Module 3:
Understanding Behaviors and Interfering Symptoms of Autism and Intellectual Disability

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Learning Objectives

- Understand the symptoms of autism that can interfere with function
- Managing sleep and elimination disorders
- Evaluation of aggression and self injurious behaviors
- Repetitive behaviors: when is it OCD?
- Identifying ADHD symptoms in context of ASD

Core Symptoms and Common Behaviors

- Core symptoms: Communication disorder and Restrictive Repetitive behaviors
- Other behaviors that are common and interfere with function and education:
  - Aggression
  - Irritability
  - Self injurious behaviors
  - Inattention
  - Odd behaviors, movements
  - Sensory sensitivities

Interfering Symptoms

- Sleep disturbance
- Elimination disorders
- Aggression/Irritability
- Inattention/Distractibility
- Repetitive behaviors
  - OCD
  - Inappropriate sexualized behaviors

Sleep Disorders Common to ASD/ID

- More than ½ individuals have sleep problems
- Insomnia- difficulty going to sleep
- Frequent night time awakenings
  - Often a safety concern with non-verbal autistic individuals

Medical Concerns

- Consider Sleep Apnea
  - Can have secondary behavioral issues
  - Enuresis
- GERD
- Asthma

Medications for Sleep

- Melatonin first choice for autism related sleep disorder
  - Maximum dose 10mg at night
  - Helps with sleep onset and can improve quality of sleep
- Clonidine
  - Best for sleep onset
  - Longer acting formulation:
    - Kapvay - 12 hours
  - Patch is available

Assessing Aggression and Dysregulated Behaviors

- Difficult to assess in nonverbal population
- Rule out medical concerns
  - Infections (ear, throat, UTI)
  - Constipation
  - Injury
- Consider any psychosocial changes in child's life
  - Family discord, stress
  - Changes in staff or students at school or residential program

ASD and the Gut

- GI disorders can cause pain and discomfort that can be trigger for emotional and behavioral outbursts.
- Review of Comorbidities found higher incident of GI disorders
  - Inflammatory bowel disease (0.83%vs 0.54%)
  - General bowel disorders (12%vs 4% in general population.
  - Prevalence increases for IBD with age

(Kohane, PLOSone, 2012; Doshi-Velez, et al. PEDIATRICS, 2014)

Encopresis and Constipation

- Encopresis
  - May be secondary to constipation
  - May also become a self stimulating/soothing behavior
  - Must treat medically to ensure constipation with or without overflow is treated
  - Behavioral interventions to modify/replace behavior that has became part of repetitive behaviors.

Self Injurious Behaviors

- 10% of children with ASD
- Head banging, biting, hitting self
- ABA is has most evidence to help to decrease response to triggers
  - In most cases, adolescents are avoiding demands placed on them
  - In extreme cases, may use protective equipment

Aggression in Autism

- Study considered types of aggression in children 5-17 yo :
  - Reactive (HOT)
  - Planned (Cold)
- Using measure to verify ASD, Function , OCD and Irritability
  - Found 5 subtypes
    - Hot only- most common
    - Cold only
    - SIB only- most likely in IQ <70
    - Aggression and SIB-Highest ABC- irritability score
    - Non- aggression
- In autism, Cold aggression may be motivated by desire for a particular object or escape from non preferred activity
- Hot aggression: more reactive, implies more emotional dysregulation
  - ? Would more psychosocial interventions help
- All very responsive to Risperidal

(Carroll, D. Child and Adol Psychiatry Clin N Am, 2014)

Interventions for Aggression

- Mood stabilizers have less data
  - VPA may be indicated for comorbid seizure disorder
- Atypical antipsychotic approved for Autism Spectrum disorder
  - Abilify
  - Risperidal

Is Autism a Risk Factor for Community Violence?

- Study in Sweden reviewed 295k individual with court record; found 5700 had documented ASD diagnosis
- Those without ID, seemed to be higher risk
- Implication that delay in autism diagnosis, poor school performance and normal intelligence may have worse prognosis.
- If control for comorbid diagnosis of ADHD/ Conduct disorder, risk for violent crime for ASD without comorbidities may not be higher than general population.

(Heeramun, et al. JAACAP, 2017)

Repetitive Behaviors/OCD

- Lower order :spinning, stereotypies
- Higher order: insistence on routines, watching same video
- Unlike typically developing teens, may not feel behaviors are abnormal and may prefer
  - Request to stop or decrease repetitive behavior may precipitate tantrums or aggression
- OCD like behavior in ASD seem to be different than OCD, even in higher functioning patients

Repetitive Behaviors and OCD

- Repetitive behaviors seem to vary with IQ
- Higher IQ behavior seems to be more typical of OCD in decreasing anxiety
- Lower IQ ,behavior seems more akin to self-soothing behavior
- Scahill, et al. developed CYBOS-autism
  - Hoarding
  - Sensory and Arranging
  - SIB
  - Stereotypy
  - Restricted interests

(Scahill,et al. JAACP, January, 2014)

Inappropriate Sexualized Behavior (ISB)

- Adolescents with autism often do not know appropriate ways to express sexuality
- Inappropriate touch self and others in public places
- Also be aware of possible history of sexual trauma

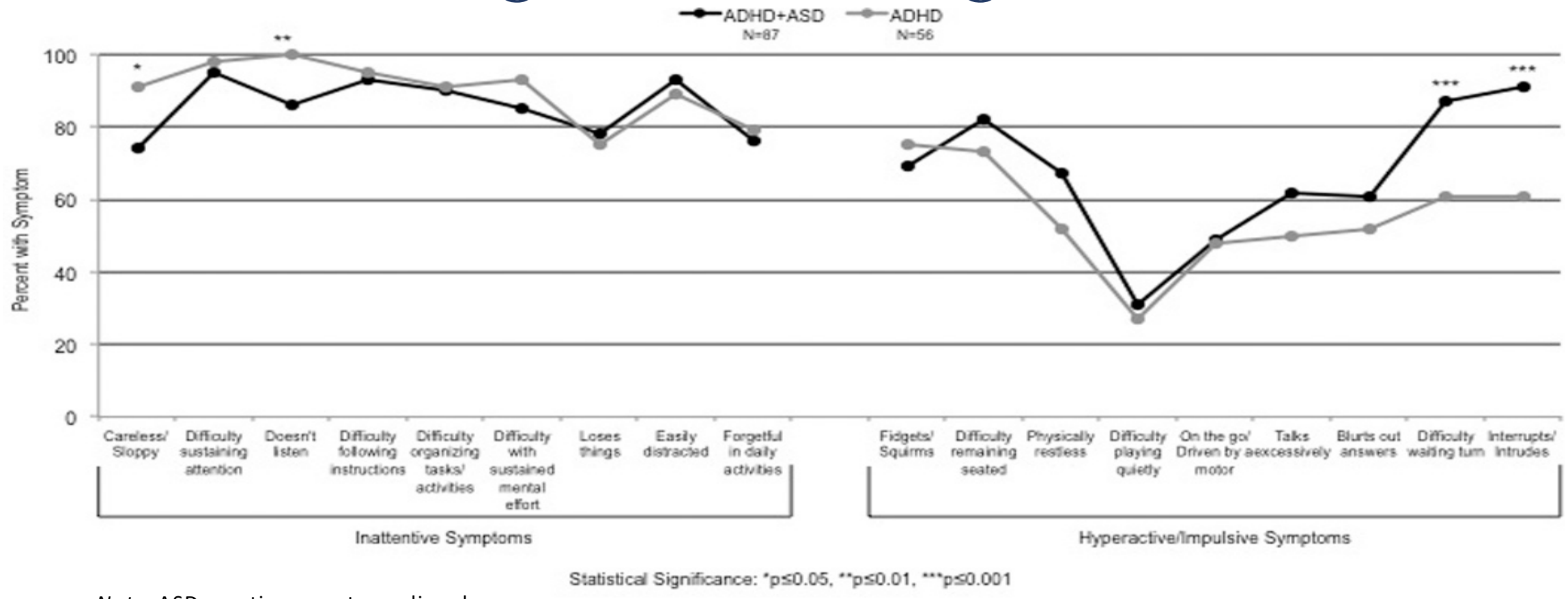
Medication Trial for ISB

- Remeron
- SSRI
- Antipsychotics

ADHD Comorbidity in ASD

- In DSM-IV, ASD diagnosis was an exclusion criterion for ADHD
- DSM-5 permits diagnosis of both disorders in the same individual

ADHD symptom profile in high-functioning ASD



Note. ASD = autism spectrum disorder.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

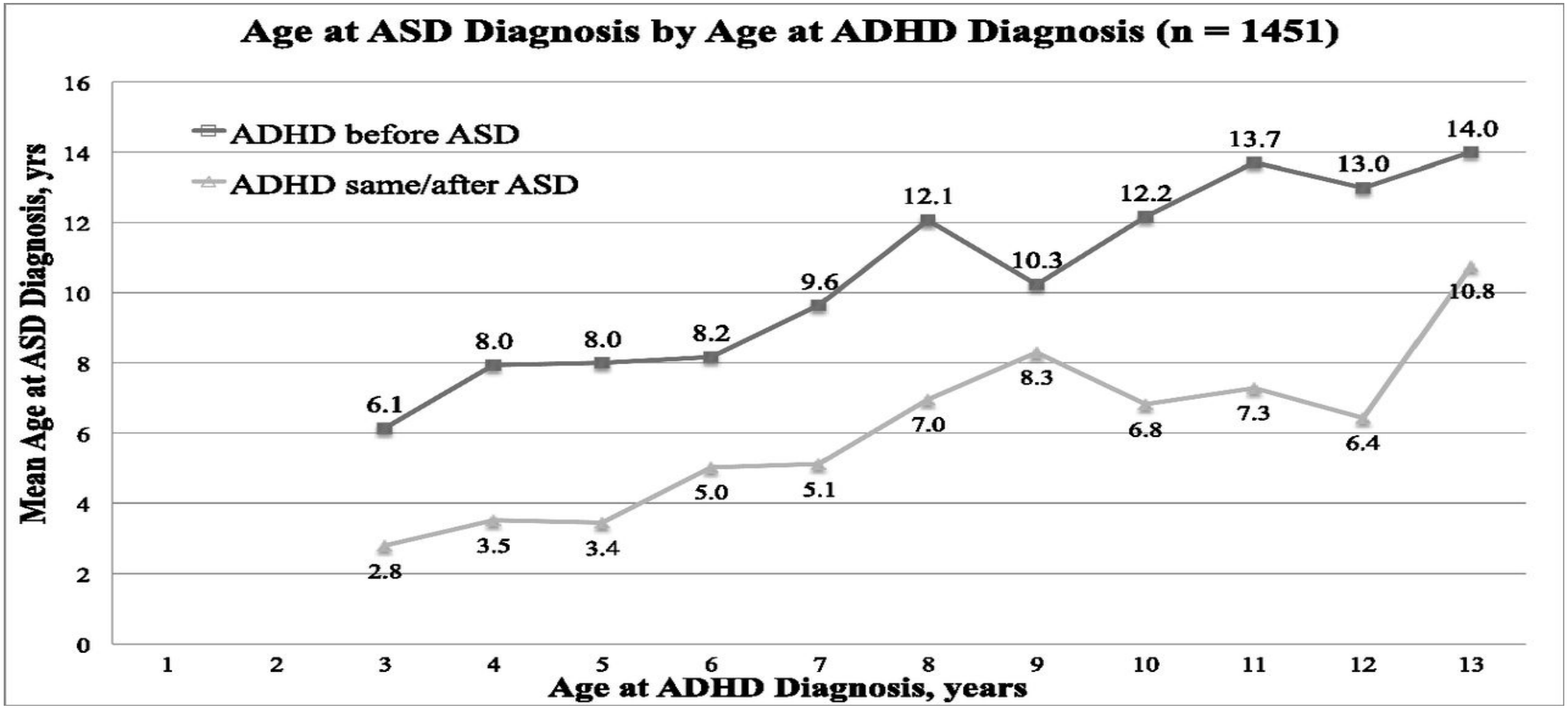
(Joshi G et al, J Atten Disord. 2014 Aug 1.)

Epidemiology

- Children with both disorders suffer from lower quality of life, poorer adaptive functioning, lower cognitive scores
- 37-85% of individuals with ASD have ADHD symptoms
- Two-thirds of individuals with ADHD have autistic traits
- Compared to children with ADHD, ASD has a higher rate of comorbidity for internalizing disorders, specifically anxiety disorders.

(Leitner et al., *Front Hum Neurosci*, 2014; Van Steensel et al., J Child Fam Studies, 2013)

ADHD Diagnosis Associated with Delayed Autism Spectrum Diagnosis



(Amir Miodovnik et al. Pediatrics 2015;136:e830-e837)

Medication Management

- Stimulants and non-stimulants are effective for managing ADHD symptoms in children with ASD
- Efficacy of stimulants may be slightly reduced compared to children without ASD and with uncomplicated ADHD

(Reichow B, Volkmar F, & Block M. *J Autism Dev Disord,* 2014)
(Stigler et al. *J Child Adolesc Psychopharmacol*, 2004)

Medication Management

- Stimulant medication (methylphenidates, amphetamines) effective in about 50% of cases, generally higher doses not as well tolerated as in non-comorbid cases
- Atomoxetine may be better tolerated, more studies are needed
- Alpha agonists (e.g., guanfacine) show promise when stimulants are not tolerated or as adjunct agents
- Risperidal/Abilify has minimal effects on inattention

(Davis NO & Kollins SH. *Neurotherapeutics*, 2012)

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