

## Drug - Poison or Not?

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### ABSTRACT

*The number of drug users grows every year. There is more and more opportunities for people to find a company where someone will offer "grass" or at least stimulate curiosity. Simply curiosity can only be the first step leading to addiction. People are sometimes unaware of the fact that every beginning, as it has done simply and harmlessly, can end tragically. The drug is every psychoactive substance of a natural or synthetic origin that a person takes to achieve a desired change in the mental or physical condition that may become addictive. Dependence is defined as a periodic or permanent drug taking, characterized by an insuperable need for drug, a tendency to increase the amount of the drug, and the harmful consequences for addicts (physical, psychological, economic, social), as well as its environment.*

**Keywords:** Drug, Health, Addiction

### INTRODUCTION

Problem drug use hits families like a tidal wave, leaving those involved floundering in a sea of anger, frustration, fear and isolation [1]. Yet for all the enormity of this event, it has largely escaped notice. Drugs policy, drug research and service provision has predominantly been about meeting the needs of the individual with the drug problem, their routes into and out of problem drug use, their treatment experiences, their drug associated criminality. However, even a sideways glance at what it might be like to be the son or daughter, mother or father, brother or sister of a loved one whose drug problem takes them into danger and strife, debilitates their health and wellbeing, and leads them to steal and fight, can't help but indicate the price it exacts on families.

It is alamentablemyopia that has led to a situation where the harms that accrue to families through a close relative's drug problem remain hidden, not because they are not there to view, but because we have largely chosen not to see. In doing so we have missed the consequences that problem drug use has for others in the family. It means children who are vulnerable to a host of harms where drugs divert the parent's attention from the child; it is the burden of stress and strain for family members that often lead to ill health and depression; it is the exposure of children to drugs and the increased risks that they will themselves go on to use them. These

are outcomes as significant as the developing drug problem and as demanding of attention.

Once the family became aware that there was a problem with drugs, the most likely reaction was utter panic, arising from a lack of knowledge and experience [1]. Characteristic of the family response at this time was the impulse to resolve the problem internally by recourse to family resources. Typically, parents would underestimate the degree to which their child was able, or wanted, to break free of drugs and overestimate their own capacity to bring this about. Families found it extremely difficult to come to terms with the single-minded focus on getting and using drugs and the drive to meet this need at seemingly any cost. Witnessing the physical, social and emotional changes to sons and daughters, who became thin and drawn, unyieldingly argumentative and apparently self-obsessed, produced in many parents an impotent rage and acute sense of their powerlessness to halt the unfolding pattern of family tragedy.

One might expect that the long term and often severe impacts of problem drug use on families would result in a good deal of health and social welfare intervention, particularly where children were concerned [1]. Yet a striking feature of these data was how little intervention there had been, even over many long years of living with the problems created by drugs. In part this will be explained by the nature of the problem: drugs are illegal, problem drug users are stigmatized

## Drug - Poison or Not?

and parents are afraid of having their children removed. All of these factors encourage secrecy and hiding of problems from public and official notice. In part too, the relative lack of intervention can be explained by the sheer size of the problem and the impossibility of agencies achieving full coverage; many children living with parental drug problems represents a critical challenge for service provision. These are significant factors influencing the situation for children living with parental drug problems. However it is also true to say that, until recently at least, the circumstances of these children have not been deemed sufficiently important to merit specific policy attention. Appreciation of the significant numbers of children of problem drug users and raised media attention on a steady increase in significant child abuse cases linked to parental drug use has at last changed the terrain somewhat, whilst at the same time engendering much anxiety as to how best to treat it.

### DRUG USING

The use of substances involving opium, its derivatives, and synthetics have contributed to substantial benefits as well as considerable harm for both individuals and societies throughout the world for many years [2]. Because the use of opiates has a long history, and because social, legal, medical, and political factors, as well as changes in attitude, have contributed to policy, changes in drug use, and the characteristics of users in different nations, it is useful to discuss the individual and social benefits and problems associated with opiates within an historical framework. Furthermore, by comparing present and past policies, present policymakers may learn from historical examples.

The ever-present risk of harm is reflected in a cardinal idea in clinical pharmacology, attributed to Paracelsus, that every drug has the potential to do harm [3]. At the same time, of course, drug use can provide benefits. Medicinal drugs, including both older drugs known for decades or centuries and modern compounds synthesized in the current heyday of scientific pharmaceutical development, provide enormous benefits in treating illness, ameliorating pain, and repairing bodily functions. Over-the-counter drugs allow people to self-medicate for minor conditions, control symptoms, and reduce pain for many kinds of difficulties—from sleeplessness to sunburn to stomach ailments—that might otherwise cause more substantial trouble. And some herbal remedies, supplements, and vitamins

are thought to improve health. The seemingly obvious notion that the use of drugs can convey very substantial benefits is sometimes overlooked in contemporary discussions. The War on Drugs with its “just say no” mantra has painted drugs as bad or evil with a broad brush, but benefits must also be considered in any full appraisal of drug use. Although the complement of “every drug has the potential to do harm,” namely that “every drug has the potential to do good,” may not be true—consider Sarin, a drug so toxic that it has no known benefits other than killing one’s enemy—the role of both harm and benefit in the use of drugs will be part of any thoroughgoing inquiry.

When an across-the-board view is taken, it becomes apparent that the various silos of drug theory and policy employ different conceptions of harm and benefit as well as different priorities in assessing them. Much of current theory and policy about drugs reinforces the misleading assumption that legal drugs primarily yield benefits, while illegal drugs almost exclusively cause harms (which may in part explain their classification). Although there is some truth to this assumption, it is grossly over simplified and cloaks an underlying conceptual problem in any discussion of drugs.

For many centuries men and women have valued the medicinal qualities of opiate narcotics [4]. While they are most powerful weapons in the clinician’s armoury for pain control, they are also one of the most problematic of all illicit drugs, with many users turning to crime to pay for these highly addictive substances. The opium poppy is the source of natural opium and is readily cultivated throughout the world. Opium contains more than a dozen alkaloids, of which the most important are codeine and morphine. Heroin, or diacetylmorphine, is a structural variant of morphine with three times its potency. Opiates can be ingested orally, by smoking or by injection. The body and brain possess numerous opiate receptor sites, where the body and brain’s own endogenous opiate chemicals or endorphins function. Research into the neuro pharmacology of these natural endorphin systems and artificial opiate administration has provided extensive information about the structural anatomy and circuitry of reward and addiction pathways in the brain. Over time the medical uses of opiates have not changed. However, the development of synthetic compounds, analogues, agonists and antagonists has allowed for more flexibility in clinical use and increased our ability to pharmacologically treat addiction.

### HEALTH AND DRUG ABUSE

Drug abuse is considered one of the most stigmatizing health conditions [5]. Growing evidence has shown that stigma is associated with the different impairments of stigmatized individuals. The impacts of social stigma include insufficient access to health care, worse indicators of education and employment and, consequently, a negative effect on income. Regarding the availability of services, many people who could benefit from health care do not receive it. In this sense, social stigma becomes a barrier in the search for help and in adherence to treatment. On the other hand, moralizing strategies associated with prohibitionist perspectives, besides being ineffective, restrict the possibilities of access to care for people with problems related to the use of drugs. The lack of trust in treatment services and their efficacy, in addition to stigmatization, has been identified as an important barrier to treatment. This problem requires changes in the screening, detection, and referral of treatment for addiction. Thus, overcoming stigma is necessary to ensure that evidence-based strategies and indicators of effectiveness are used.

Drug abuse is associated with many medical problems and complications stemming both from regular use and from overdoses [6]. Another serious medical complication arising from drug abuse is the withdrawal syndrome, which manifests during abstinence from the drug.

Drug abuse affects a number of organ systems. Central nervous system (CNS) symptoms can range from headaches and altered mental status to life-threatening situations like coma and seizures. Cardiovascular manifestations of drug abuse include alterations in blood pressure, heart rate, as well as arrhythmias and organ ischemia. Respiratory arrest, pulmonary edema, and pneumothorax may occur. Metabolic effects such as alterations in body temperature, electrolytes, and acid-base disturbances are commonly seen. Reproductive consequences, ranging from impaired fertility to intrauterine growth retardation, premature births, and neonatal syndromes, may also occur.

Infectious complications from intravenous drug use include viral infections such as HIV and hepatitis B, as well as bacterial infections including bacterial endocarditis, osteomyelitis, and abscesses.

An unfortunate result of the symptoms, dysfunctions, and disabilities for some people

with serious mental illness may be court involvement [7]. This can occur in both criminal and civil courts and can range from minor misdemeanors to severe violence. Comorbid drug abuse and homelessness often increase a person's involvement in the criminal justice system. First, criminal and/or civil court involvement can significantly derail the pursuit of goals in the other five domains. Second, court participation, and the coercion it frequently entails, can be unsettling to most people in its own right. Hence, rehabilitation programs help people navigate the various levels and intricacies of the justice system so they can meet the demands of the judge, cut their ties with the police, and return to their principal goals of independent living, work, relationships, and health.

Although addiction has important psychological and social consequences, it is fundamentally the result of biological processes [8]. The prevailing view within the medical community today is that addiction is a brain disease involving brain structure and function. Evidence suggests that the brains of addicts are meaningfully different from the brains of non-addicts although it is unclear to what extent such change is a cause or a product of drug addiction. This is in contrast to other models, such as cultural constructivist, political economy and utilitarian that view factors other than neurological processes as driving the addiction. Pervasive and critical changes in the brain at the molecular, cellular and structural levels, and its functioning, take place after prolonged use of drugs and these changes persist long after an individual has stopped taking drugs. When ingested by anyone, addicted or not, addictive substances affect the cerebral cortex, midbrain and cerebellum. However, the interactions between drugs and the brains of those who are addicted are different from the interactions that take place in the brains of those who are not addicted.

### INTOXICATION

Acute intoxication frequently occurs in persons who have more persistent alcohol - or drug-related problems [9]. It is a transient condition following the administration of alcohol or other psychoactive substance, resulting in disturbances in level of consciousness, cognition, perception, affect or behaviour, or other psychophysiological functions and responses. Intoxication is highly dependent on the type and dose of drug and is influenced by an individual's level of tolerance and other factors. Acute

## Drug - Poison or Not?

intoxication is the term used in the World Health Organization (WHO) International Classification of Diseases 10 (ICD - 10) for intoxication of clinical significance. Acute intoxication is usually closely related to dose levels and the intensity of intoxication lessens with time, and effects eventually disappear in the absence of further use of the psychoactive substance. The symptoms of intoxication do not always reflect the desired or expected effects of the psychoactive substance.

Many psychoactive substances are capable of producing different types of effect at different levels. For example, alcohol may have apparently stimulant effects on behaviour at lower dose levels, then may lead to agitation and aggression with increasing dose levels, and produce clear sedation at very high levels. The cultural and personal expectations regarding the effects of the drug will also influence the level of intoxication. The common features of psychoactive intoxication include disinhibition, euphoria, lack of coordination, risk of harm and impaired judgment. However, it is important to recognise the symptoms of alcohol or drug intoxication not only to confirm the presence and severity of the effects of psychoactive substance(s), but also to be able to differentiate the symptoms from other conditions.

### DEPENDENCY

Physical dependency is defined by the presence of a “withdrawal syndrome”: a drug is said to generate physical dependency if a user who stops taking the drug after a period of using it experiences discomfort, or worse [10]. (That process, a result of the adaptation of the body to the presence of the drug that leaves it maladapted to the drug’s absence, can happen with nonabusable psychoactive drugs as well, such as corticosteroids.) Withdrawal can be dramatic, sometimes fatal. The medical process of managing withdrawal is called “detoxification.”

Both alcohol and the opiates can generate powerful physical dependency, and for a long time the presence of a withdrawal syndrome was thought to be the defining characteristic of an abusable or addictive drug. Certainly a bad habit is harder to break if quitting makes you feel ill; adaptation is part of the story of addiction. But the withdrawal syndrome from cocaine is not nearly as dramatic, with the most important symptom being “anhedonia,” or the inability to experience normal pleasures. That led some people in the 1960s and 1970s, when cocaine was coming back into fashion in the United

States after half a century of virtual absence, to deny that cocaine was addictive at all—a wildly overoptimistic view, as anyone familiar with the history of the first cocaine epidemic, around the turn of the twentieth century, might have guessed.

In addition, chronic or heavy drug abuse can sometimes alter a person’s physiology, so that a chronic neurochemical imbalance may result [11]. Such an imbalance can contribute to chronic symptoms of anxiety or depression. It is unclear whether these imbalances can be completely reversed over time with abstinence, but we do know that these symptoms and the underlying neurochemical changes that contribute to them may continue for months or even years after the drug was last used.

The other kind of craving a person may experience is psychological. Psychological cravings are triggered by the context of the drug experience rather than by the drugs themselves, and the user often misinterprets these cravings as a desire for drugs when what they actually want is a drug-related experience. A very common psychological craving occurs when a person misses experiences associated with using situations, such as socialization or recreational activities. The person will initially believe that the craving is physical but when you investigate further using behavioral analysis, the craving is not physical at all, but related to missing an experience associated with using substances. The use of drugs has been paired so closely to an experience of socialization that the craving may be misattributed to needing the drug when in reality the person is craving an experience given up to avoid drug-using situations. Even though psychological cravings are not physiologically triggered, they can be extremely powerful experiences and often place a person at high risk for relapse. Treatment for psychological cravings focuses on exposure to emotional triggers, and changing behavioral responses and beliefs related to expectancies about substance use.

### DRUGS AND HUMANITY

It is well known that psychoactive substances have been used by humanity throughout history and that human beings give different meanings to this involvement [12]. These include the possibility of contact with the sacred and to promote religious experiences; to serve as a method for coping with adverse conditions such as illness or physical or psychological problems; to be used as spices in cooking; to alter

## Drug - Poison or Not?

consciousness; and for recreational purposes. Considering this variety of functions and the great importance that drugs have for humanity, it is not surprising that they began to be of economic interest to the capitalist society, resulting in a series of explorations.

Furthermore, the social, cultural, and economic influences of drugs on people's lives resulted in a reaction of control and power over such substances, based on ideologies that establish relations of domination and control over specific populations, passing from the moral and religious to legal and criminal discourse and, most recently, to medical discourse. Accordingly, the different functions of drug use are regulated by specific areas that dominate, define, or sell new forms of involvement.

More recently, the medical paradigm has become dominant, with drug use being seen as unhealthy behavior and, consequently, in the domain of the medical sector, which defines actions on the user-patient. Associated with this aspect, large profits are generated by the pharmaceutical industry, which commercially exploits the therapeutic properties of some psychoactive substances and generates the Manichaean classification of good and bad drugs.

The medical-disease discourse appears in a very legitimating form of moral- religious and criminal-legal reasoning, because it brings with it the status of "scientific," so dear to modern society, and therefore reinforces, through the disease, morally reprehensible and legally criminalized behaviors. Scientific status has gained even more ideological power with recent neuroscientific discussions that advocate dependence as a "chronic brain disease". From there, we find biological explanations for this "dysfunction" and can act on these individuals from the medical-pharmacological point of view or even scientifically justify seclusion and isolation for treatment. This creates a very favorable environment for the control of specific groups. That is, if drug use is a disease that affects the individual biologically and, in turn, this individual causes harm to others, the power of decision should lie with specialists in the field, creating mechanisms for punishing users and some drug dealers. The situation is then, supposedly, under control.

### POISON

A drug can be a poison, but not all poisons are drugs [13]. A drug is a substance that when ingested is capable of inducing a change in the body's chemistry. Drugs are used to treat or

prevent disease, to reduce pain, to promote sleep, and so on. Medicines are combinations of drugs and inert ingredients. For example, an aspirin tablet that contains nothing but aspirin is a drug, while a tablet taken to treat the symptoms of a cold is a medicine, because it contains separate ingredients for a runny nose, congestion, coughing, aches, sore throat, and a fever. The terms drug and medicine are often used interchangeably, despite this distinction.

Obviously not all drugs or medicines are illegal. There are two factors that are important when a government agency decides if possessing a drug is illegal. First, if the drug has a potential to be abused, then it is likely to be controlled in some way, as abuse could cause harm. Second, if a drug has a legitimate medical use, then it must still be available to doctors and pharmacists to provide to patients who need it. The government must weigh the legitimate needs and uses of a drug against its ability to be abused and to cause harm when deciding how to regulate it.

### ONLINE DRUG TRADE

From a state perspective, it is clear that online drug trading presents a much more complex range of tactical, strategic and ideological challenges when compared with conventional, in-person forms of illegal exchange [14]. Online offenders are protected by highly powerful yet freely available encryption technologies; they interact anonymously and maintain geographic separation, which significantly complicates the critical task of collecting evidence. Crypto market users also readily communicate with one another and are developing their own counter-interdiction strategies and intelligence. This enables them to respond and adapt quickly to new threats posed by law enforcement. Because of these difficulties, law enforcement agencies will be forced to develop new approaches if they intend to successfully combat crypto market-facilitated drug distribution.

Investigators may well be determined to bring users and operators of crypto markets to justice, but whether they are presently equipped to do so long-term and on a sustainable basis remains very much in doubt. The resources available to even the biggest law enforcement agencies are finite and any efforts to strengthen specific anti-crypto market capacities will draw upon limited, specialist expertise – expertise that could arguably be used more effectively in targeting higher-priority crimes involving higher levels of violence or other more serious threats to public safety (e.g. state-sponsored cybercrime, cyber-terrorism).

### GENETIC RESEARCH

The rapid progression of genetic research is uniting two areas of investigation that each face significant challenges in their own right: substance-use disorders and psychiatric genetics [15]. Research on the genetics of alcohol and drug dependence offers great promise for improving our understanding of these disorders and developing new therapies, but this line of research also requires careful consideration from an ethical standpoint.

Genetic factors have long been known to be important for the development of substance-use disorders, as established by traditional genetic epidemiology methods such as twin, family, and adoption studies. Heritability estimates for nicotine, alcohol, and drug addiction generally fall in the range of 50 to 60%. The popular understanding of this genetic risk, however, is commonly clouded by inaccurate “folk genetic” concepts, e.g., the quasi-Mendelian idea that there could exist a “gene for” alcoholism or drug dependence. In fact, despite recent advances in the field, a significant fraction of the variance of genetic influences on substance-use disorders remains unexplained; clearly, these disorders are polygenic and develop in response to a complex set of variables. With that said, research on the genetics of alcohol and drug dependence does carry several important promises.

Ethical concerns have also been raised regarding the provision of incentives to participants in research. Participants who abuse drugs and alcohol are sometimes portrayed as particularly vulnerable to undue influence (often mistakenly referred to as “coercion”) from incentives, on the assumption that they will use these cash incentives to buy alcohol or drugs. Similarly, concerns have been raised that incentives, by making cash immediately available, might precipitate or exacerbate drug use. In practice, this concern is usually addressed by compensating participants with gift cards and other nonmonetary items or services. The broader issue is similar to the questions raised regarding decision making above; namely, do individuals with substance-use disorders have a specific type of vulnerability, a priori?

Genetic research on addiction also carries great promise to affect the public understanding of, and perhaps policies toward, addiction. Several authors have expressed hope that genetic and neuroscience research on addiction could transform the debate between moral and medical

models by providing more direct support for the disease model of addiction. Some experts who argue for the disease model hope that a scientific explanation would decrease the stigmatization of addicted people and increase their access to medical treatments, although that does not appear to have occurred in the case of substance-use disorders. However, others have stressed the need for caution regarding over-reductionism, concerned that a scientifically informed model of addiction could be misinterpreted to imply strict genetic determinism, leading to support for social policies that assume that only a minority of genetically and biologically vulnerable individuals should be exposed to preventive interventions or receive treatment, or that social policy options such as drug-control policies, minimum legal drinking age laws, and other environmental approaches should be neglected.

### CONCLUSION

Although people have always resorted to addictive drugs in their desire for different experiences and not taking into account potential danger, one should be aware that the drug is a problem faced by an increasing number of young people today. This problem does not happen solely to others because every young person is in a position to come into contact with drugs, regardless of whether they have a lot or a small amount of money, whether they are raised strictly or reliably, whether they live in a city or rural environment. The drug is a natural or synthetic chemical substance that affects the changes in physiological and psychological (intellectual, emotional and motivational) functions, it significantly changes behavior. Multiple use quickly leads to addiction.

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## Drug - Poison or Not?

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