

# Recreational drugs and their impact on diabetes

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## Article points

1. The use of recreational drugs, both legal and illegal, is on the increase in the UK population and is not purely limited to younger age groups.
2. Recreational drugs confer additional risks in people with diabetes, as they can directly affect blood glucose levels or impair judgement to the detriment of their diabetes self-management.
3. Substance misuse should be just one of the questions healthcare providers ask their patients in a matter-of-fact, non-judgemental manner, and they should be prepared to advise on the short- and long-term risks, as well as refer to appropriate drug treatment services.

## Key words

- Addiction
- Drug misuse
- Recreational drugs

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**The use of recreational drugs in the UK is becoming increasingly common, with growing costs to the NHS, society at large and individual drug users. These drugs pose an even greater risk to people with diabetes because of their effects, both direct and indirect, on blood glucose levels and self-care behaviours. While it may not be the role of healthcare providers to prevent drug use, they have a duty to inform their patients of the short- and long-term effects of recreational drugs, and to promote safe behaviours in people who choose to take them. This article summarises trends in drug use and the acute and long-term effects of recreational drugs in people with diabetes. A number of practical support strategies are also suggested.**

In this article I am going to explore the use of recreational drugs and the impact this misuse has on diabetes. On trawling the internet, I found there was little information on this subject, which is why I decided to firstly present my findings as a workshop at the 2015 TREND-UK conference and then subsequently write this article.

Generally, recreational drugs can be defined as mind-altering chemical substances that are used for non-medicinal, leisure purposes (i.e. taking a substance for the sole purpose of getting “high”). The definition of “recreational” refers to activity done for enjoyment when one is not working, in addition to usually being undertaken with others. This is a contradiction when used to describe the misuse of drugs as, while they may well be taken in the presence of other people, the experience is very isolating. These drugs are split into three main categories:

- Hallucinogens – these affect the mind and what you see, feel or hear.

- Downers/depressants – these affect thought,

heart rate and breathing.

- Uppers/stimulants – these make the body faster in terms of speech, reaction and heart rate.

As can be seen in *Box 1*, there are many choices of recreational drugs, of which some are available legally, others are not and others would not even normally be associated with misuse. How many have you, the reader, taken or misused?

## Addiction

Drug and alcohol addiction is taking a heavy toll on the UK. According to the Centre for Social Justice (CSJ, 2013), one in twenty adults in England (1.6 million) are dependent on alcohol, and one in 100 (380 000) are addicted to heroin or crack cocaine. It is estimated that the annual cost to society is over £21 billion for alcohol-related harm and £15 billion for illicit drugs.

However, beyond the financial cost is the cost

to individuals and families, such as the spread of infectious diseases including HIV/AIDS and hepatitis C, either through sharing of drug paraphernalia or through unprotected sex. Deaths due to overdose or other complications are another consequence of drug abuse, as are the effects on unborn children of drug use in pregnant women. Society also bears the cost of drug abuse, often in the form of crime and homelessness.

There is a perception amongst some that alcohol and drug abuse is in remission. However, the research from the CSJ shows the opposite. The costs to society of substance abuse are rising. Alcohol-related admissions to hospital have more than doubled in a decade, costing the NHS more every year (CSJ, 2013). Since 2007, the amount of opiate substitutes prescribed to heroin addicts by the state has increased by 40%. New “legal highs” are entering the market at a rate of roughly one per week, whilst virtual currency is making it possible for illegal drugs to be bought and sold anonymously over the internet without fear of detection.

The consequences of addiction and abuse are dire, with the effects felt most by people who are already highly vulnerable. There are communities across Britain that are still ravaged by drugs and alcohol. Alcohol- and drug-related violence, domestic abuse, worklessness, child neglect, debt and educational failure all disproportionately affect poorer communities and are regularly intertwined.

### Trends in drug use

In the 16–24-year-old population, as in previous years, cannabis is the most commonly used drug, followed by powder cocaine (Burton et al, 2015). Ecstasy is the third most common drug to be taken. Use of new psychoactive substances, which are drugs that mimic the effects of other drugs such as cannabis, ecstasy and cocaine, and which may or may not be legal, is on the increase. These drugs include salvia, nitrous oxide (laughing gas), BZP (a stimulant similar to amphetamines), synthetic cannabinoids (e.g. “spice”) and GHB/GBL.

New drugs and legal highs available in high

#### Box 1. Commonly misused substances. Bold items are readily and legally available.

- **Alcohol**
- Alkyl nitrate (poppers; due to undergo a blanket ban in April 2016)
- Amphetamines (speed)
- Anabolic steroids
- **Caffeine** – found in tea and coffee
- Cannabis (marijuana)
- Cocaine
- Crack cocaine
- Ecstasy
- **Glue and solvents**
- Heroin (opium)
- Ketamine
- **Insulin**
- “Legal highs” (banned from April 2016)
- Lysergic acid diethylamide (LSD)
- Mephedrone (meow meow; a legal high until 2010)
- Methamphetamine
- **Nicotine (tobacco)**
- **Nitrous oxide**
- **Prescription drugs** (e.g. tramadol, diazepam)
- Synthetic cannabinoids (e.g. spice)

street “head shops” and on the internet are being used by an increasing number of people (CSJ, 2013). They are often very harmful, yet users know little of the damage they can cause. The costs include a rising death toll and, on an individual level, young people in their twenties losing their bladders and being forced to spend the rest of their lives on catheters. Use of the club drug ketamine, now classified as class B, has doubled and, at the same time, the numbers entering treatment for the abuse of club drugs has increased by almost 40% (National Treatment Agency for Substance Misuse, 2012). New drugs are emerging at a rate of one per week and now outnumber illegal drugs classified under the Government’s official A, B, C system). A new law attempting to address this issue, the Psychoactive Substances Act, which will place a blanket ban on any new psychoactive substances and comes into force on 6 April 2016, has been criticised as being unlikely to reduce availability and consumption of these drugs (Shaw, 2016).

### Alcohol – the growing cost

While frequent alcohol consumption has decreased, dangerous drinking is on the rise. The most widely abused drug in the UK, alcohol, is causing increasing harm to society. Alcohol-related deaths have doubled since 1991, and liver disease is now one of the “Big Five Killers” (along with heart disease, respiratory disease, stroke and cancer), and the only one

### Box 2. Effects of hallucinogens.

The effects of hallucinogens can last several hours and vary considerably, depending on the specific type of hallucinogen. Some typical effects include:

- Feelings of euphoria
- Blurred vision
- Sense of relaxation and well-being
- Hallucinations and distorted perception, including visual, auditory, body, time and space
- Disorganised thoughts, confusion and difficulty concentrating, thinking or maintaining concentration
- Anxiety, agitation, paranoia and feelings of panic
- Dizziness
- Loss of coordination
- Increased breathing rate
- Increased heart rate and blood pressure
- Irregular heartbeat and palpitations
- Nausea and vomiting
- Increased body temperature and sweating; may alternate with chills and shivering
- Numbness

which is increasing in prevalence (CSJ, 2013). Serious drinking has increased: alcohol-related admissions to hospital have doubled in a decade and are continuing to rise, showing that treatment is not working.

### Statistics

Key findings from a Government report into drug misuse (Lader, 2015) suggest that the figures are getting worse:

- Younger people are more likely to take drugs than older people. The level of any drug use in the last year was highest among 16–19-year-olds (18.8%) and 20–24-year-olds (19.8%). The level of drug use was much lower in the oldest age group (2.4% of people aged 55–59 years).
- Men are more likely to take drugs than women. Around one in eight men aged 16–59 years (11.9%) had taken an illicit drug in the last year, compared with around one in eighteen women (5.4%).
- People living in urban areas reported higher levels of drug use than those living in rural areas. Just under one tenth (9.1%) of people living in urban areas had used any drug compared with 6.5% of those living in rural areas.
- Higher levels of drug use are associated with

an increased frequency of visits to pubs, bars and nightclubs. For example, use of any Class A drug in the last year was around 10 times higher among people who had visited a nightclub at least four times in the past month compared with those who had not visited a nightclub in the past month (19.2% versus 1.8%). A similar pattern was found for those who visited pubs and bars more frequently.

### Active effects of drugs

People with diabetes who are on medications to manage their glucose levels and who take recreational drugs could experience a number of effects and side effects, depending on the type of recreational drug.

### Hallucinogens

Users of drugs from the hallucinogenic group, such as cannabis, LSD, PCP, magic mushrooms, ecstasy or ketamine, could experience some, many or all of the effects outlined in *Box 2*.

### Downers/depressants

Users of drugs from the depressant group, such as alcohol, opiates and opioids (including heroin, morphine, codeine and methadone), cannabis, benzodiazepines and some glues, petrols and other solvents, could experience some, many or all of the effects outlined in *Box 3*.

### Uppers/stimulants

Users of drugs from the stimulant group, such as speed, crystal meth, cocaine, ecstasy and amphetamines, could experience some, many or all of the effects outlined in *Box 4*. Even caffeine, nicotine or slimming tablets can cause adverse reactions.

### Being safe

It is crucial that we, as healthcare professionals, can have open and non-judgemental conversations with our patients, regardless of age, around the misuse of substances, in order to encourage them to maintain some level of safety. During periods of drug highs or lows, regular self-care behaviours may be lost. For

example:

- Blood glucose monitoring may be erratic or omitted.
- Meals may be erratic or omitted.
- Sleeps patterns may be erratic.
- Medication may be missed.

Advice should be given to maintain safety prior, during and after taking drugs or alcohol, including the following:

- Where possible, check blood glucose levels before taking; if low, have some food.
- Drink plenty of water.
- Drink sugary drinks in between water, especially if there is no appetite.
- Check glucose levels after “coming down”.
- Eat a meal containing carbohydrate as soon as possible after coming down.
- Carry identification stating that the user has diabetes and requires medication.

The main risk from taking drugs or alcohol for people with insulin-dependent diabetes is the increased likelihood of forgetting to take their insulin or forgetting to eat. If the insulin dose is missed intermittently, poor glucose levels are usually the result. High blood glucose levels over time will increase the risk of long-term complications. Ketosis and, more worryingly, ketoacidosis are possible if the insulin is missed for a longer time. This can prove fatal if medical help is not sought quickly. Conversely, if food is missed, hypoglycaemia becomes the risk. If a person is not able to self-treat due to being incapacitated by the drug or alcohol, then the hypoglycaemia, if left untreated, may cause unconsciousness or even death.

The advice we should be giving to our patients is as follows:

- Know what you are taking. It is best to research the effects of the drug before deciding to try it. You can search the internet or talk to your doctor. Do not take something if you're unsure what it is.
- Never take drugs alone. If you take drugs, always have someone sober with you who you trust, who knows what drug you are taking and who knows you have diabetes.
- Be in a safe, comfortable environment. If you take drugs, make sure your friends are with

**Box 3. Effects of downers/depressants.**

“Downers” is a name for depressant drugs, known medically as sedative-hypnotics. Their effects include the following:

- Reduced cognitive and motor skills, although benzodiazepine tranquilisers (e.g. alprazolam, diazepam) tend to impair these functions less than other drugs in the class
- Decreased judgement and increased reaction time

Because of the length of time necessary to break down some depressants in the body, subtle effects can continue for hours or days after use

**Box 4. Effects of uppers/stimulants.**

Some drugs, such as amphetamines and ecstasy, are stimulants that act on the central nervous system, causing an increase in heart rate and a rush of blood through the heart and brain.

Users often report increased confidence and energy levels, combined with a physiological arousal, but as the body's energy levels reduce, users become prone to feelings of:

- Anxiety
- Irritability
- Restlessness
- Dizziness
- Dehydration
- Hypoglycaemia

you and you are in a place you know.

- Always wear your medical alert identification.
- Never stop taking your insulin. This could lead to higher blood glucose levels and serious health risks.

**Long-term effects of drug use**

All psychoactive drugs may cause mental health problems while they are taken and as the body clears the drug. These can include anxiety, mood swings, depression, sleep problems and psychosis.

**Ecstasy and depression**

Ecstasy causes an increase in available serotonin. Serotonin is often called the “happy hormone”. Prolonged use, however, can deplete serotonin levels, leading to depression.

**Cannabis and schizophrenia**

Schizophrenia is a severe mental illness that can cause people to hear voices and believe that other people are trying to control or harm them. Research shows a link between cannabis use and schizophrenia (Marconi et al, 2016). Prolonged

***“It may not be our role to stop people taking or abusing substances, but it is certainly our duty to try and ensure that our patients are well informed about the impact certain substances can have on glucose control, and of the long-term consequences.”***

use of cannabis increases the risk between 50% and 200%.

### **Other drugs**

All drugs, regardless of whether they are illegal, prescription-only or over-the-counter, change the body and can be potentially harmful. Some over-the-counter drugs can cause serious problems or even death if used incorrectly. The only safe way to take any over-the-counter medication is exactly as directed and for the specific problem for which it is intended.

### **Support strategies**

As healthcare providers, we should be aware of local support agencies where we can contact or signpost any patients who have drug or alcohol issues. Practical support strategies include the following:

- Find out where your local Drug and Alcohol Service is located.
- Stay in touch with the person by any means possible.
- Offer practical help around medication regimens and keeping safe.
- Discuss possible referral to an appropriate support agency.
- Document all consultations.
- Ensure the person knows how to treat hypoglycaemia and hyperglycaemia (including sick day rules) effectively.
- Encourage the person to carry identification.

### **Conclusion**

I think we, as healthcare providers, need to be more streetwise. Substance misuse is more common than we might think, and it is not confined to the younger age group. Unfortunately, drug misuse seems to be becoming more socially acceptable and normalised because it is often done on a night out at the weekend (e.g. club drugs such as ketamine). It is not unusual for celebrities to be caught out by the press under the influence of drugs and/or alcohol.

Substance misuse should be just one of the questions we ask all our patients in a matter-of-fact, non-judgemental manner, as erratic glucose levels could be caused by substance misuse. It

may not be our role to stop people taking or abusing substances, but it is certainly our duty to try and ensure that our patients are well informed about the impact certain substances can have on glucose control, and of the long-term consequences. ■

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