Effects of Distance to Treatment and Treatment Type on Alcoholics Anonymous Attendance and Subsequent Alcohol Consumption

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Presenter Disclosure

Jamie L. Heisey, MA
The following personal or financial relationships with commercial interests relevant to this presentation existed during the past 12 months:
No relationships to disclose

Presentation Overview

Introduction
- Importance of geography
- “Critical period” post treatment
- After-care, self-help, & Alcoholics Anonymous (AA)

Current study
- Sample
- Methods
- Results
- Implications
- Strengths & Limitations

Why is Geography Important?

- Neighborhood characteristics and geographic proximity may pose barriers to treatment
  - Distance to treatment affects utilization & retention\(^1\)
  - Travel lengths, clients’ neighborhoods, crime rates affect continuity\(^2\)
Post-Treatment

• “Critical period”: High risk of relapse and return to abusive drinking patterns

• Chronic conditions may require several episodes of treatment and care over an extended period of time

• Importance of aftercare, follow-up, and self-help programs

Alcoholics Anonymous

• Formal treatment programs encouraging AA meeting attendance

  ➢ Varying introduction & involvement during treatment

  ▪ Inpatient clients participate in AA near treatment

  ▪ Outpatient clients may participate in AA groups closer to their home

Research Questions
1) If inpatient clients are typically introduced to AA meetings close to their treatment facility, what happens to AA attendance rates once they complete treatment?

2) Is this different from people who live far away from their inpatient facility?

3) Does proximity to an outpatient facility affect clients’ AA attendance rates post treatment?

4) Do differences in AA attendance by treatment type have subsequent effects on alcohol consumption post treatment?
Current study

Hypotheses

- AA attendance patterns of inpatient, outpatient, and detox clients will differ
- Distance from home to treatment will matter most among inpatient clients
- Travelling more than 10 miles to treatment will yield higher alcohol consumption post treatment among inpatient clients
Methods: Sample

- Recruited from 10 alcohol and drug treatment programs in Northern California
- N = 470 clients
- Inclusion criteria:
  - Current drinker
  - Lives within 100 miles of treatment
  - Residential street address

Methods: Measures

- Outcome measures:
  - Past 12 month **AA attendance**
  - Past 12 month **drink volume**
- Predictor variables:
  - Treatment type (Inpatient, Outpatient, Detox)
  - Distance to treatment (# of miles)
Control Variables

- Symptoms of problematic drinking
- Prior AA attendance
- Prior alcohol and drug treatment
- Neighborhood disadvantage
- Gender
- Age
- Total household income
- Education
- Employment status
- Marital status
- Ethnicity

Analysis

- Multivariate linear regression models
  - Interaction terms
  - Stratified models
- Linear regression to test mediation

*utilized survey weighted data in all models

Ethnic Composition of Treatment Types

Inpatient

- White: 59%
- Black: 27%
- Hispanic: 9%
- Other: 6%

Outpatient

- White: 67%
- Black: 19%
- Hispanic: 6%
- Other: 9%

Detox

- White: 64%
- Black: 24%
- Hispanic: 9%
- Other: 3%

Treatment Client Demographics

Baseline Characteristics

Married or living with significant other
- Inpatient: 27%
- Outpatient: 45%
- Detox: 16%

Employed
- Inpatient: 25%
- Outpatient: 54%
- Detox: 19%

More than High School
- Inpatient: 26%
- Outpatient: 31%
- Detox: 21%

More than $35,000
- Inpatient: 26%
- Outpatient: 52%
- Detox: 11%

### Mean Distance Travelled to Treatment by Treatment Type

<table>
<thead>
<tr>
<th>Treatment Type</th>
<th>Average Distance to Treatment in Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient</td>
<td>17</td>
</tr>
<tr>
<td>Outpatient</td>
<td>9</td>
</tr>
<tr>
<td>Detox</td>
<td>13</td>
</tr>
</tbody>
</table>

**Results: Predictors of AA Attendance**

**Table 1**

<table>
<thead>
<tr>
<th>Baseline Predictors</th>
<th>Interaction Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to treatment</td>
<td>β</td>
</tr>
<tr>
<td></td>
<td>CI</td>
</tr>
<tr>
<td>Inpatient</td>
<td>-1.44</td>
</tr>
<tr>
<td></td>
<td>(-2.5, -0.43)**</td>
</tr>
<tr>
<td>Detox</td>
<td>-0.10</td>
</tr>
<tr>
<td></td>
<td>(-1.26, 1.07)</td>
</tr>
<tr>
<td>Inpatient*Distance</td>
<td>1.53</td>
</tr>
<tr>
<td></td>
<td>(0.14, 2.93)*</td>
</tr>
<tr>
<td>Detox*Distance</td>
<td>0.27</td>
</tr>
<tr>
<td></td>
<td>(-1.44, 1.99)</td>
</tr>
</tbody>
</table>

**Notes:** *Less than or equal to 10mi. Outpatient. *p<0.10. **p<0.01.

Number of AA Meetings Attended by Distance to Treatment in miles and Treatment Type

Results: Predictors of AA Drink Volume

Table 2

<table>
<thead>
<tr>
<th>Baseline Predictors</th>
<th>Interaction Model</th>
<th>β</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to treatment a</td>
<td></td>
<td>0.37</td>
<td>(-0.13, 0.87)</td>
</tr>
<tr>
<td>Inpatient b</td>
<td></td>
<td>1.47</td>
<td>(0.89, 2.06)**</td>
</tr>
<tr>
<td>Detox b</td>
<td></td>
<td>0.63</td>
<td>(-0.15, 1.41)</td>
</tr>
<tr>
<td>Inpatient*Distance</td>
<td></td>
<td>-1.01</td>
<td>(-1.84, -0.18)*</td>
</tr>
<tr>
<td>Detox*Distance</td>
<td></td>
<td>0.60</td>
<td>(-0.39, 1.58)</td>
</tr>
</tbody>
</table>

Notes: aLess than or equal to 10mi. bOutpatient. *p<0.10. **p<0.05. ***p<0.01.

Number of Drinks in the Past 12 Months by Distance to Treatment and Treatment Type

![Graph showing number of drinks in the past 12 months by distance to treatment and treatment type.](image)

Mediation Analyses

- Product of coefficients method of mediation
- Sobel test
  - Identified significant mediating effect of **AA attendance** between **inpatient** and **detox treatment type** and **drink volume** post treatment
Mediation Analyses

- Almost half (44%) of the total effect of inpatient treatment on alcohol consumption post treatment was due to AA attendance rates.
- 82% of the total effect of detox treatment on alcohol consumption post treatment was due to AA attendance rates.

Implications

- Inform residential treatment programs of the disparities in after-care utilization.
- Establish appropriate resources by clients’ homes.
Implications

- Inform physicians or social workers delivering referrals to substance abuse treatment centers
  - Treatment location is an important consideration among users who may benefit most from intensive residential treatment

Strengths & Limitations

- **Strengths**
  - Explored ecological rather than individual barriers
  - Information on many baseline characteristics
  - Analysis of drinking outcome vs. abstinence

Strengths & Limitations

• Limitations
  ➢ Possible sampling error
  ➢ Treatment type categorization
  ➢ Violations of normal distributions
  ➢ Validity of self-report measures

Questions?

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References