Reduced Consciousness and Fits with "Not-So-Legal Highs?"

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1. Introduction

New Recreational Drugs (NRDs) continue to be misused in the UK, despite now being illegal. [1]

The two most common types of **NRDs** are:

- **Synthetic Cannabinoid Receptor Agonists (SCRAs)**
- **Synthetic Cathinones (SCs) [1].**

There are reports of people coming to **harm and even death** after using these substances [2-4].

The **rates of reduced consciousness and fits is unknown** with these drugs. This information is vital for patient care.

Figure 1

Examples of products containing SCRAs (left) and SCs (right).

2. Aims

To define the rate of **reduced consciousness and fits** in adults with **confirmed exposure** to **SCRAs and/or SCs.**

3. Methods

An analysis of the **Identification of Novel PsychoActive Substances (IONA) Study** database was performed.

This is an ongoing study of **adults** presenting to **UK emergency departments** with **severe toxicity** following **suspected NRD exposure** and therefore a representative population of similar high risk patients.

Substances were confirmed by **detailed** analysis of patients **blood and urine.**

Rates of **reduced consciousness and fits** were calculated in those exposed to **SCRAs and/or SCs.**

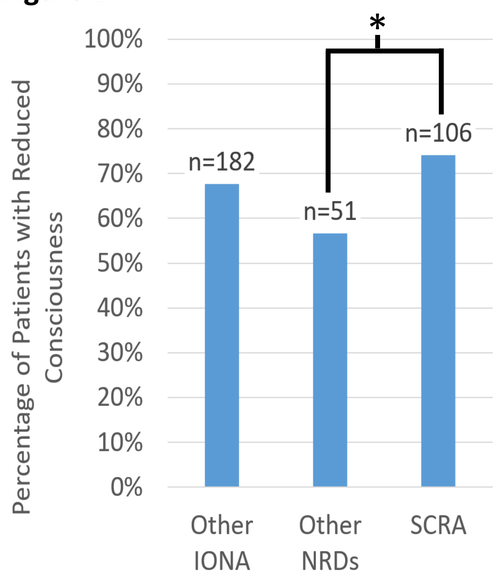
Reduced consciousness was defined as a minimum Glasgow Coma Score (GCS) <15.

4. Results

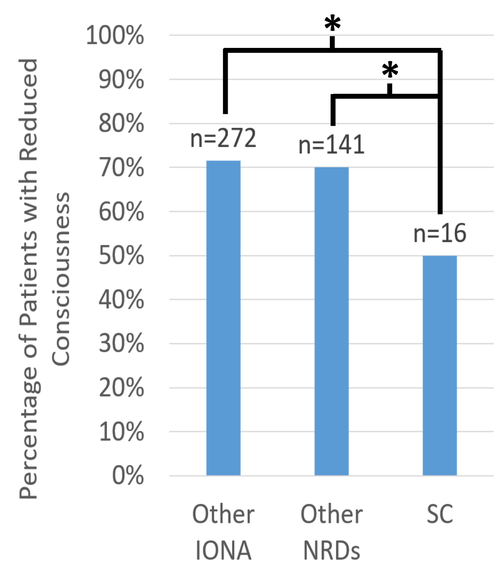
Out of **412 patients** in the IONA database there were **233** (56.6%) NRD exposures, **143** (34.7%) SCRA exposures, **32** (7.8%) SC exposures.

Statistical tests showed that there was **at least a 95% probability** that these results were **not due to chance** in those marked with an asterisk (*).

Figure 2

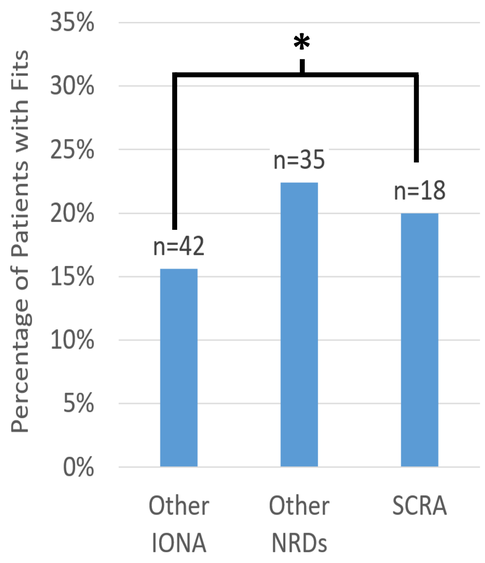


2a: Rate of reduced consciousness in SCRA exposure

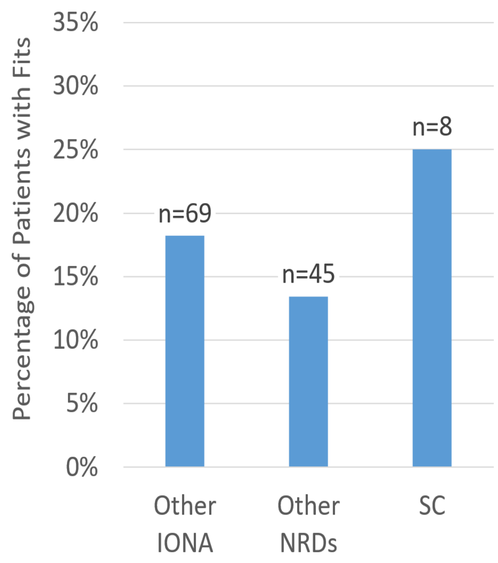


2b: Rate of reduced consciousness in SC exposure

Figure 3

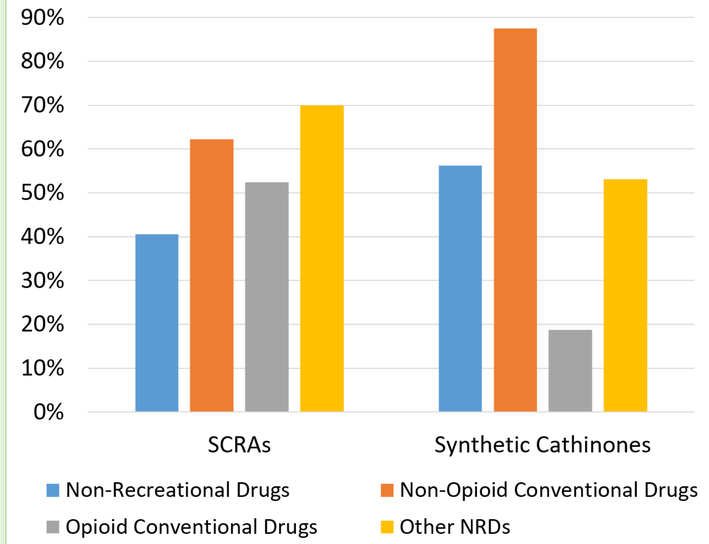


3a: Rate of fits in SCRA exposure



3b: Rate of fits in SC exposure

5. Co-Exposures



Co-exposure was present in **88.3%** of patients.
Mean number of co-exposures - 4 (Max -16, Min -0)

5. Discussion

Reduced consciousness is: 1) more common with **SCRA exposure** than other NPS, and 2) less common with **SC exposure** compared to the IONA group and other NPS.

Fits are more common with **SCRA exposure** compared to the IONA population.

Co-exposures are likely to **alter the rates** of reduced consciousness and fits.

However, the number of co-exposures are **likely overestimated** due to the sensitivity of the tests.

6. Conclusions

Clinicians should **be aware of these patterns** of toxicity when assessing adults with suspected NPS or "Legal High" toxicity in order to:

- Guide **diagnosis and treatment**
- **Anticipate deterioration** or adverse events such as fits or reduced consciousness.

REFERENCES

1. EMCDDA. EU drug markets report. In-depth analysis. 2016. 2. Tait RJ, Caldicott D, Mountain D, Hill SL, Lenton S. A systematic review of adverse events arising from the use of synthetic cannabinoids and their associated treatment. Clinical Toxicology. 2016;54(1):1-13. 3. Prosser JM, Nelson LS. The Toxicology of Bath Salts: A Review of Synthetic Cathinones. Journal of Medical Toxicology. 2012;8(1):33-42 4. Tekulve K, Alexander A, Tormoehlen L. Seizures Associated With Synthetic Cathinone Exposures in the Pediatric Population. Pediatric Neurology. 2014;51(1):67-70.