

Kronic in the Clinic: The use of Synthetic Cannabinoids by NSW Cannabis Clinic Clients

Investigators:





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Background

- Synthetic cannabinoids are part of the new class of drug know as New Psychoactive Substances (NPS)¹
- Designed to mimic the effects of Δ9-THC but are more potent and can have more harmful effects ²
- Chemical compound made in powder form, liquefied and sprayed onto plant matter to mimic cannabis
- Were legal in NSW until legislation amendments in 2013



Health

Central Coast Local Health District





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Study Rationale

- Published data on use of synthetic cannabinoids comes primarily from case studies and internet surveys of convenience samples.
- Little research has explored synthetic cannabinoid use in substance use treatment samples
- Concurrent use cannabis and synthetic cannabinoid use are known to exist ³
- This study provides the first exploration of the perceptions and experiences of treatment-seeking cannabis users

Study Aims

- Investigate the demographics, substance use history and patterns of our sample
- Examine the factors that influence users of cannabis to use synthetic cannabinoids
- Explore the effects and consequences of use, making some comparisons to cannabis in terms of:
 - demographics
 - physical effects
 - mental & physical health









Method: Participants

- Participants came from five NSW Health Local Health Districts
 - Hunter New England LHD Lead Site
 - South East Sydney LHD
 - Central Coast LHD
 - Western Sydney LHD
 - Northern NSW LHD
- Primarily sourced from NSW Cannabis Clinics
- Inclusion criteria: Treatment seeking users of cannabis

Method: Participants

- Recruitment:
 - Timeline June 2015 to April 2016
 - Interviewed 154 cannabis users
- Two groups of participants were used for comparison purposes and to understand factors influencing drug use:
 - Synthetic cannabinoid user group (n = 82)
 - Cannabis only user group (n = 72)







Method: Procedures

- Interviews:
 - Conducted face-to-face by researchers
 - Retrospective, structured surveys
 - Assessed:
 - Demographic information
 - Drug use history
 - Drug Use Motives (DUMQ) for cannabis & synthetic cannabinoids
 - Acute subjective effects of cannabis & synthetic cannabinoid use
 - Cannabis dependence (ICD-10)
 - Medical cannabis use
 - Driving and cannabis & synthetic cannabinoid use
 - Physical health and Quality of Life (SF-36v2)
 - Mental Health (DASS-21)
 - Reasons for and for not using synthetic cannabinoids
 - Comparison of synthetic cannabinoids & cannabis

Results: Demographics

| Demographic | Synthetic Cannabinoids <i>(n</i> = 82) | Cannabis only (<i>n</i> = 72) | Total (<i>n</i> = 154) | <i>p</i> -value |
|----------------------------------|--|--------------------------------------|----------------------------|-----------------|
| Age Median (Range) | 32 (11) | 37 (10) | 35 (10) | 0.17 |
| Age Range n (%) | | | | |
| 18 - 35 | 46 (56%) | 34 (47%) | 80 (52%) | |
| 36+ | 36 (44%) | 38 (53%) | 74 (48%) | 0.27 |
| Male <i>n</i> (%) | 62 (76%) | 48 (67%) | 110 (71%) | 0.22 |
| Education \leq Year 10 n (%) | 45 (55%) | 39 (54%) | 84 (55%) | 0.93 |
| ATSI status n (%) | 8 (10%) | 8 (11%) | 16 (11%) | 0.76 |
| Single relationship status n (%) | 53 (65%) | 57 (80%) | 110 (72%) | 0.03 |
| Live Alone <i>n</i> (%) | 19 (23%) | 29 (40%) | 106 (69%) | 0.02 |
| Government benefits n (%) | 61 (74%) | 52 (72%) | 113 (73%) | 0.76 |







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Results: Synthetic cannabinoid use

| Pattern of Synthetic Cannabinoid Use (<i>n</i> =82) | | | | |
|--|------------|--|--|--|
| History n (%) | \frown | | | |
| Use in past 3-months | (22 (27%) | | | |
| Use in past 1-month | 16 (20%) | | | |
| Frequency n (%) | | | | |
| ≤ 5 times | 30 (37%) | | | |
| Between 6 - 20 times | 9 (11%) | | | |
| ≥ 20 times | 43 (52%) | | | |
| Age of first use | | | | |
| Mean (SD) | 30 (11) | | | |
| Routes of administration n (%) | | | | |
| Water pipe | 78 (95%) | | | |
| Joints | 22 (27%) | | | |
| Pipe | 22 (27%) | | | |
| Vaporiser | 2 (2%) | | | |
| Injection | 2 (2%) | | | |
| Use with tobacco n (%) | | | | |
| Mix with tobacco | 63 (77%) | | | |



Results: Reasons for First Use

| Reason | First Use ¹ % |
|--|-----------------------------|
| Curiosity to compare effects to cannabis | 78 |
| Offered/available | 63 |
| Heard reports from other sources | 62 |
| Alternative to cannabis | 52 |
| Legal status of synthetic cannabinoids | 52 |
| Easier to get than cannabis | 38 |
| Subject to drug testing | 25 |
| To reduce or cease cannabis use | 19 |
| Produced positive recreational effects | 17 |
| Stronger than cannabis | 12 |
| ¹ Multiple responses allowed | 12 |

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| ¹ Multiple responses allowed | 13 |

Results: Reasons for Subsequent Use

| Reason | Subsequent Use % ¹ |
|--|----------------------------------|
| Alternative to cannabis | 46 |
| Easier to get than cannabis | 42 |
| Stronger than cannabis | 40 |
| Offered/available | 38 |
| Legal status of synthetic cannabinoids | 38 |
| Produced positive recreational effects | 27 |
| Subject to drug testing | 25 |
| Curiosity to compare effects to cannabis | 24 |
| To reduce or cease cannabis use | 10 |
| Heard reports from other sources | 10 |
| | 14 |

¹ Multiple responses allowed

| Reason | Subsequent Use % ¹ |
|--|----------------------------------|
| Alternative to cannabis | 46 |
| Easier to get than cannabis | 42 |
| Stronger than cannabis | (40) |
| Offered/available | 38 |
| Legal status of synthetic cannabinoids | 38 |
| Produced positive recreational effects | 27 |
| Subject to drug testing | 25 |
| Curiosity to compare effects to cannabis | 24 |
| To reduce or cease cannabis use | 10 |
| Heard reports from other sources | 10 10 |

Results: Reasons for No Use

| Results: Reasons for No Use | | K |
|------------------------------------|-----|---|
| Reason | % 1 | |
| Heard bad reports | 86 | |
| Not natural | 69 | |
| No Curiosity | 55 | |
| Undesired recreational effects | 53 | |
| Distrust the manufacturers | 28 | |
| Never offered/available | 19 | |
| Distrust the retailers | 15 | |
| Negative/harmful effects | 19 | |
| Stronger than cannabis | 7 | |
| 1 Multiple responses allowed | 1 | 6 |

Multiple responses allowed

| Results: Reasons for No Use | | K |
|------------------------------------|----------------|---|
| Reason | % ¹ | |
| Heard bad reports | (86) | |
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| 1 | 17 | 7 |

¹ Multiple responses allowed

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Figure 1. Drug Use Motives Questionnaire (DUM-Q) median motivational domain scores for synthetic cannabinoids and cannabis

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Results: Synthetic vs Natural Effects Comparison

| Self-reported Effects | Synthetic (%) | Natural (%) | OR | 95% Cl 1 |
|--|---------------|-------------|------|----------------|
| Felt racing heart / irregular heart beat | 51.2 | 2.4 | 21.0 | [5.1, 86.8]** |
| Felt nauseous | 25.6 | 1.2 | 21.0 | [2.8, 156.1]* |
| Felt chest or lung pain | 23.2 | 1.2 | 19.0 | [2.5, 141.9]** |
| Felt dizzy / dizziness | 29.3 | 2.4 | 12.0 | [2.8, 50.8]** |
| Psychotic experiences | 14.6 | 1.2 | 12.0 | [1.6, 92.3]** |
| Excessive Sweatiness | 32.9 | 3.7 | 9.0 | [2.7, 29.7]** |
| Hangover effect | 29.3 | 3.7 | 8.0 | [2.4, 26.6]** |
| Felt paranoid / paranoia | 31.7 | 4.9 | 6.5 | [2.3, 18.6]** |
| Felt light headed | 30.5 | 4.9 | 6.3 | [2.2, 18.0]** |
| Passed out after a smoking session | 14.6 | 2.4 | 6.0 | [1.3, 26.8]* |
| Felt confusion | 30.5 | 6.1 | 5.0 | [1.9, 13.1]** |
| Felt antisocial after smoking | 35.4 | 7.3 | 4.8 | [2.0, 11.6]** |
| Decreased ability to function after use | 40.2 | 8.5 | 4.7 | [2.1, 10.7]** |
| Headache | 20.7 | 4.9 | 4.3 | [1.4, 12.6]** |
| Felt nervous or anxious | 30.5 | 7.3 | 4.2 | [1.7, 10.2]** |
| Increased ability to function after use | 7.3 | 34.1 | 0.21 | [0.09, 0.52]** |
| Felt more focused than usual | 1.2 | 31.7 | 0.04 | [0.01, 0.28]** |

¹ McNemar test: *p < .05, **p < .01, ***p < .001.

Summary

- In our study population use synthetic cannabinoids was not uncommon 82/154 (53%)
 - Use typically previous use rather than current
 - More likely to be in a relationship and live with others, otherwise similar profile to cannabis only group
 - Approx. 1/2 had used frequently (20+), 1/4 up to 5 times,
 - Bongs/joints most common.
 - More stressed
 - First Use: curiosity, it exists, alternative to cannabis, drug testing
 - Ongoing Use: strength, drug testing
 - No use: negative reports, not 'natural'



11/9/2016



Thank you





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| t of reasons people give for using <u>cannabis</u> marijuana) is provided below. | | 🗹 Ple | | | |
|---|------------|----------|----------------|----------|------------------|
| ise indicate how often you have used nabis for each of the following reasons: | Never | Rarely | Sometimes | Often | Almost Always |
| is a way to celebrate | De | 01 | 2 | 03 | ۵a |
| o relax | | | □2 | | |
| Because you like the feeling | | | □ ₂ | | |
| o forget your worries | 0 | | □ ₂ | □3 | |
| Because it's exciting | | | □ ₂ | □3 | □4 |
| Because it's what most of your friends do when you get together | □ 0 | | □ ₂ | □3 | □4 |
| secause you feel more self-confident or sure of yourself | □ 0 | \Box_1 | □₂ | □3 | □4 |
| o be sociable | 0 | \Box_1 | □ ₂ | □3 | □4 |
| o get high | | \Box_1 | □ ₂ | □3 | □4 |
| Because it helps you when you feel depressed or nervous | □ 0 | 1 | □ ₂ | □3 | □4 |
| Because it is customary on special occasions | | \Box_1 | □ ₂ | □3 | |
| Because it's fun | | | □ ₂ | | □4 |
| To cheer up when you're in a bad mood | | | | 3 | □4 |
| Because it makes a social gathering more enjoyable | 0 | \Box_1 | □₂ | □3 | □4 |
| Because it makes you feel good | | \Box_1 | □ ₂ | | |
| Because it helps reduce the symptoms associated with your mental illness | □ 0 | \Box_1 | □ ₂ | □3 | □4 |
| Because it helps reduce the side effects of your medication | □ 0 | 1 | □₂ | □3 | □4 |
| Are there any other reasons why you use cannabis? | Please s | pecify: | | | |
| Il the reasons above, which is the most ortant reason why you use cannabis? | Reason | number: | | | |



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| | Variable | Synthetic Cannabinoids % | Cannabis % | Odds Ratio | 95% CI lower |
|-------|----------------------------|--------------------------------|------------|---------------|-----------------|
| Notes | Racing heart | 51.2 | 2.4 | 21.00 | 5.084 |
| | Nauseous | 25.6 | 1.2 | 21.00 | 2.825 |
| | Chest or lung | | | | |
| | pain | 23.2 | 1.2 | 19.00 | 2.544 |
| | Dizzy | 29.3 | 2.4 | 12.00 | 2.836 |
| | Psychosis | 14.6 | 1.2 | 12.00 | 1.56 |
| | Sweat | 32.9 | 3.7 | 9.00 | 2.73 |
| | Hangover | 29.3 | 3.7 | 8.00 | 2.409 |
| | Paranoid | 31.7 | 4.9 | 6.50 | 2.269 |
| | Light headed | 30.5 | 4.9 | 6.25 | 2.175 |
| | Pass out | 14.6 | 2.4 | 6.00 | 1.343 |
| | Confusion | 30.5 | 6.1 | 5.00 | 1.914 |
| | Antisocial | 35.4 | 7.3 | 4.83 | 2.007 |
| | Decreased ability to | | | | |
| | function | 40.2 | 8.5 | 4.74 | 2.085 |
| | Headache | 20.7 | 4.9 | 4.25 | 1.430 |
| | Nervous | 30.5 | 7.3 | 4.17 | 1.709 |
| | Depression | 22.2 | 7.4 | 3.00 | 1.191 |
| | Heavy | 23.2 | 8.5 | 2.71 | 1.141 |
| | Reduced motor | | | | |
| | coordination | 25.6 | 9.8 | 2.63 | 1.163 |
| | Slurred speech | 15.9 | 6.1 | 2.60 | 0.927 |
| | Dreamlike | 22.0 | 12.4 | 2.46 | 1 210 |
| | State | 32.9 | 15.4 | 2.40 | 1.218 |
| | appetite | 28.0 | 12.2 | 2 20 | 1 095 |
| | Ringing in ears | 11.0 | 12.2 | 2.30 | 0.693 |
| | Chuman | 20.7 | 4.5 | 1.55 | 0.033 |
| | Worry meeting strangers | 20.7 | 13.4 | 1.55 | 0.724 |
| | when stoned | 22.0 | 19.5 | 1.13 | 0.574 |
| | Drowsy or | | | | |
| | tired | 23.2 | 22.0 | 1.06 | 0.554 |
| | Dry mouth | 11.0 | 14.6 | 0.75 | 0.316 |
| | Stimulated or | | | | |
| | energetic | 14.6 | 24.4 | 0.60 | 0.293 |
| | Trouble | | | | |
| | rememberin | | | | |
| | g things | 13.4 | 23.2 | 0.58 | 0.276 |
| | Increased ability to | | | | |
| | function | 7.3 | 34.1 | 0.21 | 0.089 |



95% CI upper

86.751 156.117

141.928 50.775 92.287 29.667 26.567 18.624

17.958 26.808 13.061 11.641

10.657 12.630 10.157 7.558 6.457

5.926 7.293

4.948

4.832 7.306 3.299

2.206

2.011

1.227

1.217

0.518

McNemar test

0.000

0.000

0.003 0.000 0.000 0.000 0.000 0.013 0.000

0.000

0.000 0.007 0.001 0.023 0.029

0.024

0.096

0.014

0.035 0.267 0.345

0.864

1.000

0.215

0.200

0.000

25