

A Review on The Prevalence of Drug Addiction Caused by Prescription Drug and Their Detrimental Health Effects

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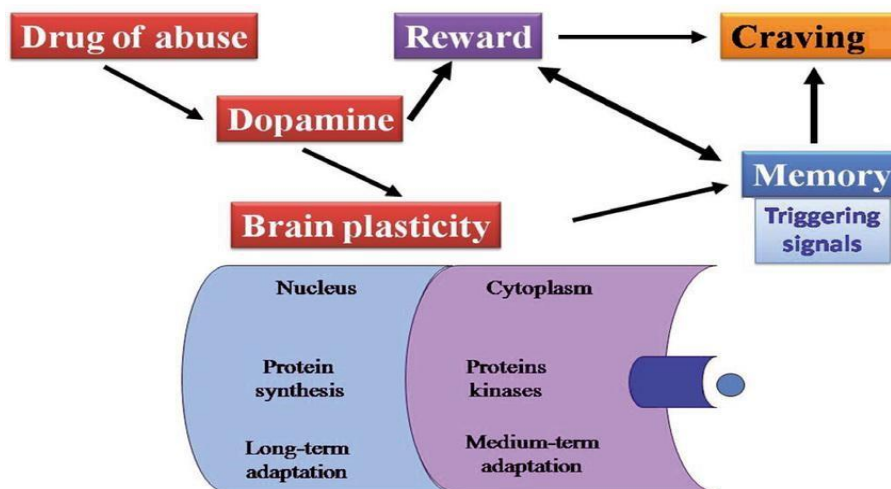
ABSTRACT

Objective: The main purpose of this review is to comprehend the addiction of different prescription drugs and their effect on the human body.

Keywords: Benzodiazepine addiction, Drug addiction, psychostimulants.

INTRODUCTION

Drug addiction is an extensive term used for a drug taking behavior and which lead to a serious chronic and relapsing disorder. The people who are using drug as addiction must opt a long-term treatment to get rid of it. Drugs may affect various organs but when it effects the brain and leads to habitual use of drug; than it is term as addiction. A major cause of drug addiction is a personality disorder, genetic factors etc. Mesolimbic dopamine pathway is the concern for precipitating characteristic for most cases of drug abuse. G- protein couple receptor and ligand gated ion channel is the site of action which may also activate the neurological circuit and thus leads to addiction. They are many classes of drugs which causes addiction but are being prescribed for the treatment of several disorders. Classes of drugs that may cause addiction includes benzodiazepines, opiates, sleeping pills, psychostimulants.



Benzodiazepines have many psychoactive metabolites and long-term exposure can change the central nervous system which may lead to tolerance and addiction. It is also approved for many psychiatric conditions like anxiety and panic disorder. It is most popular among drug users, while therapeutic users developed a physical withdrawal syndrome upon abruption of Benzodiazepine. Withdrawal syndrome of benzodiazepine consist of abnormal body sensation, nausea, insomnia, headache, confusion and paranoia etc.

Use of opiates can cause sedation and its long term used produce alteration in physical activities. Opiates cause changes in mesolimbic DA neurons. Psychostimulants include amphetamine it stimulates the CNS and PNS. Psychostimulants increase the monoamine singles by interfering with transporter function. It is used for ADHD (attention deficit hyperactivity disorder) and narcolepsy. It may produce the sedation and euphoria and increases brain activity. It can also increase the level of norepinephrine and dopamine in synaptic cleft.

Table 1. drugs which causes addiction, uses and side effect.

Drugs	Uses	Side effect
Alprazolam	Generalized anxiety and panic disorder	Sedation, slurry speech, irritability and hypersensitivity
Lormetazepam	hypnotic, anxiety, antiseizure, sedation and relax skeletal muscle	Sedation, CNS effects, respiratory depression, fatigue, drowsiness, amnesia.
Sleeping pills	Insomnia, sleep disturbance	Changes in appetite, diarrhea, unusual dreams.
Amphetamine	attention-deficit/hyperactivity disorder (ADHD) and narcolepsy	Serotonin syndrome, tachycardia, dry mouth, restlessness.
Opiates	Sever pain	Nausea, constipation, urinary retention, pruritis, opioid induce hyperalgesia

Withdrawal symptoms are treated but required proper medication, support and monitoring. Family plays an important role in rehabilitation or overcoming the effect of drug abuse because drug abuse often cause isolation from the social life.

METHODOLOGY

In identifying sources for this comprehensive review, various databases were used. Firstly, google scholar and cochrane library was employed to take an initial sample of comprehensive reviews to check the availability of type of articles. Regarding google scholar, many different search terms were initially used to establish a list of review article. In starting a basic search of Drug Addiction was used. web of Sciences, Science Direct, PubMed databases were also used for reviewing high impact articles. For narrower search option, EBSCO Information service was used to catch multiple topics on drug addiction. The inclusion criteria focus on abstract of different article based on drug addiction like Monoamine transporters and psychostimulant addiction, opiates and cocaine addiction, molecular mechanism of psychostimulant addiction, addictive properties of benzodiazepine and many more related topics on drug addiction.

CONCLUSION

The major focus of this study is addiction or abuse of different prescription drugs which cause dependences. Prescription drugs like opiates, psychostimulants these all are approved by FDA for the treatment of different medical condition. Moreover, this review is focused on changes in brain functions or dysregulation due to drug addiction or drug abuse that further leads to hyperkatifeia (in this condition's negative symptoms and signs of emotions are more powered). Different medication and rehabilitation therapies that reverse the patient hyperkatifeia conditions like negative emotions, brain stress, pain may be used as mono or combination therapy. Dopamine in reported as major drug which is commonly used to reverse the above liability so we can

also conclude that neurochemical and behavioral effects of cocaine and other psychostimulants addiction are modulated by serotonergic or nor-adrenergic systems. At the same time the main focus of this study was to determine the factors that can predict susceptibility to drug addiction, plan to help in determining the early signs and symptoms of development and how to decrease the use of drug which cause addiction.

REFERENCES

1. Cami, J. and Farré, M., 2003. Drug addiction. *New England Journal of Medicine*, 349(10), pp.975-986.
2. Holmes, D., 2012. Prescription drug addiction: the treatment challenge. *The Lancet*, 379(9810), pp.17-18.
3. Kreek, M.J., Levran, O., Reed, B., Schlussman, S.D., Zhou, Y. and Butelman, E.R., 2012. Opiate addiction and cocaine addiction: underlying molecular neurobiology and genetics. *The Journal of clinical investigation*, 122(10), pp.3387-3393
4. Tan, K.R., Brown, M., Labouèbe, G., Yvon, C., Creton, C., Fritschy, J.M., Rudolph, U. and Lüscher, C., 2010. Neural bases for addictive properties of benzodiazepines. *Nature*, 463(7282), pp.769-774.
5. Howell, L.L. and Kimmel, H.L., 2008. Monoamine transporters and psychostimulant addiction. *Biochemical pharmacology*, 75(1), pp.196-217
6. Eisch, A.J. and Harburg, G.C., 2006. Opiates, psychostimulants, and adult hippocampal neurogenesis: Insights for addiction and stem cell biology. *Hippocampus*, 16(3), pp.271-286.
7. Badiani, A., Belin, D., Epstein, D., Calu, D. and Shaham, Y., 2011. Opiate versus psychostimulant addiction: the differences do matter. *Nature Reviews Neuroscience*, 12(11), pp.685-700.
8. Nestler, E.J., 2004. Molecular mechanisms of drug addiction. *Neuropharmacology*, 47, pp.2432.