Public Health England

Protecting and improving the nation's health

Neuro-psychiatric and other effects of NPS

Quality Network for Prison Mental Health Services

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Neuro-psychiatric and other effects of NPS

Nature of the problem

Scale of the problem

Feedback from training events

Reasons for popularity of NPS in prisons

Adverse effects of synthetic cannabinoid receptor agonists [SCRAs]

Evidence for the effects of NPS use-from training events, from literature

Management of adverse effects in prison and community

Synthetic cannabinoid receptor agonists [SCRA] overview

JWH 210 etc 450+ for pain relief and to help to manage HIV/AIDS, multiple sclerosis and side effects of chemotherapy

More than 200 in current drugs market—the largest group of NPS in Europe and worldwide

Usually smoked in joints but can be ingested, injected or smoked as a liquid

Numerous brand names—Spice and Mamba commonest generic terms in UK

Variations between packets and within packets

Higher affinity for CB1, CB2 receptors

Higher potency than natural cannabis—in some cases >100 fold potency

Some very toxic-e.g. MDMB-CHMICA

“More suitable” for e-cigarettes e.g. N-Cumyl 5F-AKB48

Don’t try this at home

Nature of the problem

Scale of the problem

Patterns of NPS use-overwhelmingly synthetic cannabinoids [SC]

67% of 400 seizures from 20 prisons were NPS—99% of these were SC

304 of SC seizures herbal; 4 paper-impregnated

January to October 2015 HMP Forest Bank [capacity 1,460] seizures:

Heroin 21 Gm

Cannabis 114 Gm

NPS 4.4 ***Kg***

Adverse events depend on a number of factors e.g. “bad batches”, time of day, time of the week, nature of establishment

Urine testing in 10 North West prisons demonstrated levels of SC use to be twice as high pre release than on reception[December 2014 to March 2015—prior to PSA]

Scale of the problem

Demography of NPS users

-all ages and all ethnic groups using synthetic cannabinoids

- not a major problem in women's prisons [yet..]
- not a major problem in under 18 year old Young Offender Institutions [due to established smoking ban]
- not a major problem in Immigration Removal Centres [yet..]
- not a major problem in Secure Mental Heath Units [yet..]
- some community services may struggle to deal with NPS in general and SC in particular-many examples of good community practice described
- different cohorts of SC users

Reasons for popularity of NPS in prisons

Undetected by historical testing—improved testing is now available

Perceived legal status—no longer the case since introduction of Psychoactive Substances Act [May 2016]

High potency

Accessible

Affordable

Boredom

Coping mechanism

Self-medication

Social acceptability

Pleasure

Feedback from training events

Prisoners used, with or without their knowledge or consent, as guinea pigs or for entertainment purposes-usually prisoners in debt or vulnerable prisoners

Considerable problems with debt, and violence, due to SC use

The Spice Challenge-with prizes or forfeits

Less risk averse prisoners will prefer to use a bad batch

More rapid use of a bad batch in order to more rapidly resume using a good batch sooner rather than later

Effects of clusters-10, 12, 14 ambulance call outs

Feedback from training events

Liquid SC impregnated onto paper and stationery

A lot of incidents go under the radar due to low key management by prison staff

Prisoners look out and care for each other-but in a selective way

Extraordinary levels of dedication and willingness to go the extra mile

Impact on prison regime and routine of SC use

Particular concerns about the mental health consequences of SC use and when or whether to initiate antipsychotic medication

Concerns regarding interactions with prescribed medication-PHE Factsheet provides advice on this

Poor feedback from hospitals re management of adverse effects

Adverse effects of SCRA

Cardiovascular:
Rapid pulse, slow pulse, high blood pressure, low blood pressure-can fluctuate wildly

Myocardial ischaemia, myocardial infarction

Ischaemic strokes [cerebro-vascular events]

Renal tract:
Acute kidney injury-consequences may be long lasting e.g. requiring dialysis

Incontinence of urine-may be long lasting

Other:
High or low blood sugar, vomiting, low serum potassium, severe sweating, urinary and faecal incontinence

Gastro-intestinal cases include acute liver failure and a near-fatal bleed due to haemorrhage from the superior mesenteric artery

Adverse effects of SCRA

Neurological, cognitive and psychiatric:

Reduced consciousness, coma, dizziness, nystagmus, tinnitus, tremor, convulsions, numbness, paresthesiae, temporary paralysis, temporary blindness, temporary loss of speech

Short term memory and cognitive defects, sedation, confusion

Wide ranging psychosis-paranoia, thought disorder, delusions, hallucinations, inappropriate affect, perceptual disorders, catatonia-”I have lost my soul”

Bizarre behaviour, anxiety, irritability, aggression, combativeness, panic attacks, depression, suicidal thoughts

“I’ve lost my soul”

Case studies from literature

UK National Poisons Information Service 1.1.2007-31.12.14

510 enquiries re probable SCRA use

80.8% male 65.1% under 25

Tachycardia 16.9%

Reduced level of consciousness 16.2%

Agitation or aggression 10.4%

Case studies from literature

35 patients presented in 12 days-24 with delirium, 14 with seizures, 5 required ventilator support/ICU-level care; no deaths [AB-CHMINACA Florida-community setting]

11 patients affected by SCRA-laced brownies-10 suffered memory impairment, 4 with inappropriate giggling, none with depressed consciousness; fully resolved in 9 people within 4 hours [2 had lingering weakness and fatigue] [USA Emergency Department]

277 of 456 patients 2010-2015 used only SCRA-commonest symptoms were agitation, reduced level of consciousness, delirium and psychosis [US Toxic Investigators Consortium]

8 patients with 9 presentations-6 patients with 7 seizure presentations, 1 acute encephalopathy [in setting of chronic renal failure], 1 psychosis involving prolonged admission, 1 stroke [Harlem Hospital]

Three customs officers in Slovenia affected by dermal contact with SC oil-nausea, dry mouth, blurred vision, dizziness, weakness, numbness and palpitations followed by somnolence, lethargy and confusion and later by mydriasis, blurred vision, tachycardia and orthostatic hypotension. Confirmed by blood testing and analysis of spilled substance.

Adverse effects of SCRA

Deaths in custody:

The Prisons and Probation Ombudsman [PPO], Nigel Newcomen reported has identified 64 deaths in prison that occurred between June 2013 and April 2016, where the prisoner was known, or strongly suspected, to have been using NPS before their death.

44 of these deaths were self-inflicted.

Two deaths were homicides.

Withdrawal from SCRA

For most people withdrawal symptoms are not severe

Gastro-intestinal cramps, nausea, tremor, elevated blood pressure, rapid pulse, cough, headache, craving, restlessness, irritability

Depression and suicidal ideation may rarely occur

Management of adverse effects of SCRA

Acute presentations-symptom-directed supportive care

Control and restraint very rarely used in prisons

Sedating medication virtually never used in prisons

“Treat what you see”

Long term management-appropriate clinical support, initiation of medication, cessation of medication, dialysis etc

Harm reduction advice

Psychosocial support

Collaboration-e.g. Dual Diagnosis [Co-morbidity]

Management will depend on location, human and other resources and a wide range of subcultural issues

Examples of good practice

Prison staff take a de-escalation approach to acute presentations

“Pit stop” approach if situation escalates

Control and restraint only used as a last resort

Prison staff responding with increasing confidence and competence to acute presentations

Sedating medications almost never used to manage agitation

Prisoners will continue to use SC in spite of adverse effects because prisons so competent at dealing with these effects and will continue to rescue them-”It’s your job!”

Examples of good practice

Recovery circle-debrief involving staff and affected prisoners following adverse effects

Zero tolerance group-stick and carrot approach [sanctions with clinical and psychosocial support]

Stabilisation cells-observe affected prisoner rather than send him to hospital

Grab bags-for medical response and data capture

Sharing of data across an establishment

Drop-in clinics to facilitate opportunistic engagement with psychosocial services

Use of National Early Warning Score to inform management, especially decision making about sending for an ambulance-Emergency response In Custody project to design national policies about emergency responses and improved protocols regarding sending for an ambulance

Examples of good practice

Peer mentorship and support-using prisoners suffering adverse effects to communicate harm reduction message to other prisoners

Psychosocial services providing harm reduction advice if patients not fully engaging with psychosocial interventions

Identify an individual's recovery trajectory and engage appropriately

Wide ranging and creative ways of increasing awareness for prisoners and staff

Letter to inmates advising impact of ambulance call outs in community resulting in reduced use of SC

Painstaking development of better integration

Harm reduction advice for SC users in prison

NPS (Psychoactive Substances) Information Sheet for prisoners

The best way to avoid the dangers of NPS is... don't take them.
But, if you are going to take NPS, follow the safety rules:

1) Get information before you use. Ask around but don't believe everything you hear.
2) Think smart. Know what effects to expect and anticipate what could go wrong.
3) Using NPS can be more dangerous if you have health problems (blood pressure, heart, asthma etc.), you feel unwell or you are very stressed or unhappy.
4) Start with a really small amount - less than any recommended dose. Wait at least an hour before deciding whether or not to take more. Start low and go slow.

The Recovery Position

5) If you snort, chop powders finely first. Don't inject, but if you do, don't share works with other people.
6) Don't take too much or use to often.
7) Some products sold as NPS also contain illegal drugs.

Harm reduction advice for SC users in prison

93% of SC users would rather use traditional high potency cannabis [THPC]

3.5% of SC last year users attended Emergency Department [ED]

SC last year users 30 times more likely to visit ED compared to THPC users

SC last year users three times more likely to visit ED compared to other drug users- including alcohol

15% of ED presentations due to convulsions

Source Global Drug Survey 2015

Management of NPS use in the community

Early engagement and improved retention following release

Assertive outreach to homeless, vulnerable people-easier than it seems

Tackle peer subversion-harder than it seems

Treat what you see

Be aware of local cohorts

Adapt existing psychosocial practices

Identify recovery trajectory

Use FRAMES approach-can be used formally or intuitively

Management of NPS use in the community

Involve service user groups-especially as advocates

Harm reduction, harm reduction, harm reduction

Publicise and explain Psychoactive Substances Act [PSA]

Observe impact of PSA on local and national trends

NB SC are Class B where classified

Commissioning issues

Resources and references

Report Illicit Drug Reactions [RIDR] website launched March 2017

New psychoactive substances (NPS) in prisons-A toolkit for prison staff PHE November 2015-updated January 2017

Thematic analysis of training for prison staff on new psychoactive substances PHE January 2017

Harms of Synthetic Cannabinoid Receptor Agonists (SCRAs) and Their Management: Dr Dima Abdulrahim and Dr Owen Bowden-Jones on behalf of the NEPTUNE group July 2016

Spice: The Bird Killer: User Voice May 2016

HM Chief Inspector of Prisons for England Wales: Annual Report 2015-16

Changing patterns of substance misuse in adult prisons and service responses: Thematic report by HMIP December 2015

Annual NDTMS Adult substance misuse statistics

Annual Global Drug Survey

Guidance on the Clinical Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances (www.neptune-clinical-guidance.co.uk) March 2015

Drugs in prison: The Centre for Social Justice March 2015