Perspective

Drugs: Behavioural effects

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ABSTRACT

The way your body and mind work is affected by drugs, and they can alter how you feel, think, and act. Drug use is a personal choice, with many motivations and methods. Animal behavioural models of psychiatric diseases cannot accurately replicate human psychopathology, but they can be used to assess the behavioural changes brought on by drugs and to make hypotheses regarding the functioning of the CNS and its participatison in psychiatric disorders. The three key characteristics of drugs that support, guide, and control drug-seeking behaviour are their positively reinforcing, discriminative, and unpleasant stimulus features. Each process can be examined in terms of underlying neurological and behavioural mechanisms that interact and complement one another. The elicitation and maintenance of drug-seeking behaviour also depend heavily on environmental stimuli that have been trained to mimic the effects of the substances. Both the behavioural and neurological systems are susceptible to modifying elements like social, environmental, and genetic influences, as well as the person's prior behavioural and pharmaceutical experiences. Numerous animal models have been employed to investigate the link between social behaviour and drug misuse. Here, the discussion was done to know how various drugs of abuse affect the three most often used animal social behaviour models: the resident-intruder paradigm, the social play test, and the social interaction test.

Keywords: CNS, Behavioural changes, Psychoactive drugs, Drug addiction, Clinical research

Introduction

Drugs are chemicals that change how the body works physically or cognitively. Most are recommended by a doctor and used to treat illnesses, while some are banned. Depending on the substance, the user, and their circumstances, drugs can have a variety of affects. Drug use can have an impact on all aspects of your life, not just your physical and mental health [1]. One tablet is enough to kill. Drugs that affect consciousness can delay or speed up the central nervous system as well as vital autonomic processes including blood pressure, breathing, heart rate, and body temperature. Drug misuse also affects the levels of several neurotransmitters, or chemical messengers, in the brain, such as: Dopamine, Serotonin, Norepinephrine etc [2]. When you take a medicine, it enters your bloodstream. Depending on how you ingested the medicine, this process can happen quickly. Drugs affect how neurotransmitters, which are used by neurons to send, receive, and process information, work. Because some drugs' chemical structures resemble those of neurons, like heroin and marijuana, they can stimulate neurons [3]. This enables the medications to adhere onto the neurons and turn them on. The natural reward system is meant to be taken over by psychoactive drugs based on their pharmacological qualities, which would eventually lead to compulsive drug use and seeking. Contrary to what pure pharmacological reinforcement would imply, psychoactive drugs are really utilised in a very precise way that depends on non-pharmacological elements rather than in a random way. Drug usage might begin as social experimentation with a recreational drug, and for some people, the drug use progresses to more frequent use. Each substance has a different level of addiction danger and speed of addiction development [4]. The risk and speed of addiction are higher with some medicines than others, such as opioid painkillers. The development of a systematic approach to the creation, assessment, and promotion of behavioural therapies has also greatly aided scientific advancement. Cognitive behaviour therapy, contingency management, couples and family therapy, and a variety of other behavioural treatment modalities have been shown to be effective interventions for several types of drug addiction. When someone uses a medicine for the first time, they could notice what appear to be beneficial results. Additionally,

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they could think they have control over their use. However, using drugs can swiftly take over someone's life. If drug usage is continued over time, additional enjoyable things become less enjoyable, and the individual must take taking the medicine to feel "normal." They struggle to restrain their need to use drugs despite the numerous issues it creates for them and family members. Some people may begin to feel pressure to take more frequent breaks [5].

Discussion

Usually, taking drugs is a free choice at first. But with sustained use, one's capacity for self-control may differ significantly. The characteristic of addiction is this deterioration of self-control. The genetic make-up of an individual, their stage of development, and even their gender or ethnicity, can all have an impact on how likely they are to develop addiction. According to scientists, genes influence a person's traits as well as how they react to their environment. Between 40% and 60% of gene expression is determined by what is known as epigenetics. Teenagers and individuals with mental illnesses are more likely than others to consume drugs and become addicted to them.

Conclusion

Although relapse is a common component of rehabilitation, it can be extremely harmful or even fatal with specific substances. Because their bodies are no longer accustomed to the level they were at before quitting, users who use the same amount of the drug as they did before might quickly overdose of drug usage. When a person uses a drug in an amount that results in an overdose, create unpleasant sensations, fatal symptoms, or both.

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