referred to as "smart drugs", are drugs that are claimed to improve human cognitive abilities. Nootropics are used to improve memory, concentration, thought, mood, and learning. An increasingly used nootropic among students, also known as a *study drug*, is methylphenidate branded commonly as *Ritalin* and used for the treatment of attention deficit hyperactivity disorder (ADHD) and narcolepsy.^[30] At high doses methylphenidate can become highly addictive.^[31] Serious addiction can lead to psychosis, anxiety and heart problems, and the use of this drug is related to a rise in suicides, and overdoses. Evidence for use outside of student settings is limited but suggests that it is commonplace.^{[30][31]} Intravenous use of methylphenidate can lead to emphysematous damage to the lungs, known as *Ritalin lung*.^[32]

Other drugs known as designer drugs are produced. An early example of what today would be labelled a 'designer drug' was LSD, which was synthesised from ergot.^[33] Other examples include analogs of performance-enhancing drugs such as designer steroids taken to improve physical capabilities and these are sometimes used (legally or not) for this purpose, often by professional athletes.^[34] Other designer drugs mimic the effects of psychoactive drugs. Since the late 1990s there has been the identification of many of these synthesised drugs. In Japan and the United Kingdom this has spurred the addition of many designer drugs into a newer class of controlled substances known as a temporary class drug.

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Synthetic cannabinoids have been produced for a longer period of time and are used in the designer drug synthetic cannabis.

Recreational drug use is the use of a drug (legal, controlled, or illegal) with the primary intention of altering the state of consciousness through alteration of the central nervous system in order to create positive emotions and feelings. The hallucinogen LSD is a psychoactive drug commonly used as a recreational drug.^[36]

Ketamine is a drug used for anesthesia, and is also used as a recreational drug, both in powder and liquid form, for its hallucinogenic and dissociative effects.^[37]

Some national laws prohibit the use of different recreational drugs; and medicinal drugs that have the potential for recreational use are often heavily regulated. However, there are many recreational drugs that are legal in many jurisdictions and widely culturally accepted. Cannabis is the most commonly consumed controlled recreational drug in the world (as of 2012).^[38] Its use in many countries is illegal but is legally used in several countries usually with the proviso that it can only be used for personal use. It can be used in the *leaf* form of marijuana (*grass*), or in the resin form of hashish. Marijuana is a more mild form of cannabis than hashish.

There may be an age restriction on the consumption and purchase of legal recreational drugs. Some recreational drugs that are legal and accepted in many places include alcohol, tobacco, betel nut, and caffeine products, and in some areas of the world the legal use of drugs such as khat is common.^[39]

There are a number of legal intoxicants commonly called *legal highs* that are used recreationally. The most widely used of these is alcohol.

All drugs, can be administered via a number of routes, and many can be administered by more than one.

- Bolus is the administration of a medication, drug or other compound that is given to raise its concentration in blood to an effective level. The administration can be given intravenously, by parenteral, by intravenous, by intramuscular, intrathecal or subcutaneous injection.
- Inhaled, (breathed into the lungs), as an aerosol, inhaler, vape or dry powder (this includes smoking or vaping a substance).
- Injection as a solution, suspension or emulsion either: intramuscular, intravenous, intraperitoneal, intraosseous.
- Insufflation, as a nasal spray or snorting into the nose.
- Orally, as a liquid or solid, that is absorbed through the intestines.
- Rectally as a suppository, that is absorbed by the rectum or colon.
- Sublingually, diffusing into the blood through tissues under the tongue.
- Topically, usually as a cream or ointment. A drug administered in this manner may be given to act locally or systemically.^[40]
- Vaginally as a pessary, primarily to treat vaginal infections.

The Narcotic Drugs and Psychotropic Substances Act of 1985 was introduced in the Lok Sabha on 23 August 1985. It was passed by both the Houses of Parliament and it was assented by the President on 16 September 1985. It came into force on 14 November 1985 as THE NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES ACT, 1985 (shortened to NDPS Act). Under the NDPS Act, it is illegal for a person to produce/manufacture/cultivate, possess, sell, purchase, transport, store, and/or consume any narcotic drug or psychotropic substance.

Under one of the provisions of the act, the Narcotics Control Bureau was set up with effect from March 1986. The Act is designed to fulfill India's treaty obligations under the Single Convention on Narcotic Drugs, Convention on Psychotropic Substances, and United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. The Act has been amended three times - in 1988, 2001, and most recently in 2014.

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The 2014 Amendment recognizes the need for pain relief as an important obligation of the government. It creates a class of medicines called Essential Narcotic Drugs (ENDs). Power for legislation on ENDs has been shifted from the state governments to the central governments so that the whole country now can have a uniform law covering these medicines which are needed for pain relief.^{[1][2][3]}

Subsequently, NDPS rules which would be applicable to all states and union territories has been announced by the government of India in May 2014.^[4] It also has included 6 drugs namely Morphine, Fentanyl, Methadone, Oxycodone, Codeine and Hydrocodone.^[5] According to these rules, there is a single agency - the state drug controller - who can approve recognised medical institutions (RMI) for stocking and dispensing ENDs, without the need for any other licences. The RMIs are obliged to ensure proper documentation and to submit annual consumption statistics to the drug controller of the state.

The Act extends to the whole of India and it applies also to all Indian citizens outside India and to all persons on ships and aircraft registered in India.

A proposal to amend the NDPS Act via a Private Member's Bill was announced by Dr. Dharamvira Gandhi MP in November 2014. Dr. Gandhi's bill would legalise marijuana and opium.^[6]

III.RESULTS

Numerous governmental offices in many countries deal with the control and supervision of drug manufacture and use, and the implementation of various drug laws. The Single Convention on Narcotic Drugs is an international treaty brought about in 1961 to prohibit the use of narcotics save for those used in medical research and treatment. In 1971, a second treaty the Convention on Psychotropic Substances had to be introduced to deal with newer recreational psychoactive and psychedelic drugs.

The legal status of *Salvia divinorum* varies in many countries and even in states within the United States. Where it is legislated against the degree of prohibition also varies.

The Food and Drug Administration (FDA) in the United States is a federal agency responsible for protecting and promoting public health through the regulation and supervision of food safety, tobacco products, dietary supplements, prescription and over-the-counter medications, vaccines, biopharmaceuticals, blood transfusions, medical devices, electromagnetic radiation emitting devices, cosmetics, animal foods^[41] and veterinary drugs.

In India, the Narcotics Control Bureau (abbr. NCB), an Indian federal law enforcement and intelligence agency under the Ministry of Home Affairs, Government of India is tasked with combating drug trafficking and assisting international use of illegal substances under the provisions of Narcotic Drugs and Psychotropic Substances Act.^[42]

IV.CONCLUSIONS

The Prevention of Illicit Trafficking in Narcotic Drugs and Psychotropic Substances Act is a drug control law passed in 1988 by the Parliament of India. It was established to enable the full implementation and enforcement of the Narcotic Drugs and Psychotropic Substances Act of 1985. The Narcotics Control Bureau (NCB) is the chief law enforcement and intelligence agency of India responsible for fighting drug trafficking and the abuse of illegal substances.^{[7][8]} It was created on 17 March 1986 to enable the full implementation of the Narcotic Drugs and Psychotropic Substances Act (1985) and fight its violation through the Prevention of Illicit Trafficking in Narcotic Drugs and Psychotropic Substances Act (1988).^[8]

Anyone who contravenes the NDPS Act will face punishment based on the quantity of the banned substance.

- where the contravention involves small quantity (<1 kg), with rigorous imprisonment for a term which may extend to 6 months, or with fine which may extend to ₹10,000 or with both;
- where the contravention involves quantity lesser than commercial quantity but greater than small quantity, with rigorous imprisonment for a term which may extend to 10 years and with fine which may extend to ₹1 lakh;

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- where the contravention involves commercial quantity, with rigorous imprisonment for a term which shall not be less than 10 years but which may extend to 20 years and shall also be liable to fine which shall not be less than ₹1 lakh but which may extend to ₹2 lakh.

REFERENCES

1. "Drug". Dictionary.com Unabridged. v 1.1. Random House. 20 September 2007. Archived from the original on 14 September 2007 – via Dictionary.com.
2. ^ "Drug Definition". Stedman's Medical Dictionary. Archived from the original on 2014-05-02. Retrieved 2014-05-01 – via Drugs.com.
3. ^ H.P., Rang; M.M., Dale; J.M., Ritter; R.J., Flower; G., Henderson (2011). "What is Pharmacology". Rang & Dale's pharmacology (7 ed.). Edinburgh: Churchill Livingstone. p. 1. ISBN 978-0-7020-3471-8. a drug can be defined as a chemical substance of known structure, other than a nutrient of an essential dietary ingredient, which, when administered to a living organism, produces a biological effect
4. ^ Atanasov AG, Waltenberger B, Pferschy-Wenzig EM, Linder T, Wawrosch C, Uhrin P, Temml V, Wang L, Schwaiger S, Heiss EH, Rollinger JM, Schuster D, Breuss JM, Bochkov V, Mihovilovic MD, Kopp B, Bauer R, Dirsch VM, Stuppner H (December 2014). "Discovery and resupply of pharmacologically active plant-derived natural products: A review". Biotechnol Adv. 33 (8): 1582–614. doi:10.1016/j.biotechadv.2014.08.001. PMC 4748402. PMID 26281720.
5. ^ "Drug". The American Heritage Science Dictionary. Houghton Mifflin Company. Archived from the original on 14 September 2007. Retrieved 20 September 2007 – via dictionary.com.
6. ^ Mahoney A, Evans J (6 November 2008). "Comparing drug classification systems". AMIA Annual Symposium Proceedings: 1039. PMID 18999016.
7. ^ World Health Organization (2003). Introduction to drug utilization research (PDF). Geneva: World Health Organization. p. 33. ISBN 978-92-4-156234-8. Archived from the original (PDF) on 2014-01-22.
8. ^ Bergström, CA; Andersson, SB; Fagerberg, JH; Ragnarsson, G; Lindahl, A (16 June 2014). "Is the full potential of the biopharmaceutics classification system reached?". European Journal of Pharmaceutical Sciences. 57: 224–31. doi:10.1016/j.ejps.2013.09.010. PMID 24075971.
9. ^ "An overview of alcohol and other drug issues". Archived from the original on 2014-03-28. Retrieved 2014-03-16.
10. ^ Crocq MA (June 2003). "Alcohol, nicotine, caffeine, and mental disorders". Dialogues Clin. Neurosci. 5 (2): 175–185. doi:10.31887/DCNS.2003.5.2/macrocq. PMC 3181622. PMID 22033899.
11. ^ "Recreational Drug". The Free Dictionary. Archived from the original on 15 September 2014. Retrieved 16 March 2014.
12. ^ "MHRA Side Effects of Medicines." Archived 2014-05-02 at the Wayback Machine MHRA Side Effects of Medicines,
13. ^ Fox, Thomas Peter; Oliver, Govind; Ellis, Sophie Marie (2013). "The Destructive Capacity of Drug Abuse: An Overview Exploring the Harmful Potential of Drug Abuse Both to the Individual and to Society". ISRN Addiction. 2013: 450348. doi:10.1155/2013/450348. PMC 4392977. PMID 25938116.
14. ^ Harper, Douglas. "drug". Online Etymology Dictionary.
15. ^ Tupper KW (2012). "Psychoactive substances and the English language: "Drugs," discourses, and public policy". Contemporary Drug Problems. 39 (3): 461–492. doi:10.1177/009145091203900306. S2CID 55498558.
16. ^ Corriente Córdoba, Federico (1997). Dictionary of Andalusí Arabic. Leiden: Brill Publishers. p. 130. ISBN 978-90-04-09846-6.
17. ^ "Reflejos iberorromances del Andalusí (h̄tr)" [Ibero-Romance reflections of the Andalusí (h̄tr)]. Al-Andalus Magreb. I: 77–87. 1993.
18. ^ Anders, V; et al. (2001–2012). "Droga". Etimologías de Chile (in Spanish). Retrieved 2012-02-17.

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

(A Monthly, Peer Reviewed Online Journal)

Visit: www.ijmrsetm.com

Volume 2, Issue 12, December 2015

19. ^ "About Registration: Medicines and Prescribing". Health and Care Professions Council. Archived from the original on 2014-01-13. Retrieved 22 January 2014.
20. ^ "Glossary of MHRA terms – P". U.K. Medicines and Healthcare products Regulatory Agency. Archived from the original on 2008-11-14. Retrieved 2008-11-05.
21. ^ ""Generic Drugs", Center for Drug Evaluation and Research, U.S. Food and Drug Administration" (PDF). Fda.gov. Archived (PDF) from the original on 29 August 2013. Retrieved 11 October 2013.
22. ^ Entheogen, [dictionary.com], archived from the original on 2012-02-13, retrieved 2012-03-13
23. ^ Valdés, Díaz & Paul 1983, p. 287.
24. ^ Sobiecki, Jean-Francois (July 2012). "Psychoactive Spiritual Medicines and Healing Dynamics in the Initiation Process of Southern Bantu Diviners". *Journal of Psychoactive Drugs*. 44 (3): 216–223. doi:10.1080/02791072.2012.703101. PMID 23061321. S2CID 32876088.
25. ^ El-Seedi HR, De Smet PA, Beck O, Possnert G, Bruhn JG (October 2005). "Prehistoric peyote use: alkaloid analysis and radiocarbon dating of archaeological specimens of Lophophora from Texas". *J Ethnopharmacol*. 101 (1–3): 238–42. doi:10.1016/j.jep.2005.04.022. PMID 15990261.
26. ^ "A Brief History of the San Pedro Cactus". Mescaline.com. Archived from the original on 28 September 2014. Retrieved 11 October 2013.
27. ^ Terry M (2013). "Lophophora williamsii". IUCN Red List of Threatened Species. 2013. doi:10.2305/IUCN.UK.2013-1.RLTS.T151962A581420.en. Retrieved 2013-10-29.
28. ^ Souza, Rafael Sampaio Octaviano de; Albuquerque, Ulysses Paulino de; Monteiro, Júlio Marcelino; Amorim, Elba Lúcia Cavalcanti de (October 2008). "Jurema-Preta (Mimosa tenuiflora [Willd.] Poir.): a review of its traditional use, phytochemistry and pharmacology". *Brazilian Archives of Biology and Technology*. 51 (5): 937–947. doi:10.1590/S1516-89132008000500010.
29. ^ Bloomquist, Edward (1971). *Marijuana: The Second Trip*. California: Glencoe.
30. ^ Abelman, D (6 October 2013). "Mitigating risks of students use of study drugs through understanding motivations for use and applying harm reduction theory: a literature review". *Harm Reduct J*. 14 (1): 68. doi:10.1186/s12954-017-0194-6. PMC 5639593. PMID 28985738.
31. ^ Smith, M; Farah, M (September 2011). "Are prescription stimulants "smart pills"? The epidemiology and cognitive neuroscience of prescription stimulant use by normal healthy individuals". *Psychol. Bull*. 137 (5): 717–41. doi:10.1037/a0023825. PMC 3591814. PMID 21859174.
32. ^ Sharma, R. "Ritalin lung". Radiopedia.org. Archived from the original on 30 July 2012. Retrieved 1 July 2012.
33. ^ "Discovery And Synthesis Of LSD: What You Probably Did Not Know About It - Chemistry Hall". 2013-06-13. Archived from the original on 2013-06-13. Retrieved 2013-06-13.
34. ^ Teale P, Scarth J, Hudson S (2012). "Impact of the emergence of designer drugs upon sports doping testing". *Bioanalysis*. 4 (1): 71–88. doi:10.4155/bio.11.291. PMID 22191595.
35. ^ Lingeman (1970). *Drugs from A–Z: A Dictionary*. Penguin. ISBN 978-0-7139-0136-8.
36. ^ "DrugFacts: Hallucinogens - LSD, Peyote, Psilocybin, and PCP". National Institute on Drug Abuse. December 2014. Archived from the original on February 16, 2014. Retrieved February 17, 2014.
37. ^ Morgan, CJ; Curran, HV; Independent Scientific Committee on, Drugs. (January 2012). "Ketamine use: a review". *Addiction*. 107 (1): 27–38. doi:10.1111/j.1360-0443.2011.03576.x. PMID 21777321.
38. ^ "World Drug Report 2012" (PDF). UNODC. 2012. p. 69. Archived (PDF) from the original on 13 July 2012. Retrieved 9 December 2014.
39. ^ Al-Mugahed, Leen (2008). "Khat Chewing in Yemen: Turning over a New Leaf: Khat Chewing Is on the Rise in Yemen, Raising Concerns about the Health and Social Consequences". *Bulletin of the World Health Organization*. 86 (10): 741–2. doi:10.2471/BLT.08.011008. PMC 2649518. PMID 18949206. Archived from the original on 10 March 2014. Retrieved 22 January 2014.
40. ^ "The administration of medicines". *Nursing Times*. EMAP Publishing Limited. 19 November 2007. Archived from the original on 17 June 2010. Retrieved 11 January 2014.

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Technology & Management (IJMRSETM)**

(A Monthly, Peer Reviewed Online Journal)

Visit: www.ijmrsetm.com

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41. ^ "Animal Food & Feeds". Fda.gov. Archived from the original on 22 March 2014. Retrieved 14 March 2014.
42. ^ "Narcotics Control Bureau". 2009-04-10. Archived from the original on 2009-04-10. Retrieved 2012-09-12.