Group Intervention for Concurrent Disorders Involving Substance Abuse and Psychosis Appears to be an Effective Way of Providing an Integrated Service

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CLINICAL SCENARIO:
The onset of a psychotic episode can be a result of several different biological reasons and life scenarios. Part of the challenge that a psychiatrist may face in making a diagnosis of schizophrenia is to rule out all of these other possible causative factors. The use of cannabis has a strong link to the development of psychosis in those who are biologically predisposed. Those using cannabis often lack motivation to stop using it. Cannabis use poses a significant problem in achieving recovery, preventing relapse and in understanding the type of psychosis at hand. Clinicians are often at a loss for how to get through to this group who frequently lack motivation. It is uncertain as to whether group intervention is effective in reducing cannabis use in individuals experiencing their first episode psychosis.

CLINICAL QUESTION:
Is group intervention effective in reducing marijuana use in patients who are experiencing their first episode of psychosis?

SUMMARY of Search, ‘Best’ Evidence’ appraised, and Key Findings:
- 3 citation’s met the inclusion criteria and none of the exclusion criteria.
- No systematic reviews or meta-analyses were located.
- No articles were found that specifically examined a first episode psychosis population for marijuana use.
- 1 RCT was found which was published in 2004 and is considered to be “best evidence”. The article specifically sought to determine the effectiveness of group intervention in reducing substance use in those with a dual diagnosis. The results of the study found group intervention to be an effective way of achieving an integrated service for dual diagnosis within a clinical setting.
- 2 nonrandomized, uncontrolled cohort studies were found that addressed the effectiveness of groups for psychotic/schizophrenic substance abusers. Both studies provided some evidence in favour of the group effectiveness.

CLINICAL BOTTOM LINE:
Group intervention for dual diagnosis appears to be an effective way to provide an integrated approach to treatment for psychotic substance abusers. Randomised Control Trials with longer follow up periods and larger sample sizes are need to determine the effectiveness of group intervention in reducing marijuana use in individuals experiencing their first psychotic episode.

Limitation of this CAT: This summary of evidence has been individually prepared and not gone under a process of peer review.

SEARCH STRATEGY:

<table>
<thead>
<tr>
<th>Databases and sites searched</th>
<th>Search Terms</th>
<th>Limits used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embase</td>
<td>Schizophrenia, Cannabis, Marijuana, marihuana, Psychotherapy</td>
<td>Nil</td>
</tr>
<tr>
<td>PsychINFO</td>
<td>Schizophrenia, Marijuana usage, Group Psychotherapy, Drug usage</td>
<td>Nil</td>
</tr>
<tr>
<td>CINAHL</td>
<td>Schizophrenia, Group Psychotherapy, Cannabis, Substance Abuse</td>
<td>Nil</td>
</tr>
</tbody>
</table>

INCLUSION and EXCLUSION CRITERIA

- **Inclusion:**
  - Studies involving any kind of group intervention for concurrent disorders.
  - Studies including group intervention for concurrent disorders involving any type of substance except nicotine and any type of psychiatric disorder.
  - Studies involving intervention led by any health care discipline.
  - Studies published between 1980-2005

- **Exclusion:**
  - Studies with group intervention focusing on nicotine usage.
  - Studies published prior to 1980.
  - Studies which do not involve group intervention.
  - Studies in which individuals with concurrent disorders are not the focus.
  - Studies with the majority of participants above the age of 40 years.
  - Studies which evaluate group therapy as only one part of a combination of services.
RESULTS OF SEARCH

Table 1: Summary of Study Designs of Articles retrieved

<table>
<thead>
<tr>
<th>Level of Evidence</th>
<th>Study Design/ Methodology of Articles Retrieved</th>
<th>Number Located</th>
<th>Source(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2b</td>
<td>RCT</td>
<td>2</td>
<td>PsycINFO (ref 3, 4) Embase (ref 3)</td>
</tr>
<tr>
<td>4</td>
<td>Case Series</td>
<td>6</td>
<td>PsycINFO (ref 1,2,6,7, 8) CINAHL (ref 7) Embase (ref 2)</td>
</tr>
<tr>
<td>5</td>
<td>Expert opinion</td>
<td>5</td>
<td>PsycINFO (ref 10) Embase (ref 11, 12, 13) CINAHL (ref 9)</td>
</tr>
</tbody>
</table>


BEST EVIDENCE

The following articles were identified as the ‘best’ evidence and selected for critical appraisal.


Reasons for selecting these papers were:
- They met all inclusion and none of the exclusion criteria.
- They were specifically focused on the group and it’s effectiveness as opposed to a combination of services.
- The studies evaluated the outcomes of the group in some way instead of just describing what a group protocol may entail.
- The groups described in these studies most closely related to the group protocol in question for this CAT by:
  - being an outpatient service
  - being designed specifically for concurrent disorders
  - involving individual’s who had severe and persistent mental illnesses mostly of psychotic type
  - the group protocol seemed to be similar
  - the group was part of an integrated service.

SUMMARY OF BEST EVIDENCE

Table 2. Description and appraisal of case series by Addington, J., & el-Guebaly, N. (1998)

**Purpose of the Study:** To address the need to develop an appropriate, effective and replicable treatment to help individuals with schizophrenia and substance abuse.

**Intervention Investigated:**
- Case Series – not controlled and not random.
- A convenience sample including 18 referred patients.
- Clearly stated inclusion/exclusion criteria.
- Independent variables: bi-weekly attendance at open-ended group.
- Dependent variables: levels of positive and negative symptoms, amount of substance abuse and level of social functioning. (Measured at baseline 3, 6 & 12mos)

**Outcome Measures:**
- The Structured Clinical Interview for DSM-III-R for DSM-III-R diagnosis.
- The Positive and Negative Syndrome Scale (PANSS)
- The Social Functioning Scale (SFS) and Quality of Life Scale (QLS).
- Urine sample and drug analysis and confirmation by members of care team.

**Results:**
- At the 1 yr follow-up, 8 subjects (44%) were abstinent, 7 subjects were still using substances, and 3 subjects had reduced their substance use.
- There were improvements on all measures except negative symptoms.
- Only the improvement in positive symptoms are clinically significant (t value = -2.10)

**Authors’ Conclusions:** The results of this study indicate that addressing substance abuse in specifically designed groups may be successful for individuals with schizophrenia.

**Critical Appraisal:**

**Level of Evidence = 4**

**Validity**
- Design selection appropriate for question but lacks randomisation and controls: inherent bias.
- Evaluation tools clearly stated and reliability of raters was addressed.
- No data provided for chosen sample size which limits the power of the results.
- The group served as an adjunctive treatment which calls into question whether results can specifically be attributed to the group.
- Tools used for statistical analyses not specified.

**Importance of Results**
- Only the change in positive symptoms was found to be clinically significant.
- The Case Series design is not as strong as an RCT or systematic review.
- The sample was small and conveniently selected from a small group of referrals which questions generalizability.

**Implications for Practice/ Applicability**
- The group format used in this study was a bi-weekly open ended group which differs from the once weekly closed 8 session group in question for this CAT.
- The mean age of 35 years is higher than a first episode population.
- Urine samples and drug analysis used in this study would not be available as a motivational tool for the group in question.
- This study provides some evidence in support of group intervention.

**SUMMARY OF BEST EVIDENCE**

Table 3. Description and appraisal of case series by Hellerstein, D.J., & Meehan, B. (1987).

**Purpose of the Study:** To provide quantitative evidence for the effectiveness of outpatient group therapy for psychotic substance abusers.

**Intervention Investigated:**
- Case Series – Not controlled and non random design.
- A convenience sample including 10 patients meeting the criteria referred from an inpatient psychiatric/substance abuse centre and outpatient treatment programs.
- Inclusion criteria included a diagnosis of schizophrenia and substance abuse.
- Independent variable once weekly attendance of an open ended group.
- Dependent variables was # of days spent in hospital (measured at baseline and 1yr).

**Outcome Measure:**
- Number of sessions attended and days of hospitalisation during the 1 year after the group began were recorded. No specific outcome measures were discussed.

**Results:**
- In the first year of the group, the members had hospitalisations totalling 78 days.
- This compares to an average of 245.7 days for the 3 yrs before the group began.
- The mean ± SD number of days of hospitalisation decreased from 24.6±21.4 days/year to 7.8±9.9 days/year.
- There was a significant decrease in the mean number of days of hospitalisation for the time from 1 year before the group began (38.2±21.4 days/year) to 1 year after it began (7.8±9.9 days/year) according to the Wilcoxon matched-pairs signed ranks test. (t=1, p< 0.01)

**Authors’ Conclusions:** This pilot therapy group was successful in engaging some substance users with schizophrenia in outpatient treatment and in decreasing the amount of hospitalisation required. A similar approach may work in other settings.

**Critical Appraisal:**

**Level of Evidence = 4**

**Validity**
- Design selection appropriate for question but lacks randomisation and controls.
- Evaluation tools used for calculating days of hospitalisation not specified.
- Other services provided concurrently not mentioned which impairs validity.
- Sample conveniently selected from a small pool limiting generalizability of results.
- The results did not directly answer whether there was a decrease in substance use.

**Importance of Results**
- The Wilcoxon matched-pairs signed ranks test was done for statistical significance – Not all results were found to be clinically significant.
- The Case Series design is not as strong as a RCT or systematic review because there are no controls for factors such as placebo effect, medication, time etc.
- No power calculation was provided for sample size limited strength of results.

**Implications for Practice/ Applicability**
- Participants in study are labelled as having “chronic schizophrenia” and thus are far beyond their first episode of psychosis.
- The open ended bi-weekly ongoing group is different than the closed once per week 8 session group of question.
- Study provides some evidence for effectiveness of group by reporting rates of decreased hospitalisations.

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SUMMARY OF BEST EVIDENCE

**Purpose of the Study:** To evaluate the effectiveness compared to standard treatment, of a group intervention clearly addressing motivations for use, in helping patients with dual diagnosis reduce their substance use.

**Intervention Investigated:**
- Randomized controlled trial involving 83 referred participants from 3 sites.
- Randomization achieved by allocating alternate patients to the 2 groups.
- Inclusion/exclusion criteria were clearly stated.
- Dependent variables include: (1) psychopathology (2) quantity of drug use, and (3) level of drug/alcohol dependence.
- Independent variables include: standard treatment vs. a specialized programme.

**Outcome Measures (Primary and Secondary):**
- Brief Symptom Inventory (BSI and Brief Psychiatric Rating Scale (BPRS).
- The Severity of Dependence Scale (SDS), The Drug Abuse Screening Test (DAST), the Alcohol Use Disorder Identification Test (AUDIT) and the Opiate Treatment Index.

**Results:** Post-hoc paired t tests showed the intervention group improved in:
- psychopathology (t=2.04, p=0.050), drug abuse (t=6.45, p=0.001), need for medication (t=2.08), reduction in cannabis use (t=2.59, p=0.20), reduction in poly substance use (t=2.61, p=0.014), reduction in alcohol use (t=2.59, p=0.015), severity of dependence (t=4.27, p=0.001), lower rate of hospitalisation (p=0.005).

**Authors’ Conclusions:** The findings provide evidence that integrated treatment is effective for people with psychotic disorders whose illness is complicated by substance use. This RCT has shown that this integrated approach can effectively be achieved through a group-based intervention within a routine clinical setting.

**Level of Evidence = 2b**

**Critical Appraisal:**

**Validity**
- Not true randomisation but groups were similar at baseline – valid tests for pre-treatment equivalence between groups were listed.
- Evaluation tools were clearly outlined and recommended by a review of assessment.
- Assessment done at intake and 3 months after the group sessions were done by an independent rater who was blind to the randomisation and treatment.
- Participants and group facilitators could not be blinded.
- Assessment relied on subjective self-report.
- Participants selected from a highly motivated pool which questions generalizability.
- Researchers of study were developers of treatment package, thus possible bias.

**Importance of Results**
- Results answer the clinical question.
- Power calculations indicate that the sample size is clinically significant with an 80% chance of detecting a difference at the 95% significance interval.
- Results of the study reflect only short-term outcomes (3 months post).

**Implications for Practice/ Applicability**
- The patients willingly participated and had higher levels of motivation that usual.
- Participants were paid for follow-up visits which is not feasible for public healthcare.
- The findings included a first episode population – excluded if previously treated.
- The study provides strong and appropriate support for the clinical question.
REFERENCES

Ranking of Levels of Evidence Based On:

Articles Critically Appraised:
Level 4


Level 2b

Related Articles (Not Individually Appraised)

Level 1 Evidence

Level 2b Evidence

Level 3 Evidence

Level 4 Evidence


**Level 5 Evidence**


