Gender Differences in Adolescents Entering Residential Substance Abuse Treatment

Kirk A. Carruthers, M.D., Christina M. Delos Reyes, M.D., Youssef Mahfoud, M.D., Shannon M. Johnson, B.A., Rebecca R. Carter, B.A., Rebecca A. Ionescu, B.A., Maria E. Pagano, Ph.D.

Department of Psychiatry, Case Western Reserve / University Hospitals Case Medical Center, Cleveland, OH

**Introduction**

- Most gender-specific approaches to addiction treatment for adults, not for youth.
- Little is known about differences with youth.
- Prior work explores differences, but with limitations.
- Few studies have adequate female representation.

**Objective**

To examine gender differences in the clinical characteristics of youth entering residential treatment.

**Methods**

**SUBJECTS**

- 195 youth court referred for residential treatment
- Inclusion criteria: 16-18 years of age
- Stable contact information / Medically stable
- DSM-IV diagnosis of SUD
- Exclusion criteria:
  - No major health problems, not currently suicidal/homicidal, no expected incarceration in next 12 months

**PROCEDURES**

- Approved by the University Hospitals/Case Medical Center Institutional Review Board, and Certificate of Confidentiality obtained.
- 90-minute baseline interviews within initial 10 days post-admission.
- Subjects payment of $25

**MEASURES**

- Demographic characteristics
- Substance Use
- Semi-structured, inter-submitted Mini International Neuropsychiatric Interview Plus
- Belief factors
- Spiritual Experiences (DSES); Religiosity (RIS); Motivation for change (URICA)

**STATISTICAL ANALYSIS**

- Performed with SAS version 9.2
- Fisher’s Exact Test for binary variables
- Kruskal-Wallis Chi-Square Test for continuous variables
- Two-sided p < 0.05

**Results**

- There were no gender differences in background demographic characteristics, substance dependency, alcohol dependency, nicotine dependency.
- Girls had a prior legal record as extensive as boys with a few exceptions including burglary (6% vs. 14%) and theft (0.3% vs. 0.5%).

- Girls more likely than boys:
  - Prior AOD treatment (8% vs. 13%)%
  - Sedative dependency (8% vs. 11%)%
  - Narcotic dependency (6% vs. 23%)%
  - History of suicide attempts (32% vs. 13%)
  - Sexual abuse (45% vs. 26%)%
  - Physical abuse (31% vs. 1%)%

- Girls began smoking tobacco later than boys (13.2 years vs. 11.43 years), but smoked more in the prior month (22.5 vs. 20.2 days).
- Girls were more income dependent as measured by time to 1st cigarette upon awakening (14-40.5 vs. 96.6 minutes).

- Girls endorsed more symptoms of MDD (3.5 vs. 1.8)%, SP (0.8 vs. 0.3)%, and PTSD (2.8 vs. 1.2)%

- Girls reported higher levels of:
  - Readiness to Change (79.6 vs. 65.2)%
  - Action (28.7 vs. 28.1)%
  - Maintenance (55.2 vs. 33.2)%
  - Girls more likely Abuse/Agoric (17% vs. 8%)%

**Discussion**

- Girls can be equally more addicted to substances vs. boys.
- Girls may need improved gender-specific mental health services, given increased trauma and psychiatric symptoms.
- Girls also need more active treatment programming due to their increased motivation for treatment.

**CLINICAL IMPLICATIONS**

- Improved addiction treatment services could include:
  - For Girls:
    - Group skills training
    - More individualized psychotherapy
  - Non-sexual modulations
  - Cognitive-behavioral
  - Nicotine replacement
- For Boys:
  - Motivational interviewing
  - Cognitive-behavioral

**Table 1. Clinical Profile of Adolescent Boys and Girls at Intake**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total (N = 195)</th>
<th>Boys (N = 101)</th>
<th>Girls (N = 94)</th>
<th>Boys/Girls (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (M, SD)</td>
<td>16.3 (1.5)</td>
<td>16.4 (1.5)</td>
<td>16.2 (1.5)</td>
<td>0.1 (0.79)</td>
</tr>
<tr>
<td>Visits</td>
<td>39 (100%)</td>
<td>39 (100%)</td>
<td>39 (100%)</td>
<td></td>
</tr>
<tr>
<td>Homeless</td>
<td>14 (35%)</td>
<td>11 (28%)</td>
<td>3 (3%)</td>
<td>0.0004</td>
</tr>
<tr>
<td>Divorced</td>
<td>15 (38%)</td>
<td>13 (32%)</td>
<td>2 (2%)</td>
<td>0.001</td>
</tr>
<tr>
<td>Youth in School (M, SD)</td>
<td>16.1 (1.4)</td>
<td>16.4 (1.5)</td>
<td>15.8 (1.3)</td>
<td>0.05 (0.63)</td>
</tr>
<tr>
<td>Hard Path in School</td>
<td>20 (16%)</td>
<td>17 (21%)</td>
<td>3 (24%)</td>
<td>0.1 (0.75)</td>
</tr>
<tr>
<td>Single Parent Household</td>
<td>24 (48%)</td>
<td>16 (41%)</td>
<td>8 (47%)</td>
<td>0.1 (0.78)</td>
</tr>
<tr>
<td>Panel Dependency History</td>
<td>11 (24%)</td>
<td>9 (22%)</td>
<td>2 (22%)</td>
<td>0.9 (0.62)</td>
</tr>
<tr>
<td>Parent AOD History</td>
<td>11 (31%)</td>
<td>7 (18%)</td>
<td>4 (44%)</td>
<td>0.1 (0.75)</td>
</tr>
</tbody>
</table>

**Psychiatric**

- # Current Diagnostic Symptoms (M, SD): Mood 2.7 (2.5), Anxiety 0.2 (0.5), PD 0.3 (0.5), AN 0.2 (0.5), ADHD 2.0 (1.2), Abus/D (M, SD): Mood 1.5 (1.5), Anxiety 0.3 (0.5), PD 0.3 (0.5), AN 0.2 (0.5), ADHD 0.2 (0.5), OB 0.2 (0.5), Physical Abuse 0.2 (0.5), Sexual Abuse 0.2 (0.5), Psychological Abuse 0.2 (0.5)

**Relief**

- DSES (M, SD): Stress (1.1), Anger (0.8), Mood (0.8), Anxiety (1.2), PD (0.1), AN (0.8), ADHD (0.2), Abus/D (M, SD): Stress (1.1), Anger (0.8), Mood (0.8), Anxiety (1.2), PD (0.1), AN (0.8), ADHD (0.2)

**Legal**

- Bail: 10 (10%) vs. 9 (10%)%
- # Drug Offense: 10 (10%) vs. 9 (10%)%
- # Felony Offense: 0.5 (1.1) vs. 0.7 (1.3)%

**Treatment**

- AOD Detox Therapy: 10 (10%) vs. 9 (10%)%
- AOD IOP Therapy: 10 (10%) vs. 9 (10%)%
- AOD Residential Therapy: 10 (10%) vs. 9 (10%)%