

Autism Spectrum Disorder and Comorbid Conditions

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Autism Speaks

Autism Treatment Network

- 17 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 Autism Intervention Research Network on Physical Health (AIR-P)
 - Expanded clinical research
 - Efforts to improve care and disseminate findings



AS ATN Registry Data

- Much reported in November 2012 supplement to Pediatrics (open access at www.pediatrics.org)
- Registry – currently >6,300 children with data
- Supplement also includes clinical practice guidelines and network research reports



Coexisting Symptoms and Conditions

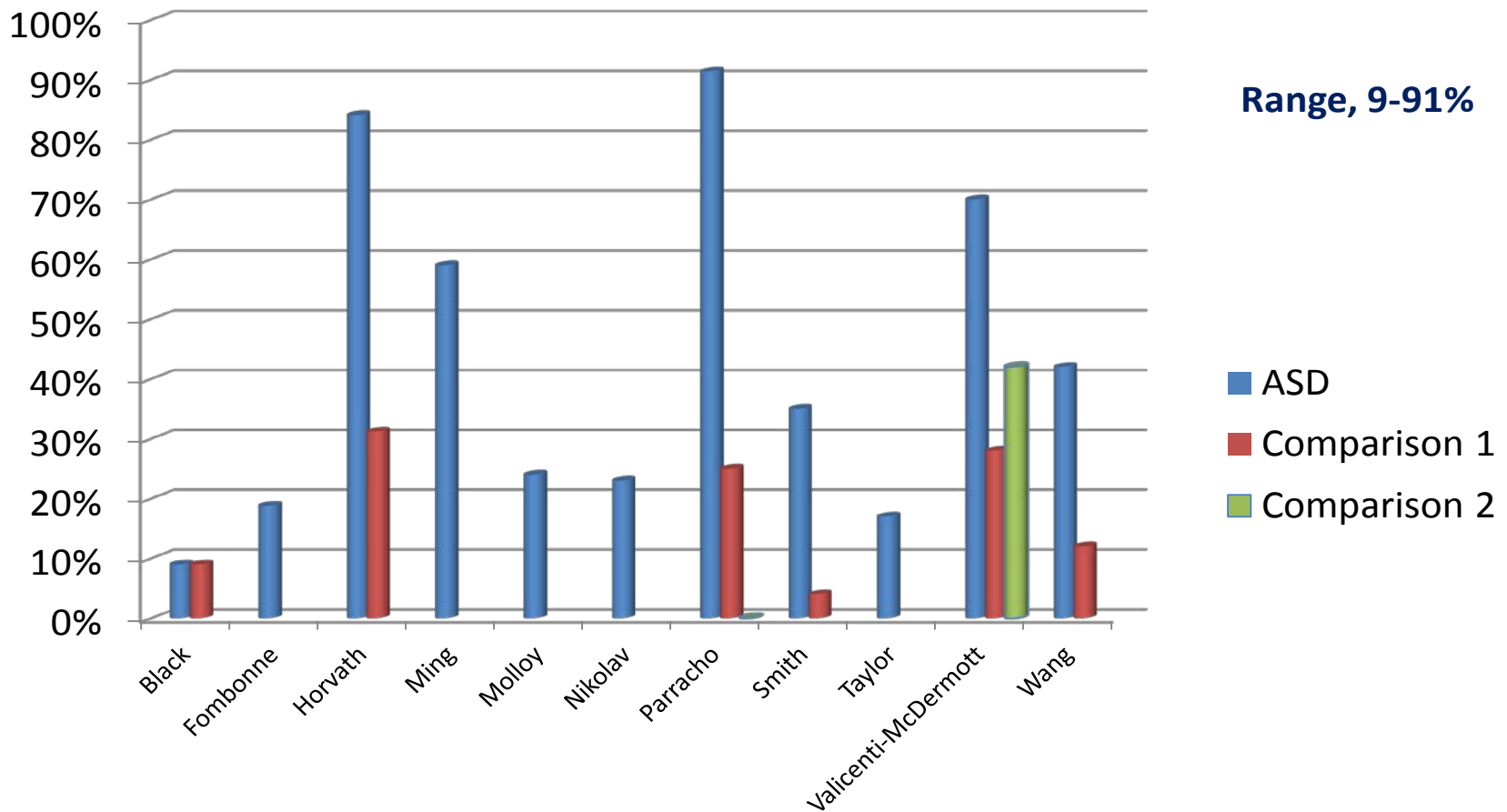
- Gastrointestinal and nutrition symptoms and disorders
 - Variations in diet preferences and supplements
 - Motility
 - Immunology
 - Microbiome
- Epilepsy
- Sleep disorders
- Other mental health conditions



GI Disorders

| <i>GI problem</i> | Any past 3 months | Chronic past 3 months |
|-----------------------|-------------------|-----------------------|
| Constipation | 34.2% | 23.9% |
| Diarrhea | 29.4% | 14.7% |
| Abdominal pain | 26.2% | 13.0% |
| Other GI | 14.9% | 11.4% |
| Nausea | 13.6% | 8.8% |
| Bloating | 11.6% | 5.2% |
| Any GI problem | 52% | |

Reported Prevalence of GI Disorders in Children with ASD



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 and Associated Findings

- Higher rates of GI problems ($p < 0.001$) and sleep problems ($p < 0.001$)
- 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. (Supplement)
 - 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

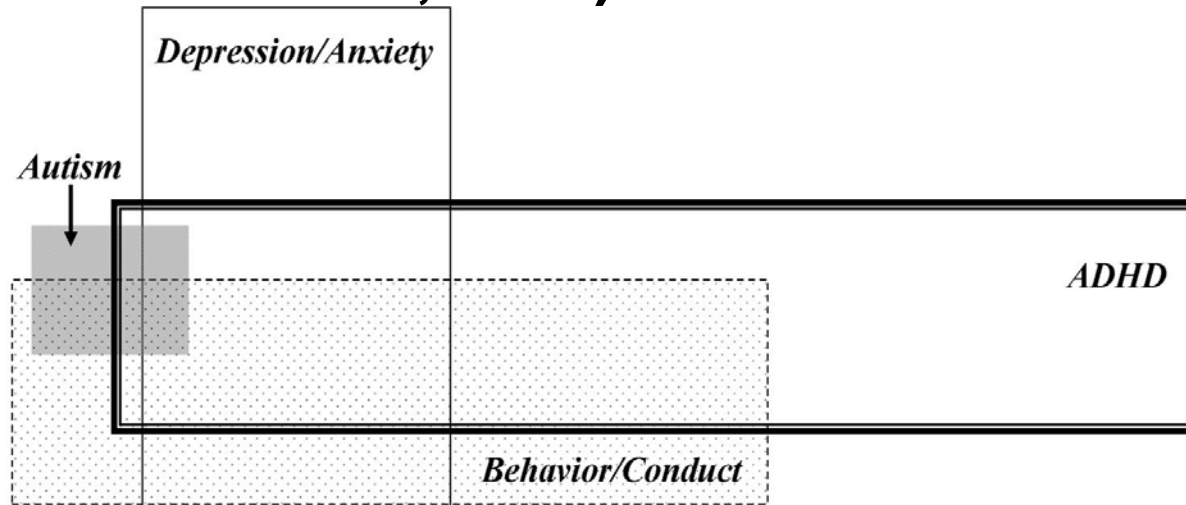


Psychiatric Symptoms

- Previous reports
 - ADHD in 41-78% of children with ASD
- Symptom reports from Registry (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)



| | Prevalence | % w/comorbid behavioral condition | % w/comorbid physical health condition |
|--------------------------|------------|-----------------------------------|--|
| ADHD | 6.8% | 50.2% | 31.3% |
| Behavior/Conduct Problem | 5.3% | 67.0% | 36.0% |
| Depression/Anxiety | 4.2% | 63.1% | 38.6% |
| Autism | 0.5% | 76.7% | 39.0% |

From Sheldrick and Perrin (EC), JDBP, 2010



Psychotropic Medication Use (AS-ATN Registry)

| Age | Number | Percent using any psychotropic |
|----------|--------|--------------------------------|
| <6 yo | 1514 | 10 |
| 6-11 yo | 951 | 44 |
| 12-17 yo | 276 | 66 |

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

Quality of Life

| | Children with ASD | Normative sample | Children with chronic conditions |
|---------------------|-------------------|------------------|----------------------------------|
| Total | 65.2 | 82.3 | 73.1* |
| Physical Health | 74.6 | 84.1 | 77.0 |
| Psychosocial Health | 59.9 | 81.2 | 71.0* |
| Emotional ffn | 66.4 | 81.2 | 71.1* |
| Social ffn | 50.6 | 83.1 | 75.1* |
| School ffn | 63.8 | 78.3 | 65.6 |

*Differences between children with ASD and with chronic conditions, $p < 0.001$

Kuhlthau et al., JADD, 2010



QoL Differences by Age

| | 2-4yo | 5-7yo | 8-12yo | >12yo |
|---------------------|-------|-------|--------|-------|
| Total | 72.1 | 63.1 | 61.0 | 61.6 |
| Physical Health | 82.0 | 69.9 | 70.7 | 75.1 |
| Psychosocial Health | 66.0 | 59.4 | 55.9 | 54.4 |
| Emotional ffn | 71.4 | 64.9 | 60.0 | 72.0 |
| Social ffn | 56.2 | 53.4 | 50.2 | 34.9 |
| School ffn | 73.7 | 60.0 | 57.6 | 56.6 |

Kuhlthau et al., JADD, 2010



AS-ATN and AIRP Activities

- Initial evaluation for all children includes assessment of medical (incl., psychiatric) coexisting conditions
 - Parent report
 - Parent concern
 - Clinician review
 - Screening measures
- Expanding involvement of primary care physicians
- Quality improvement activities addressing constipation, sleep, wait time currently



Practice Support and Family Toolkits

- Practice guidelines for
 - Constipation
 - Insomnia
 - Medication use for ADHD symptoms
- Toolkits
 - Safe medication use
 - Sleep quick tips for parent
 - Medication decision aid



Needed Research and Support

- Surveillance and identification of conditions in community and hospital settings
- Expanded involvement of primary care providers in medical conditions
- Recognition that these may reflect major differences in phenotype (and underlying disorder)
- Basic studies of these conditions
- Careful trials of novel treatments



Thank you!

