

Nitazene-related deaths in Norway 2021-2024

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Aim: Nitazenes appeared on the illegal recreational drug market in Europe in 2019, often in relation to fatal intoxications, and in Norway in 2021. Nitazenes are strong synthetic opioids developed as pain killers in the 1950s, but were never approved to the market because of the high overdose risk. They are hundred- to thousandfold more potent than morphine. Nitazenes often appear unexpectedly to users, in powders, tablets or liquids sold as if they were other illicit or medicinal drugs. More knowledge is needed, both to users, healthcare, the public, and in forensic casework. The aim of this study is to present nitazene concentrations in postmortem blood in nitazene-related deaths.

Methods: Anonymous data on nitazene concentrations in peripheral blood and urine/vitreous humor, age and gender, were extracted from the LIMS database at the Department of Forensic medicine, Oslo university hospital (DFM), for all forensic autopsy cases where a nitazene was detected in blood during 2021-2024. DFM serves 93% of the Norwegian population, except mid-Norway. Analysis of nitazenes was performed using ultra-high performance liquid chromatography tandem mass spectrometry (UHPLC-MS/MS). Urine/vitreous results are not presented in this abstract.

Results: During the period 2021-2024, there were 15 nitazene-related deaths where samples were analysed in our lab. The majority represented males (93%), and the median age was 32 years (range 19-56). There were no deaths in 2021, one in 2022, eleven in 2023, and so far three deaths in 2024 per March 1st. This gives a prevalence of 2.6 nitazene-related deaths per million inhabitants since 2023, which is higher than in UK during the same period (prevalence 1.0 per million). One death involved protonitazene, one involved N-pyrrolidino metonitazene (metonitazepyne), and thirteen deaths involved metonitazene. For metonitazene, the median concentration in postmortem peripheral blood was 0.024 micromoles per liter, ranging from 0.003 to 0.30 micromoles per liter.

Conclusion: The present study shows that the prevalence of nitazene-related deaths in Norway escalated from 2023, and the situation is still ongoing. Nitazenes pose a serious harm to health. It is important that the public and healthcare staff are informed of increasing harms related to these new potent drugs.