

Poisoning with illicit drugs

Mark Anderson

Abstract

It is estimated that approximately one quarter of adults in the European Union will have used illicit drugs at some point in their lifetime for recreational purposes. Cannabis is the most commonly used drugs by a significant margin. Illicit drug use in younger teenagers appears to have fallen in the UK over the last 10 years. However the level of use in 16–19 year olds remains one of the highest compared with other age groups, with hospital admission due to poisoning also common in this group.

Assessment and management of the young person with evidence of toxicity due to illicit drugs is based upon meticulous attention to resuscitation and supportive care, combined with risk assessment dependent upon the suspected causative drug. Good knowledge of the pharmacology of the implicated drug allows early identification and avoidance of complications.

Keywords drug abuse; pharmacology; toxicology

Introduction

Recreational use of illicit drugs is most prevalent in young adults in their twenties. However, use is not uncommonly initiated in adolescence as an outworking of the exploratory and risk-taking behaviour that typically characterizes this age group.

This review seeks to outline the trends in illicit drug use, primarily in the UK, in young people and to summarize the recommended approach to management for acute poisoning with each of the most commonly used classes of illicit drugs, which will include a review of their pharmacology. A brief summary of a range of interventions that attempt to reduce the harm from illicit drug use will also be presented. For the purposes of this review, drugs will be considered illicit if they are prohibited by law in the UK or if they are licensed drugs with illicit use potential.

History of illicit drug development

The use of drugs for recreational purposes is not new. According to cuneiform script on clay tablets, the Sumerians in 3000 BC appear to have cultivated the opium poppy, calling it the “plant of joy”. This nomenclature would suggest its recreational use to induce euphoria. By 1000 AD, there is evidence of widespread use of opium in China and the Far East, 500 years before its introduction into the practice of medicine by Paracelsus as laudanum.

Similarly, the leaves of the coca plant, *Erythroxylon coca*, have been used as a medicine and stimulant in South America for over

4000 years, and the oldest known reference to cannabis use is thought to be from the court of the Chinese Emperor Shen Nung in 2727 BC.

It was not until the 19th century that the use of these drugs began to be widely considered illicit. The formal prohibition process began, perhaps, in 1805 with Napoleon’s ban on cannabis use for his troops occupying Egypt. This did not stop them from subsequently bringing it back to France. The foundation of the International Opium Commission in 1909 led to the first international drug control treaty, signed by thirteen nations in 1912. The US Harrison narcotic act in 1914 regulated and taxed opiate and cocaine importation, production and distribution. However, it was not until the UK Dangerous Drugs Act was enacted in 1920 that formal drug prohibition legislation began. This act prohibited the use of cocaine, in addition to opium, following stories of “crazed soldiers” in the First World War. The act was later extended to include cannabis in 1928.

These early legislative efforts paved the way for much more coherent international efforts to enforce prohibition in many countries in the 1960s, although regulation of the different types of drugs used recreationally varies significantly between countries. Advances in drug design and laboratory chemistry has led to a significant expansion in the number of potential drugs for recreational use through the twentieth century, and into the twenty-first (Figure 1).

Recreational drug development has more recently been driven by a desire to escape the illicit label. The most prominent recent examples of this process are the novel psychoactive substances, often incorrectly termed “legal highs” for this very reason. Manufacturers made minor modifications to the pharmacological structure of existing illicit compounds to create a novel “legal” substance. In the UK, the 2016 Psychoactive Substances Bill prohibited supply, but not possession, of all current and future novel psychoactive substances in order to try and counter the rise in production of these compounds.

Epidemiology

Surveys of young people in Europe consistently demonstrate lower prevalence of cannabis and other illicit drug use when compared with young people in the US.

The overall prevalence of drug use in the UK amongst 11–15 year olds has fallen consistently over the last 15 years. In 2001, 30% of young people admitted to having ever taken drugs; by 2014 this had fallen to 15%. Those who admitted to regular use (within the last month) had also fallen, from 12% to 6% over the same time period. As might be expected, the prevalence of drug use increases with age. Above this age, approximately 1 in 5 young adults aged 16–24 years in the UK admit to having used an illicit drug within the last year.

The most common illicit drug used by young people in the UK is cannabis by a significant margin. This situation is mirrored across other European countries, with lifetime prevalence among 15 and 16 year olds in 2007 ranging widely between under 10 and 45%. By comparison, ecstasy (MDMA) and amphetamine use in the same age group ranged between 1 and 7% and cocaine use between 1 and 5%. The prevalence of heroin use was less than 1%.

Little comparative data are available in relation to acute morbidity and mortality in relation to illicit drug use in younger

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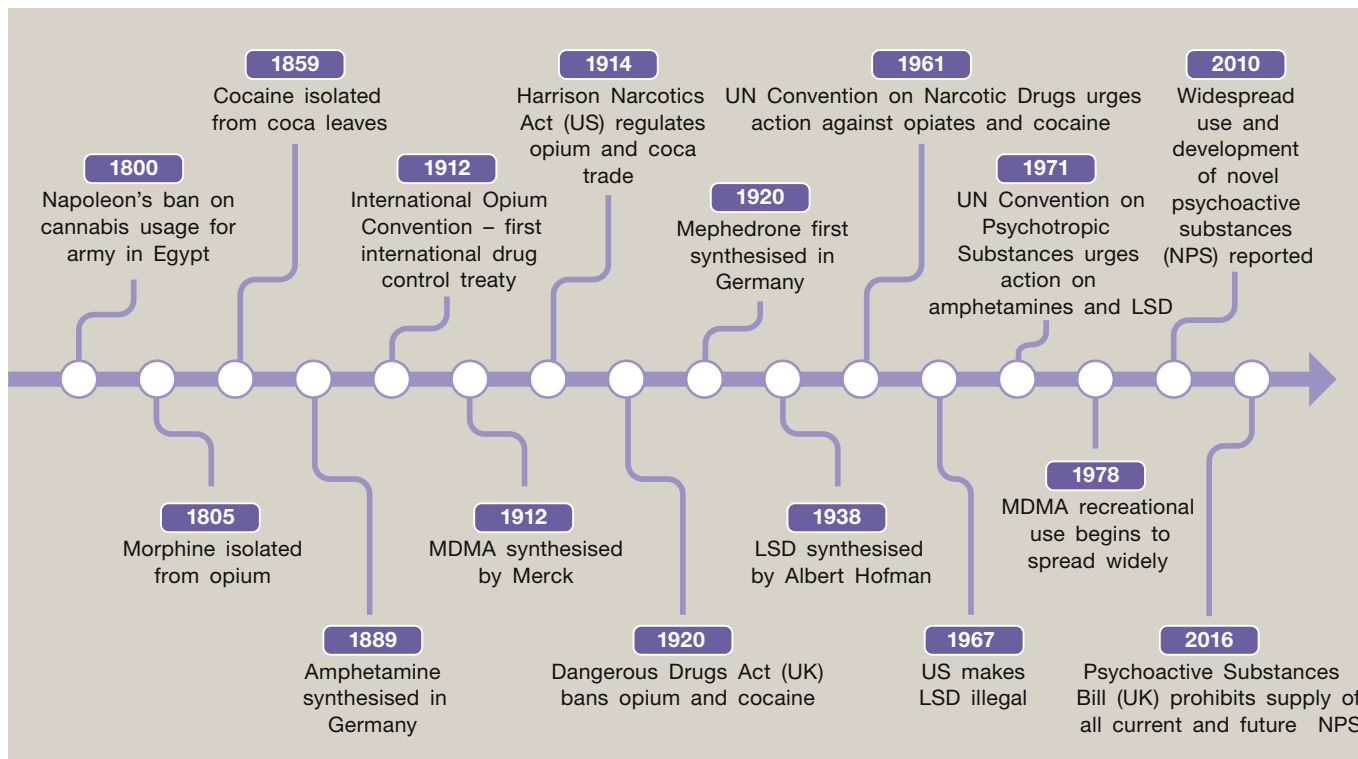


Figure 1 Timeline of selected events in illicit drug use.

people. However, data from all illicit drug users of all ages would suggest that use of heroin and related opiates carries the highest mortality, in spite of the relatively low prevalence rates. The high risk of death associated with heroin use is supported by experience from the opiate-abuse epidemic in the United States, where death rates have soared over the last 10 years. Amphetamine use is also associated with significant toxicity leading to mortality and although death due to cannabis overdose is unusual, it has a high rate of associated hospitalization.

The mechanism of harm or death may be due to direct toxicity (common with opiates) but also indirectly; for example, due to impulsive or careless behaviour associated with the dissociative hallucinogens (for example, ketamine or phencyclidine).

Examples of street names of common illicit drugs

Drug name	Street names
Cannabis	Marijuana, pot, weed, dope, ganja, grass, herb, bud, green, trees, skunk
Heroin	Brown sugar, smack, horse, dope, H or Big H, junk, skag, skunk, white horse or China white
Cocaine	Candy, snow, rock, flake, blow and toot
Mephedrone	Drone, M-CAT, white magic, meow meow, meth, drone, bubbles

Table 1

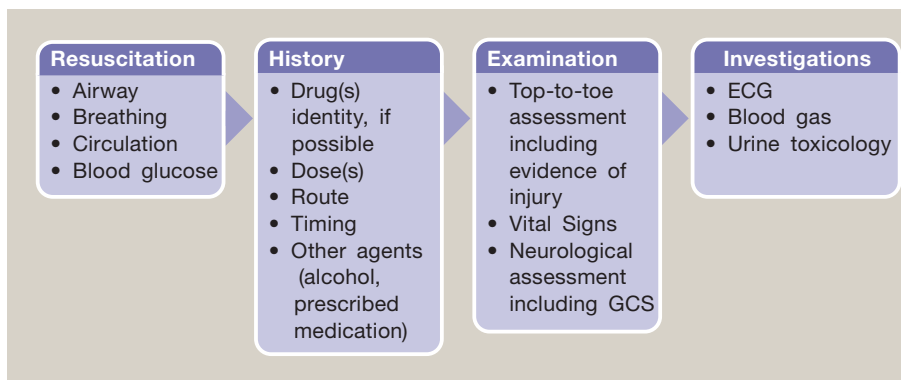


Figure 2 Clinical assessment of suspected poisoning.

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