**Background**

- There is increased presence of familial psychiatric disorders in individuals with Autism Spectrum Disorder (ASD) as compared to the general population.
- Psychiatric comorbidity is also high in ASD and associated with functional impairment and challenges in differential diagnosis (Leyfer et al. 2006; Molloy et al. 2011).
- Familial disorders that are especially prevalent in individuals with ASD include depressive, bipolar, and anxiety disorders (Cohen & Tsiouris, 2006; Micali et al., 2004).

**Objective**

To investigate differences in family psychiatric and neurodevelopmental history in individuals with different levels of diagnostic confirmation and confidence. These individuals were enrolled in the Rhode Island Consortium for Autism Research and Treatment (RI-CART), a state-wide ASD research registry.

**Methods**

Participants:
- The first 1,000 individuals enrolled in the RI-CART state-wide autism registry (Male = 780; M_age = 13.6 years, SD = 9.6).
- Referrals to RI-CART were based on existing diagnosis or concern for ASD.
- Participants (probands) were categorized into three groups:
  1. ASD (N = 533): having a community diagnosis of ASD confirmed by the ADOS-2
  2. ASD-unclear (N = 318): having an inconsistency between community diagnosis and ADOS-2 result
  3. non-ASD (N = 101): having a negative ADOS and no community diagnosis.

Measures:
- Family and proband history was obtained by interview. Analyses examined group differences of individual disorders as well as composite scores of total number of neurodevelopmental and psychiatric disorders.

**Results**

There was increased presence of multiple psychiatric and neurodevelopmental disorders in non-ASD and ASD-unclear groups as compared to ASD group.

**Table:** Percentage of individuals with at least one affected first-degree relative.

<table>
<thead>
<tr>
<th>Disorder</th>
<th>ASD-unclear (%)</th>
<th>non-ASD (%)</th>
<th>p value (ANOVA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>42.5 (209)</td>
<td>55.3 (151)</td>
<td>.003</td>
</tr>
<tr>
<td>Anxiety</td>
<td>45.2 (223)</td>
<td>55.3 (151)</td>
<td>.012</td>
</tr>
<tr>
<td>OCD</td>
<td>11.8 (56)</td>
<td>14.0 (38)</td>
<td>.018</td>
</tr>
<tr>
<td>Mood disorder</td>
<td>8.1 (38)</td>
<td>14.1 (38)</td>
<td>.034</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>10.2 (49)</td>
<td>14.7 (40)</td>
<td>.012</td>
</tr>
<tr>
<td>PTSD</td>
<td>11.3 (54)</td>
<td>19.9 (54)</td>
<td>.004</td>
</tr>
<tr>
<td>Eating disorder</td>
<td>7.6 (36)</td>
<td>8.5 (23)</td>
<td>.010</td>
</tr>
<tr>
<td>Alcoholism</td>
<td>8.0 (38)</td>
<td>10.4 (28)</td>
<td>.001</td>
</tr>
<tr>
<td>Drug addiction</td>
<td>3.6 (17)</td>
<td>11.1 (30)</td>
<td>.000</td>
</tr>
<tr>
<td>ADHD</td>
<td>29.1 (140)</td>
<td>38.6 (105)</td>
<td>.002</td>
</tr>
<tr>
<td>Language delay</td>
<td>22.2 (105)</td>
<td>27.4 (74)</td>
<td>.008</td>
</tr>
</tbody>
</table>

Note: Tests utilized one-way ANOVA adjusting for multiple comparisons (FDR, q < 0.05). Table displays significant results of post-hoc comparisons by color (Tukey HSD), adjusting for multiple comparisons (FDR, q < 0.05).

**Discussion**

- Individuals in the ASD group had less family members affected with neurodevelopmental or psychiatric disorders and less psychiatric comorbidities as compared to ASD-unclear and non-ASD groups.
- Literature has previously shown increased familial affective disorders and higher risk of psychiatric comorbidities in probands with ASD as compared to the general population.
- Our finding supports registry referrals of ASD-unclear and non-ASD individuals are in part due to more complicated psychiatric presentation, and demonstrates the need for clinical tools that can aid in differentiating these groups.

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**References**