Psychosocial interventions for cannabis use disorder

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Cannabis use disorder (CUD) causes clinically significant psychiatric distress and social impairment.

Lifetime rates of CUD are at 5.4% of Australians, 6.3% of the US.

Risk increases among:
- Males
- Those with alcohol use or affective disorders
- Those who use during adolescence
- Those who use daily
Rationale for intervention

• Demand for treatment is increasing
  Yet, only about one third of those in need will seek treatment

• Various barriers inhibit treatment seeking:
  • not being aware of treatment options
  • thinking treatment is unnecessary
  • wanting to avoid stigma
  • concerns about confidentiality
  • lack of accessibility
  • costs of treatments
Cannabis treatment trials

- Drug Counselling and Social Support
- Relapse Prevention
- Cognitive Behavioural Therapy (CBT)
- Motivational Enhancement Therapy (MET)
- MET+CBT
- Contingency Management
- Mindfulness
- Multidimensional Family Therapy
Previous systematic reviews

- Adolescents in schools (Tobler 1999)
- Those with psychosis or depression (Baker 2010)
- Adolescents in the community (Bender 2011)
- Internet & computer only (Tait 2013)
- Active treatment seekers only (Davis 2014)
- Pharmacotherapies (Marshall 2014)
- Telephones (Gates 2015)
Our review of treatment

- Inclusion criteria
  - Randomised Controlled Trial
  - 18+ years
  - Heavy cannabis use or treatment seeking
  - Little other illicit drug use
  - Treatment deliverable in outpatient setting
Our review of treatment

- 23 treatment trials (47 articles), 4045 participants
- 15 studies in the US
- Treatments were all delivered in an outpatient design:
  - An average of seven sessions (1-14)
  - Conducted over approximately 12 weeks (1-56)
Included treatment styles

- Cognitive Behavioural Treatment (CBT; 15 studies)
- Motivational Enhancement Therapy (MET; 15 studies)
- CBT+MET (9 studies)
- Contingency Management (CM; 6 studies)
- Social Support (SS; 2 studies)
- Mindfulness Meditation (MM; 1 study)
- Drug Counselling (DC; 4 studies)
Included control groups

- Delayed or no treatment (11 studies)
- Minimal treatment (2 studies)
- Second active intervention (14 studies)
- Treatment as usual (TAU; 3 studies)
Outcomes of interest

- Cannabis use frequency
- Cannabis use quantity
- Point prevalence abstinence
- Symptoms of dependence
- Cannabis related problems
- Retention in treatment
- Motivation to change
- Other substance use
- Physical health concerns
- Mental health concerns
- Quality of life
Outcomes usually included

- Cannabis use frequency
- Cannabis use quantity
- Point prevalence abstinence
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- Other substance use
- Physical health concerns
- Mental health concerns
- Quality of life
Important considerations

- Participant demographics
- Patterns and history of use
- Concurrent psychiatric illness
- Concurrent non-cannabis substance use
- Nature of treatment delivery*
- Nature of adjunct treatments or booster sessions
- Quality of evidence (risk of bias)
RESULTS
# Quality of evidence

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<th>Study</th>
<th>Random sequence generation (selection bias)</th>
<th>Allocation concealment (selection bias)</th>
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+ indicates a high level of quality; ? indicates a moderate level of quality; - indicates a low level of quality.
Can treatment really help reduce frequency of cannabis use??
Reductions in frequency following intervention

- Moderate quality evidence:
  - At least one study at high risk of other bias
  - Data conversions were required
  - Follow up period varied from 7 weeks to 4 months
Reductions in frequency following intervention

• Compared to inactive control:
  – 6 fewer days of use
  – 10 fewer if the intervention was intense
  – 5 fewer if the intervention was less intense

• Compared to TAU: No significant difference

• Active treatment comparisons:
  – CBT typically superior to MET+CBT and MET
  – CM for abstinence helps but not necessary
Reductions in frequency following intervention

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- Active treatment comparisons:
  - CBT typically superior to MET+CBT and MET
  - CM for abstinence helps but not necessary
But, can treatment really help you achieve abstinence??
Point prevalence abstinence

- Low quality evidence:
  - At least one study at high risk of other bias
  - Follow-up periods varied substantially from 3 months to 237 days
  - Heterogeneity in outcome measures (period of abstinence)
Point prevalence abstinence

- Active treatment: 37% achieved PPA at end of treatment, 24% at three month follow-up, 23% after that
- Inactive control: 12% achieved PPA at final follow-up
- Those receiving an intensive intervention were 3 times more likely to achieve abstinence in the short term
- Less intense interventions were about the same as inactive control
Can treatment really help you reduce the amount you smoke??
Reductions in quantity of cannabis used

- Very low quality evidence:
  - At least one study at high risk of other bias
  - Data conversions were required
  - Heterogeneity in outcome measures
  - Follow-up periods varied substantially from 7 weeks to 237 days
  - Lack of studies
Reductions in quantity of cannabis used

- Compared to inactive control:
  - 4 fewer joints used per day
  - 5 fewer if the intervention is intense
  - 3 fewer if the intervention is less intense

- Compared to TAU: No long term effect

- Active treatment comparisons: No particular treatment came out on top
Reductions in quantity of cannabis used

• Compared to inactive control:
  – 4 fewer joints used per day
  – 5 fewer if the intervention is intense
  – 3 fewer if the intervention is less intense

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Reductions in quantity of cannabis used

• Compared to inactive control:
  – 4 fewer joints used per day
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  – 3 fewer if the intervention is less intense

• Compared to TAU: No long term effect

• Active treatment comparisons: No particular treatment came out on top
Can treatment really help you reduce your severity of dependence??
Reductions to severity of dependence

- Low quality evidence:
  - At least one study at high risk of other bias
  - Follow-up periods varied substantially from 3 months to 237 days
  - Only four studies
Reductions to severity of dependence

• Compared to inactive control:
  – Mean difference of 4 symptoms
  – 8 fewer symptoms following intense intervention
  – 3 fewer symptoms following less intense intervention

• Active treatment comparisons: MET, CBT, MET+CBT all effective
Reductions to severity of dependence

• Compared to inactive control:
  – Mean difference of 4 symptoms
  – 8 fewer symptoms following intense intervention
  – 3 fewer symptoms following less intense intervention

• Active treatment comparisons: MET, CBT, MET+CBT all effective
Can treatment really help you reduce cannabis-related problems??
Reductions to cannabis problems

- Low quality evidence:
  - At least one study at high risk of other bias
  - Data conversions were required
  - Follow-up periods varied from 7 weeks to 4 months
  - Heterogeneity in outcome measures
Reductions to cannabis problems

• Compared to inactive control:
  – 3 fewer problems
  – 5 fewer problems following intense intervention
  – 2 fewer problems following less intense intervention

• Active treatment comparisons: Could not determine which treatment was best
Reductions to cannabis problems

- Compared to inactive control:
  - 3 fewer problems
  - 5 fewer problems following intense intervention
  - 2 fewer problems following less intense intervention

- Active treatment comparisons: Could not determine which treatment was best
Do those receiving treatment actually complete the sessions??
Retention in treatment

- Moderate quality evidence:
  - At least one study at high risk of other bias
  - Heterogeneity in outcome measures
Retention in treatment

- Seven out of ten participants completed treatment
- Most studies assessing the impact of treatment retention found no association with treatment outcomes
- Data for direct treatment comparisons was scarce
Can treatment assist in any other way??
Secondary outcomes

• Too few studies included these outcomes for definitive findings

• Motivation to quit did not consistently improve but was associated with improved outcomes

• Other substance use also did not consistently improve but was low to begin with

• Mental health also did not consistently improve although measures varied
Important considerations

- Participant demographics
- Patterns and history of use
- Concurrent psychiatric illness
- Concurrent non-cannabis substance use
- Nature of treatment delivery
- Nature of adjunct treatments or booster sessions
- Quality of evidence (risk of bias)
Important considerations

- Participant demographics
- Patterns and history of use
- Concurrent psychiatric illness
- Concurrent non-cannabis substance use***
- Nature of treatment delivery
- Nature of adjunct treatments or booster sessions
- Quality of evidence (risk of bias)
In summary...
Summary

• Weight of evidence focused on MET, CBT and their combination

• Reduction in frequency without complete abstinence was common in the short term (within six months) but other outcomes were harder to treat

• Use of CM may be important in motivating initial quit attempts but loses impact over time
Summary

- Could not determine the most effective number of sessions but it is likely to be more than four despite the appeal of brief interventions

- Most participants completed treatment as intended but the importance of treatment completion or previous treatment experience has been overlooked
Summary

- Obvious need for further treatment vs treatment comparisons that include greater focus on outcomes beyond frequency of cannabis use

- Over representation of males, whites, Caucasians, younger individuals in their 20s-30s, and those living in the US
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