Comorbid Autism Spectrum Disorder (ASD) and Serious Mental Illness (SMI)

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<th>Company</th>
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Objectives
At the conclusion of this webinar the participant should be able to:

• Discuss DSM-5 criteria for and the prevalence of Autism Spectrum Disorder (ASD)
• Describe the prevalence of Psychiatric Disorders in individuals on the Autism Spectrum Disorder (ASD)
• Have a frame for differentiating between whether an individual’s functional impairment stems from their mental illness or from their ASD
• Describe Current Evidence Based Interventions
Off-Label Use

Food and Drug Administration (FDA-US) approved treatments:

- **Risperidone** - children (5-16 years) with autism, use for irritability
- **Aripiprazole** - children (6-17 years) with autism, use for irritability

All other interventions constitute off-label use
DSM-5 Changes in Criteria for Autism Spectrum Disorders

299.00

• New Diagnosis: Autism Spectrum Disorder
  – Includes, and eliminates the distinctions between:
    • Autistic Disorder (Autism)
    • Asperger’s Disorder (Asperger Syndrome)
    • Childhood Disintegrative Disorder
    • Pervasive Developmental Disorder, Not Otherwise Specified (PDD-NOS)
  – “PDD” not used

• Rett’s Disorder removed (would be specified under “Associated with known medical or genetic condition”)
DSM-5 Autism Spectrum Disorder

• Criteria for ASD
  – Two clinical domains (instead of the 3 in DMS-IV)
    • A-Deficits in social communication and social interaction (blends social with communication)
    • B-Restricted, repetitive patterns of behavior (includes insistence on sameness)
  – Symptoms must be present in early childhood
  – Symptoms must impair functioning
Diversity in Autism Spectrum Disorders

- Intellectual level
- Communication level
- Behavioral level
PREVALENCE

1975: 1/5000
1985: 1/2500
1995: 1/500
2000: 1/150
2004: 1/125
2006: 1/110
2008: 1/88
2010: 1/68

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Prevalence and Extent of the Challenge

• Highly heritable yet etiology is elusive in 80% of cases

• **75%** of children with an ASD require treatment for emotional, physical or behavioral problems

• One of the most challenging disorders for families and providers
Psychiatric Comorbidities

Attention Deficit Hyperactivity (Executive Dysfunction, Hyperactivity, Impulsivity, Inattention)

Mood Disorders (Mood Dysregulation, Anxiety, Depression, Mania)

Anxiety Disorders (Social Interaction/“Empathy”: Shyness/Social Phobia, Disinterest/Schizoid, “Hostile Intent”/Schizotypal)

Obsessive Compulsive Disorder (Restricted interests, Rigid behavior, Stereotypic behavior, Compulsions)

Communication Disorders (Thought Disorder, Disordered Pragmatics)

Autism

Asperger’s
What Challenges Does the Community ASD Population Have? 
(Lecavalier, 2006)

- Easily Frustrated (60%)
- Inattention (50%)
- Hyperactivity (40%)
- Temper tantrums (30%)
- Irritability (20%)
- Fearful/Anxious (13%)
- Harming self (11%)
- Destroying property (11%)
- Physical fighting (5%)
Most Common Chief Complaint on Inpatient Admission

- Aggression 28%
- Self Injurious Behavior 23%
- Property Destruction 17%
- Tantrums 16%
- Decreased Functioning 8%
- Sexualized Behavior 4%
- Elopement 4%
Rates of Psychiatric Disorders in Samples of Individuals with Autism Spectrum Disorders

- Rates vary widely across studies - diagnostic overshadowing
- Sample selection
- Methods for case ascertainment
  - Chart reviews or counting from existing databases
  - Informant based
  - Direct patient evaluation
- Critical source of problems relate to symptom identification - operationalizing
- Rating Scales Validated in ASD population
Comorbid Psychiatric Disorders in Autistic Children

Frequency of the number of comorbid lifetime DMS-IV psychiatric diagnoses per autistic child

**Top 3:** Specific Phobia (43%), OCD (37%), and ADHD (31%)

Comorbid Psychiatric Diagnoses Given by Community Providers Per Parent Survey
(Rosenberg et al, 2011)

- National online registry established in 2006 - “Interactive Autism Network”
- Parent report
- 4,343 participants between ages 5-18 years
- Allowed for the assessment of community assigned comorbid diagnoses in ASD (rather than research assigned)
- Examined factors associated with comorbidity (e.g. age, gender type and severity of ASD)
Comorbid Psychiatric Diagnoses Given by Community Providers Per Parent Survey
(Rosenberg et al, 2011)
ASPERGERS ANXIETY AND DEPRESSION

6.9 Billion
Is the population of the planet

27 million
People have Aspergers Syndrome

65%
Of adults with Aspergers suffer from anxiety and depression

18%
Compared to 18% of general population

http://www.aspergerstestsite.com/714/asperger-anxiety/#.UxeAls70E4c
Signs of Depression for ASD

• Deviation of autistic symptoms from baseline
  – Intensification or decrease
• Atypical affective changes
  – Increased aggression
  – Increased irritability
  – Increased agitation
  – Labile moods
  – Preoccupation with themes of death
ASD and Bipolar Disorder

• 27% (14/52) of youth with ASD also had BD or 12% of all children in the overall sample who had BD (Wozniak et al, 1997).

• Youth with ASD +family history of BD compared to those without a FH of BD had extremes of affect, cyclicity, intense obsessive interests, neurovegetative symptoms, and regression (Herzberg, 1996; Delong, 1994)
ASD and Bipolar Disorder

• Symptoms of Bipolar disorder may be masked by symptoms associated with ASD
• Baseline behaviors may become more intense or exaggerated during manic or depressive episodes
• The key is to look for a distinct change from baseline and for episodes (Frazier et al, 2002)
Autistic Features in Childhood-Onset Schizophrenia (COS)

- Up to 55% of COS patients have prepsychotic developmental disorders with similarities to autism
  - Language delays
  - Motor development abnormalities (including transient motor stereotypes)
  - Deficits in communication and social relatedness
- NIMH study of COS – 28% have comorbid COS and Autism Spectrum Disorder (ASD)
Diagnostic Confusion – Where Does it Come from?

**Autism ↔ Schizophrenia**

- Impairment in nonverbal communication ↔ Social withdrawal
- Lack of social or emotional reciprocity ↔ Affective Flattening
  - Stereotyped use of language ↔ Disorganized speech
  - Lack of varied, spontaneous play ↔ Disorganized behavior
- Abnormal preoccupation with stereotyped interests ↔ Delusions
- Stereotyped motor mannerisms ↔ Disorganized/catatonic behaviors
- General impairments in social communication ↔ Negative symptoms
Thought disorder and bizarre behavior – unreliable due to the fact that they are also core PDD symptoms.

Delusions - more reliable but cautiously useful as “unusual world view” and idiosyncratic obsessions also seen commonly in ASDs (AS)

Auditory hallucinations should be differentiated from self-talk or pseudohallucinations

Delusions and Hallucinations = hallmark of psychosis
Determining Etiology of Dysfunction

Time line

- GAF 61
  Neuropsych- average to above average
- Onset of SMI
- GAF 41
  Neuropsych- Very Low to Average

years 0 3.5 12 17
INTERVENTIONS
General Intervention Aims

• Reduce unsafe behaviors
• Improve self-regulation skills
• Increase positive social interactions
• Increase parent/guardian management skills
• Acquire adequate community supports to sustain post-discharge for inpatients
Treatment of Autism Spectrum Disorders

• Multi-Modal Approach
  – Behavioral
  – Educational
  – Pharmacological

• Target Appropriate Developmental Stage
  – Early Assessment and Intervention
  – Ongoing Therapy
“Mainstay” Treatments:

- Autism Spectrum Disorder specific, interaction-based therapy
  - Applied Behavioral Analysis (ABA)
  - SCERTS (Social, communication, emotional regulation, transactional support)
  - Many others
- Speech/language therapy
- Social skills group (“Lunch Bunch,” other)
Common Additional Treatments

• Occupational Therapy
  – Overall level of adaptive functioning
  – Fine motor skills
  – Sensory processing (integration)
• Physical Therapy
• Cognitive Behavioral Therapy
• Behavioral Interventions (sleep, self-help skills)
• Life Skills
• Other
  – Activities (swimming, music group, massage)
  – Animal (therapeutic horseback riding, service dogs)
  – Riding (decreases anxiety, promotes independence)
Psychopharmacology Evaluation

- Inventory of Symptoms
- Detailed Developmental History
- Medical History
- Detailed History about Changes in Environment
- Ask about use of vitamins, supplements or oral chelating agents
Diagnostic Interviews and Tools Used to Measure Outcomes of Treatment

- Autism Comorbidity Interview Present and Lifetime Version (ACI-PL)
- Clinical Global Impressions Scale
- Aberrant Behavior Behavior Checklist
- Children’s Psychiatric Rating Scale
- Children’s Yale-Brown Obsessive Compulsive Scale Modified for Pervasive Developmental Disorder
Target of Medication

• Core Features of Autism
  – Impaired social interaction and communication
  – Repetitive behavior/ restricted interests

• Specific Behavioral Problems
  – Aggression, Irritability, Self-injury
  – Hyperactivity
  – Anxiety (stereotypy/repetitive behaviors)
  – Sleep

There are currently no medications that are FDA approved for treating core features of ASDs.
# Evidence for Medications to Treat Irritability, Aggression and Self Injury

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<tr>
<th>Drug</th>
<th>Indicated Age</th>
<th>Labeled Indication</th>
<th>Dosing Studied</th>
<th>Evidence</th>
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<tr>
<td>Aripiprazole</td>
<td>6+</td>
<td>Irritability</td>
<td>5-15 (8.6 mg)</td>
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<td>Risperidone</td>
<td>5+</td>
<td>Irritability</td>
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<td>Buspirone (n=22)</td>
<td>None</td>
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<td>15- 45 mg</td>
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# Evidence for Medications to Treat Hyperactivity

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<td>Methylphenidate</td>
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<td>1-3 mg (TID)</td>
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ASD Core Symptoms and Targeted Interventions

• Repetitive Behaviors
  – Selective Serotonin Reuptake Inhibitors
    • (Fluvoxamine and fluoxetine studied in adults)
  – Atypical antipsychotics – secondary outcome of irritability studies - improved CY-BOCS scores for repetitive behaviors
  – Divalproex – benefit seen in very small randomized controlled trial of 13 individuals with ASD
  – Limit therapy to those who display anxiety distress associated with repetitive behaviors or when behaviors are severe

Response in Double Blind Placebo Controlled Trial of Citalopram in Youth with ASDs

Much Improved or Very Much Improved on (CGI-I) over 12-Week

Placebo
Citalopram

N=149

\[ p = 0.94 \]

Much Improved or Very Much Improved in Double Blind Placebo Controlled Trial of Citalopram in Youth with ASDs
Evidence-based Treatments for Depression/Anxiety and Sleep for those on the Spectrum

● Depression and Anxiety
  – Limited guidance in literature
  – Support for use of selective serotonin reuptake inhibitors in adults with ASD
  – High rate of activation and somatic complaints in children

● Sleep Disorders
  – Use Medications only when psychosocial treatments fail
  – Lack of FDA-approved treatments
  – Several recent small randomized controlled trials of melatonin have had encouraging results
    – Up to 6 mg/day
    – No significant side effects
Glutamate/GABA related Treatments in ASD

- Lemonnier et al 2012 – Randomized Controlled Trial of bumetanide – chloride channel antagonist that reinforces GABA activity
  - 60 children (age 3-11) with autism or Asperger’s
  - 1 mg daily for 3 months
  - Significant reduction in Childhood Autism Rating Scale scores
  - Significant improvement vs placebo on CGI-I
  - Non-significant reduction in ADOS scores – significant when analysis excludes the most severely affected patients
Combined Treatment

- Parent Training (PT) and Risperidone
  - PT plus med showed modest benefit over medication alone after 24 weeks
  - One year follow up- advantage of combined treatment attenuated by more than half at follow up

Scahill et al Jaacap 51; 136-146, 2012; Arnold et al. Jaacap 51; 1173-1184, 2012
Clinical Pearls for Prescribing in ASD

- Start with agents that have better adverse effect profiles before moving to atypicals
- The old axiom is still true: START LOW, GO SLOW
- Effects are maximized at lower doses than used in typically developing children
- Often medications are less tolerated than in typically developing individuals
Key Take Home Points

• DSM-5, ASD one category - Two core domains with specifiers
• Autism is a complex disorder
• Important to Assess for Psychiatric Comorbid Conditions
• Provided a frame for determining the route of an individuals functional impairment (ASD vs SMI)
• Covered Evidence Based Interventions
American Academy of Pediatrics Toolkit

- **Autism: Caring for Children With Autism Spectrum Disorders: A Resource Toolkit for Clinicians**

- **Contents**
  - CD
    - Physician fact sheets
    - Family handouts
    - Supporting documents
  - Printed materials
    - Poster (CDC “Act Early” campaign)
    - Brochure samples
- [www.aap.org/publiced/autismtoolkit.cfm](http://www.aap.org/publiced/autismtoolkit.cfm)
Thank You!