



The Heroin Overdose

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Abstract:

Opioid overdose is a major cause of premature death among heroin users. This article examines research on heroin overdose. The different characteristics of overdose cases are discussed including factors associated with overdose; Drug tolerance, Route of drug administration, Withdrawal symptoms- case study, prevention of opioid overdose. [1] The reason behind this review article work is to concerns about the prevalence of heroin-related morbidity and mortality, overdose, etc. are also overviewed in this review work. This review article also focused on symptoms of overdose and withdrawal symptoms. [2]

Keywords: Opioid, overdose, Effects, Death

Introduction:

Heroin is a painkiller derived from morphine. It is very addictive and known for causing withdrawal symptoms. It has been illegal in United States since 1914 and in India since 1985.It is in the class of drugs known as opioids .The “Opioids” is the compounds that are extracted from the poppy seed as well as semisynthetic and synthetic compounds with similar properties that can interact with opioid receptors in the brain.

Opioids are commonly used for the treatment of pain and include medicines. One of the Adverse Effect of using heroin is the risk of overdose. An overdose occurs when someone takes too much of substance, usually a drug. A heroin overdose may cause serious, harmful symptoms or even death. Worldwide, about 0.5 million deaths are attributable to drug use .More than 30% of those deaths caused by overdose. It is highly addictive and people who use it can become dependent and experience cravings .Initial effects include feelings of wellbeing and relief from physical pain.

The number of opioid overdose has increased in recent years in several countries. It is due to the increased use of opioids in management of chronic pain and increasing use of highly potent opioids appearing on the illicit drug market .During the COVID-19 pandemic, a further substantial increase in drug overdose deaths was reported in the USA .Primarily driven by rapid increases in overdose deaths involving synthetic opioids.

Beyond approaches to reducing drug use in general in the community, there are specific measures to prevent opioid overdose. In this increasing the availability of opioid dependence treatment, including for those dependent on prescription opioids .Also providing and preventing irrational or inappropriate opioid prescribing .It also includes monitoring opioid prescribing and dispensing, limiting inappropriate over the counter sales of opioids.

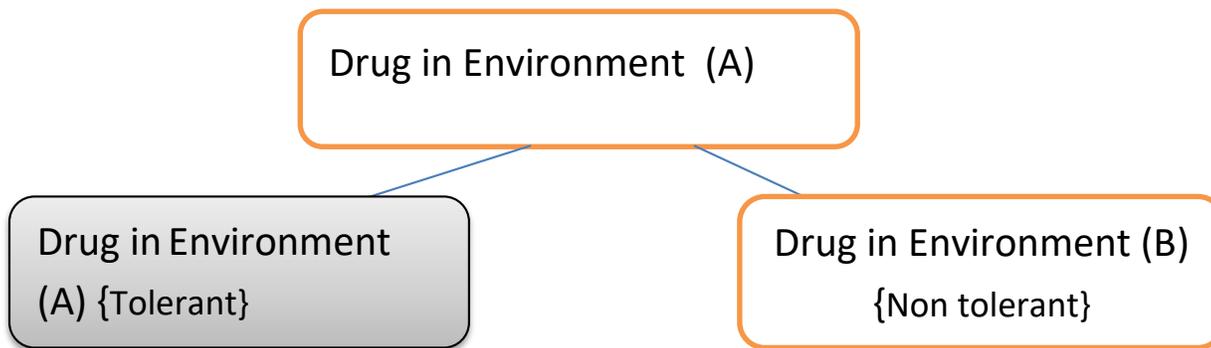
The gap between recommendation and practice is significant. Only half of countries provide is significant .Only half of the countries provide access to effective treatment options for opioid dependence and less than 10% of people worldwide in need of such treatment receiving it.[3]

Summary:

Pavlovian condition and Drug tolerance:

Tolerance is said to occur when the effect of a drug decreases over the course of repeated administration. Pavlovian conditioning contributes to tolerance. As the drug is administered more and more often, and the conditional response grows in strength, the weakening of the drug effect becomes more pronounced.

Figure1.Tolerance Development Phase



The term situational specificity of tolerance is phenomenon that highlights the contribution pavlovian conditioning to drug tolerance. The simplest design to illustrate situational specificity of tolerance is shown in figure 1.

During the tolerance-development phase, an individual administered a drug in a particular environment (as shown in colored box) on a number of occasions that is sufficient for tolerance to be apparent. On a final tolerance test session, if the drug is administered in the usual drug-administration environment tolerance is apparent, which means the drug effect is smaller than it was at the start of the tolerance development phase. However, tolerance is attenuated if the drug administered in a different environment (the white box in figure.1)[4]

Route of drug administration:

Route of drug administration is an important factor for effect on users health, including risk of dependence, infection and experience of route specific health complication. As for the injection drug users, there is high risk for HIV and Hepatitis C infection, drug dependence and overdose. Unemployment, insecure income source, homelessness, school dropout and early onset substances abuse are the individual-level risk factors of the drug abuse.

Non-injection routes of administration are expensive in terms of “Value for Money” therefore transitioning to injection drug user (IDU) can be economically good. Drug price and cost-effectiveness can also play a role in determining patterns in route of administration.

The result of use of non-medical prescription opioid use can lead to physical dependence and addiction, at high-doses, the drugs can cause respiratory distress and death. The Reason for Non-medical use of prescribed drug is many but the common are individuals desire to relieve the physical pain. This review article suggests that non-medical prescription opioid use can involve various route of administrations, the choice can vary from gender and age. [5]

Withdrawal symptoms:

Individual who eliminate addictive substance from their lives often feel the effects of drug and alcohol withdrawal symptoms. These signs and symptoms can be physically and psychologically painful. Common symptoms include headache, sleep problems and changes to mood. These can occur after reducing or ceasing drugs or alcohol. The condition strikes those who use a substance regularly and suddenly stop. When there is a break in routine, your brain reacts with a surge of adrenaline and cravings. This in turn, creates symptoms related to the drug. [6]

To study the withdrawal symptoms of drug one subject with hypomanic profile on opioid withdrawal are presented in this article. Patient were included if they had encountered hypomanic profile with or without depressive symptoms during the first week after stopping opioids.

This study was approved by the Research Ethics Committee of Kerman University of Medical Sciences and Health Services and is in accordance with the Helsinki Declaration of 1975.

Case: Heroin addiction

The subject was a 44-year-old man with a history of 14 years of heroin dependence. He had stopped opium unsuccessfully more 10 times, each taking 10 days to 1 month. In comparison, he had two long absence periods lasted 3 years and 9 months. Further, he replaced opium with alcohol, which he continued up to index interview. In 2007, he used to snort heroin 0.25 g/d before he started taking methadone 15 mg/d as detoxification lasted 14 days. After discontinuation of methadone, he found decreased for sleep, severe agitation, euphoric mood and increased sexual desire. The subject reported features of Hyperthymic temperament. [7]

Prevention of opioid overdose:

Beyond approaches to reducing drug use in general in the community, there are specific measures to prevent opioid overdose. These includes increasing the availability of opioid dependence treatment, including for those dependent on and preventing irrational or inappropriate over-the-counter sales of opioids can be also included.[3]

Conclusion:

This review article offers overview over opioid overdose. It includes brief acknowledgement to drug tolerance, route of drug administration that's give information about route of administration of individual addicted to drugs, withdrawal symptoms that includes patient

case study and prevention of opioid overdose and different characteristics of overdose cases which are discussed including factors associated with overdose.

Acknowledgement:

This review article is overview of several research articles and do not have any own research or tested information included.

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