Autism Spectrum Disorder and Co-Occurring Conditions

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Autism Speaks
Autism Treatment Network

• 14 sites in North America
• Dedicated to improving care for children with ASD and their families
• Emphasis on medical conditions among children with ASD
• Serves as the HRSA funded Autism Intervention Research Network on Physical Health (AIR-P)
  – Clinical intervention research on physical health
  – Efforts to improve care and disseminate findings
AIR-P Research and AS ATN Registry Data

• Much reported in November 2012 supplement to *Pediatrics* (open access at [www.pediatrics.org](http://www.pediatrics.org))

• Registry – currently >6,300 children with data

• Supplement also includes clinical practice guidelines and network research reports
Co-occurring Conditions and Symptoms

• Gastrointestinal and nutrition symptoms and disorders
  – Variations in diet preferences and supplements
  – Motility
  – Microbiome
• Epilepsy
• Sleep disorders
• Immune conditions
• Other mental health conditions
# GI Disorders

<table>
<thead>
<tr>
<th>GI problem</th>
<th>Any past 3 months</th>
<th>Chronic past 3 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipation</td>
<td>34.2%</td>
<td>23.9%</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>29.4%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>26.2%</td>
<td>13.0%</td>
</tr>
<tr>
<td>Other GI</td>
<td>14.9%</td>
<td>11.4%</td>
</tr>
<tr>
<td>Nausea</td>
<td>13.6%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Bloating</td>
<td>11.6%</td>
<td>5.2%</td>
</tr>
<tr>
<td><strong>Any GI problem</strong></td>
<td><strong>52%</strong></td>
<td></td>
</tr>
</tbody>
</table>
Reported Prevalence of GI Disorders in Children with ASD

Range, 9-91%
Seizure Disorders in Children with ASD (n=2,569)

• 420 with seizures (16%)
• No differences by ASD diagnoses or gender
• Higher rates among White (p=0.01) and Latino populations (p=0.04)
• IQ difference (p=0.04)
  – Children with seizures: IQ <70 40%
  – Children without seizures: IQ <70 35%
• Parent report of skill loss (p<0.001)
  – Children with seizures: 21%
  – Children without seizures: 13%
Seizure Disorders and Associated Findings

• Higher rates of GI problems (p<0.001) and sleep problems (p<0.001) compared to those without seizures
• Lower Vineland adaptive scores and certain CBCL scales
Sleep Disorders

• Previous reports: 53-78% of children with ASD; 26-32% in children without ASD

• Sikora et al. (Pediatrics, 2012)
  – 1,193 children ages 4-10 years
    • Good sleepers – 340 (28.5%)
    • Mild sleep problems – 638 (53.5%)
    • Moderate-severe sleep problems – 215 (18.0%)
  – Lower rates in older children
  – Sleep problems associated with problems in daytime behaviors
Psychiatric Symptoms

• Previous reports
  – ADHD in 41-78% of children with ASD
• Symptom reports from Registry (from Child Behavior Checklist)
  – 37% high scores on attention subscale
  – 14% on aggressive subscale
  – 22% on hyperactivity subscale
Overlapping Conditions (National Survey of Children’s Health, 2007)

From Sheldrick and Perrin (EC), JDBP, 2010
## Psychotropic Medication Use

(AS-ATN Registry, n=2741)

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of children in registry</th>
<th>Percent using any psychotropic</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6 yo</td>
<td>1514</td>
<td>10</td>
</tr>
<tr>
<td>6-11 yo</td>
<td>951</td>
<td>44</td>
</tr>
<tr>
<td>12-17 yo</td>
<td>276</td>
<td>66</td>
</tr>
</tbody>
</table>
Medications Used

- Stimulants: 35.6% of total
- SSRI: 22.7%
- Atypical antipsychotics: 22.5%
- Alpha-agonists: 19.3%
Co-existing Psychiatric Diagnoses

- Depression 2.5%
- Bipolar 1.5%
- ADHD 19%
- OCD 5.4%
- Anxiety 7.5%

- i.e., many children are treated without additional diagnosis
Acknowledgments

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  – Autism Speaks