Opioid Dependence: Breaking the Cycle of Compulsion

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Opioid dependency is a medical diagnosis characterized by an individual's inability to stop using opioids (morphine/heroin, codeine, oxycodone, hydrocodone, etc.) even when objectively it is in his or her best interest to do so. In 1964 the WHO Expert Committee on Drug Dependence introduced "dependence" as "A cluster of physiological, behavioural and cognitive phenomena of variable intensity, in which the use of a psychoactive drug (or drugs) takes on a high priority. The necessary descriptive characteristics are preoccupation with a desire to obtain and take the drug and persistent drug-seeking behaviour. Determinants and problematic consequences of drug dependence may be biological, psychological or social, and usually interact". The core concept of the WHO definition of "drug dependence" requires the presence of a strong desire or a sense of compulsion to take the drug; and the WHO and DSM-IV-TR clinical guidelines for a definite diagnosis of "dependence" require that three or more of the following six characteristic features be experienced or exhibited:

A strong desire or sense of compulsion to take the drug;
Difficulties in controlling drug-taking behaviour in terms of its onset, termination, or levels of use;
A physiological withdrawal state when drug use is stopped or reduced, as evidenced by: the characteristic withdrawal syndrome for the substance; or use of the same (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms;
Evidence of tolerance, such that increased doses of the drug are required in order to achieve effects originally produced by lower doses;
Progressive neglect of alternative pleasures or interests because of drug use, increased amount of time necessary to obtain or take the drug or to recover from its effects;
Persisting with drug use despite clear evidence of overtly harmful consequences, such as harm to the liver, depressive mood states or impairment of cognitive functioning.

The Walid-Robinson Opioid-Dependence (WROD) Questionnaire was designed based on these guidelines. According to position papers on the treatment of opoid dependence published by the United Nations Office on Drugs and Crime and the World Health Organization, care providers should not mistake opioid dependence for a weakness of character or will. Accordingly, detoxification alone does not constitute adequate treatment.

Causes

Studies show that most opioid dependent patients suffer from at least one severe psychiatric comorbidity. Since opioids used in pain therapy rarely cause any of these conditions, they are assumed to have existed prior to the development of dependence. Opioids are known to have strong antidepressive, anxiolytic and antipsychotic effects and thus opioid dependence often develops as a result of self medication.

Material used for intravenous injection of opiates

Furthermore some studies suggest a permanent dysregulation of the endogenous opioid receptor system after chronic exposure to opiates. A recent study has shown that an increase in BDNF, brain-derived neurotrophic factor, in the ventral tegmental area (VTA) in rats can cause opiate-naive rats to begin displaying opiate-dependent behavior, including withdrawal and drug-seeking behavior. It has been shown that when an opiate-naive person begins using opiates at levels inducing euphoria, this same increase in BDNF occurs.

Another recent study concluded to have shown "a direct link between morphine abstinence and depressive-like symptoms" and postulates "that serotonin dysfunction represents a main mechanism contributing to mood disorders in opiate abstinence".

Symptoms of withdrawal

Symptoms of withdrawal from opiates include, but are not limited to,

Physical Symptoms

Extreme Pain
Tremors
Cramps
Chills
Perspiration
Priapism
Tachycardia
Itch
Restless legs syndrome
Flu-like symptoms
Rhinitis
Yawning
Sneezing
Vomiting
Diarrhea
Weakness

Psychological Symptoms

Dysphoria
Malaise
Cravings

Anxiety/Panic Attacks
Paranoia
Insomnia
Dizziness
Nausea
Depression

Other rare symptoms but more serious are cardiac arrhythmias, strokes, seizures, dehydration and suicide attempts.

Depending on the quantity, type, frequency, and duration of opioid use, the physical withdrawal symptoms last for as little as forty-eight to seventy-two hours (for short-acting opioids such as hydromorphone and oxycodone after short duration lower-dose use), and as long as thirty to sixty days for long-acting opioids such as buprenorphine and methadone, respectively, after extended high-dose use. When long acting opioids like methadone (Methadose, Physeptone) or buprenorphine (Suboxone and Subutex) are used for an extended period, physical withdrawal symptoms can last up to six weeks. This initial withdrawal is characterized by the body regaining physical homeostasis.

Treatment

Opioid dependence is a complex health condition that often requires long-term treatment and care. The treatment of opioid dependence is important to reduce its health and social consequences and to improve the well-being and social functioning of people affected. The main objectives of treating and rehabilitating persons with opioid dependence are to reduce dependence on illicit drugs; to reduce the morbidity and mortality caused by the use of illicit opioids, or associated with their use, such as infectious diseases; to improve physical and psychological health; to reduce criminal behaviour; to facilitate reintegration into the workforce and education system and to improve social functioning. The ultimate achievement of a drug free state is the ideal and ultimate objective but this is unfortunately not feasible for all individuals with opioid dependence, especially in the short term.

As no single treatment is effective for all individuals with opioid dependence, diverse treatment options are needed, including psychosocial approaches and pharmacological treatment.

Relapse following detoxification alone is extremely common, and therefore detoxification rarely constitutes an adequate treatment of substance dependence on its own. However, it is a first step for many forms of longer-term abstinence-based treatment. Both detoxification with subsequent abstinence-oriented treatment and substitution maintenance treatment are essential components of an effective treatment system for people with opioid dependence.

Methadone Treatment

MMT (Methadone Maintenance Treatment), a form of opioid replacement therapy, reduces and/or eliminates the use of illicit opiates, the criminality associated with opiate use, and allows patients to improve their health and social productivity. In addition, enrollment in methadone maintenance has the potential to reduce the transmission of infectious diseases associated with opiate injection, such as hepatitis and HIV. The principal effects of methadone maintenance are to relieve narcotic craving, suppress the abstinence syndrome, and block the euphoric effects associated with opiates. Methadone maintenance has been found to be medically safe and non-sedating. It is also indicated for pregnant women addicted to opiates.

Buprenorphine Treatment

Buprenorphine sublingual preparations are often used in the management of opioid dependence (that is, dependence on heroin, oxycodone, hydrocodone, morphine, oxymorphone, fentanyl or other opioids). The Suboxone and Subutex preparations were approved for this indication by the United States Food and Drug Administration in October 2002. This was only possible due to the Drug Addiction Treatment Act of 2000 which overturned a series of 1914-1920 Supreme Court rulings that had found that maintenance and detox treatments were not a form of medical treatment. Although the rulings had the power of legal precedent prior to 2000, it is likely that they were not the intended interpretation of the laws passed originally by congress.

Diamorphine Treatment

In Switzerland, Germany, the Netherlands, and the United Kingdom, longterm injecting drug users that do not benefit from methadone and other medication options are being treated with pure injectable diamorphine that is administered twice daily under the supervision of medical staff. For this group of patients, diamorphine treatment has proven superior in improving their social and health situation. Studies show that even after years of homelessness and delinquency and despite severe comorbidities, about half of the patients find employment within the first year of treatment.

Experimental Treatments

Ibogaine
Dextromethorphan
Ketamine
Apomorphine
Medical Cannabis