

Characteristics of deaths in which ketamine is implicated across the North West 2019-2024

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Introduction

The IMS DARD surveillance system monitors drug related deaths for local authorities across the north-west of England. Between 2019-2024 19 cases in which ketamine was mentioned in the cause of death were identified, although a larger number of cases identified ketamine within the toxicology without it being considered a contributory factor.¹ This represents a very small number (<1%) of cases within the overall dataset, which are primarily deaths from opiates including heroin, cocaine (unspecified and crack) and prescribed/illicit medications. It is important to note that in many of the 19 cases, ketamine was identified as a contributory factor but not the only factor.

Demographics and contact with treatment services

A substantial majority (84.2%) of the cases were male, and 68.4% of the cases were aged under 30 years, with the 20-24 year old age group having the most cases (n=6). The average age of death was 27 years. Four in five cases (78.9%) were out of drug treatment at the time of their death, the majority of which had had no previous contact with treatment services although in one case the individual had self-referred to treatment shortly before their death. Liverpool had the highest number of reported deaths (n=7) followed by Manchester (n=4). The highest number of deaths reported was in 2023 (n=9).²



84%

of cases were male



Average age
of death



79%

out of
treatment

Other substances

In around two in five cases (42.1%) no other substances were mentioned in the cause of death. In 36.8% of cases, one other substance was mentioned, and in the remaining 21.1% of cases, more than one other substance was mentioned. Alcohol, cocaine unspecified³ and MDMA were each mentioned in 4 (21.1% of) cases. Other substances implicated alongside ketamine included cannabis, heroin, Bromazolam, Nitazene, and also the medications clobazam, diazepam, pregabalin and promethazine.

Cause and place of death

Toxicology narratives accompanying ketamine deaths note that “fatalities attributed to acute ketamine toxicity are relatively rare but are usually associated with post-mortem blood concentrations of greater than 4 mg/L, although toxicity may occur at lower concentrations.” The majority of cases identified ketamine as a contributory factor to the death but not as the direct cause in the form of an overdose. However there were a small group of cases in which the toxicological significance was high and blood levels in these cases were between 4.8mg-6.9mg. The majority of individuals used the implicated ketamine and subsequently died in their own home. Only two cases had a suicide verdict. *[continues overleaf]*

¹ The IMS DARD model was not operational for some areas of the North West for the whole time period, so this figure is likely to be an underestimate. Deaths reported cover the period 25/08/19 - 02/06/24.

² The significant delays to inquests in some areas may affect the totals for more recent years, including 2024.

³ Cocaine unspecified normally indicates powder cocaine for the cases within this briefing.

In some cases, particularly for those reported outside of the treatment system, very limited information was provided within the coroner report. However where some broader context was highlighted, there were a number of recurrent themes within the cases:



Mental Health: In several of the cases the individuals had historic and/or current mental health issues, some of which were over a prolonged period of time, and in some cases involved previous self harm or suicide attempts. Self-management of anxiety and depression were identified in a number of cases, in some instances in response to specific life events such as children being taken into care.



Management of physical health related issues: Because ketamine causes physical damage, sometimes this can lead to increased usage to alleviate symptoms which in turn then makes those symptoms worse over time. However some people used ketamine to deal with health issues related to other significant life events such as a previous gun shot wound, or being tetraplegic following a road traffic collision. In two cases the individuals were considerably malnourished.



Night-life settings: In two cases, the individuals had been to a night club where they consumed ketamine in combination with other “party drugs” such as ecstasy. In one case, the individual subsequently fell from a multi-storey car park. However in this case the coroner stated that the low levels of ketamine in the individual’s system suggested the use was non recent.



Chronic daily use: Some individuals were identified as using ketamine daily over a prolonged period of time, sometimes over years – in one case for example, an individual was said to use 3g daily although most cases did not identify a specific amount. Two individuals were identified as having a history of bladder and kidney problems.



Drownings: In three cases, individuals drowned in the bath in their home addresses, having taken ketamine prior. In one case, the individual died in a canal after entering it intentionally following ketamine use.



Social isolation: In two cases, the individuals were found in a decomposed state a number of days after their death, having used and subsequently died alone. For individuals with mental health issues who withdrew from social environments, social isolation was also a factor.

For more information

You can find out more about the IMS DARD surveillance system at <https://ims.ljmu.ac.uk/About> Please join us in March for our 2025 national DARD conference online. Details will be announced soon.