Autism Spectrum Disorder Series: An Overview and Introduction to the Series

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Disclosure

• Today’s presenters have no financial relationship to this program.
Introduction to the series
Nomenclature

• Autism
• Autism Spectrum Disorder (ASD)
• Asperger’s
• Pervasive Developmental Disorder
• High functioning autism
• Autistic
• Intellectual Disability (ID)
Objectives

At the end of this presentation, participants will be able to:
• Define Autism Spectrum Disorder (ASD)
• Identify the current prevalence rate for ASD
• Describe the two Diagnostic and Statistical Manual, Fifth Edition (DSM-5) diagnostic categories for ASD
• Recognize the impact of ASD in individuals and society
Introduction to Autism Spectrum Disorder (ASD)

• What is ASD?
  • A complex neurodevelopmental condition
    • Neurologically based- underlying genetic and neurobiological origins
    • Developmental- evident early in life and impacts social development
      • Lifelong- no known cure
  • Core characteristics
    • Impairments in social interaction and social communication
    • Presence of restricted behavior, interests and activities
  • Wide variations in presentation
History

• 1910 Blueler
  • First use of the word autistic
  • From “autos”, Greek word meaning “self”

• 1943 Leo Kanner
  • “Autistic disturbances of affective contact”

• 1944 Hans Asperger
  • Four boys in Austria
  • “Little professors”
Multiple Choice Question #1

• Autism Spectrum Disorder is
  • A neurological condition
  • A neurobiological condition
  • A developmental, lifelong condition
  • B and C
“When my brother trained at Children's Hospital at Harvard in the 1970s, they admitted a child with autism, and the head of the hospital brought all of the residents through to see. He said, 'You've got to see this case; you'll never see it again.'"

--Thomas Insel, director of National Institute of Mental Health
May 7, 2006, Time Magazine
ASD Prevalence

• ASD occurs worldwide in all ethnic and societal groups
Autism and Developmental Disabilities Monitoring (ADDM) Network

• Part of Centers for Disease Control (CDC)

• Monitors the number of 4- and 8-year-old children with ASDs living throughout the United States at 11 sites

• Systematic Record Review of health and educational records (2010)
1:42 boys
1:189 girls
5:1 ratio

1:175 Alabama

IQ scores
46% >85
23% 71-85
31% < 70

1:45 New Jersey

1:63 White
1:81 Black
1:93 Hispanic
Autism and Developmental Disabilities Monitoring (ADDM) Network

<table>
<thead>
<tr>
<th>Site</th>
<th>Total</th>
<th>Total no. with ASD</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>21,833</td>
<td>125</td>
<td>5.7</td>
</tr>
<tr>
<td>Arizona</td>
<td>33,768</td>
<td>530</td>
<td>15.7</td>
</tr>
<tr>
<td>Arkansas</td>
<td>38,956</td>
<td>605</td>
<td>15.5</td>
</tr>
<tr>
<td>Colorado</td>
<td>38,806</td>
<td>384</td>
<td>9.9</td>
</tr>
<tr>
<td>Georgia</td>
<td>48,529</td>
<td>754</td>
<td>15.5</td>
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<tr>
<td>Maryland</td>
<td>27,605</td>
<td>458</td>
<td>16.6</td>
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<tr>
<td>Missouri</td>
<td>25,367</td>
<td>359</td>
<td>14.2</td>
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<tr>
<td>New Jersey</td>
<td>31,723</td>
<td>696</td>
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<tr>
<td>North Carolina</td>
<td>37,783</td>
<td>655</td>
<td>17.3</td>
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<tr>
<td>Utah</td>
<td>23,756</td>
<td>442</td>
<td>18.6</td>
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<tr>
<td>Wisconsin</td>
<td>35,623</td>
<td>330</td>
<td>9.3</td>
</tr>
<tr>
<td>Total</td>
<td>363,749</td>
<td>5,338</td>
<td>14.7</td>
</tr>
</tbody>
</table>
44% evaluated by 3 years old for dev. concerns

On Average, diagnosed after 4 years old
Multiple Choice Question #2

• What is the current prevalence rate for ASD in the United States, based on the CDC?
  a) 1 in 54
  b) 1 in 148
  c) 1 in 68
  d) 1 in 250
Why is the Prevalence Increasing?

• Broadening of diagnostic criteria
• Diagnostic substitution
• Public awareness
• Unknown
Diagnostic Substitution

![Graph showing the increase in number of enrolled students with Autism and the decrease in number of enrolled students with Intellectual Disability from 2000 to 2010.](image)
DSM-5
DSM-5 Diagnostic Criteria

• Deficits in social communication and social interaction (3)
  • Social approach/interaction
  • Nonverbal communication
  • Relationships

• Presence of restricted, repetitive patterns of behavior, interests, or activities (2)
  • Stereotyped or repetitive motor movements, objects, speech
  • Routines
  • Restricted interests
  • Sensory*
DSM-5 Social Communication

Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history:

• Social-emotional reciprocity
• Nonverbal communication behaviors
• Developing, maintaining and understanding relationships
DSM-5 Restricted and Repetitive Behaviors

Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following:

• Stereotyped or repetitive motor movements, use of objects, or speech
• Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior
• Highly restricted, fixated interests that are abnormal in intensity or focus
• Hyper- or hyporactivity to sensory input or unusual interest in sensory aspects of the environment
Additional DSM-5 Criteria

• Symptoms must be present in the early developmental period (might not manifest or be noted until later)

• Symptoms cause significant impairment in social, occupational, or other important areas of current functioning

• Disturbances are not better explained by intellectual disability or global developmental delay (note comorbid diagnosis)
Diagnostic Specifiers

DSM-5 299.0 Autism Spectrum Disorder

- Level of Support required (i.e., Severity)

- *With or Without* intellectual impairment

- *With or Without* language impairment

- *Associated* with known medical or genetic condition or environmental factor

- *Associated* with another neurodevelopmental, mental or behavioral disorder (e.g., ADHD)

- *With* catatonia
Severity Level: Social-Communication

Level 1: requiring support

• Without supports, deficits in social communication cause noticeable impairments; e.g., atypical or unsuccessful responses to social overtures

Level 2: requiring substantial support

• Marked deficits in verbal and nonverbal social communication, apparent even with supports

Level 3: requiring very substantial support

• Limited initiation and minimal response to social overtures
Severity Level: Restricted, repetitive behaviors

- Level 1: requiring support
- Level 2: requiring substantial support
- Level 3: requiring very substantial support

- Causes significant interference with functioning in one or more contexts
- Appear frequently and interfere with functioning across a variety of contexts
- Extreme difficulty with change, markedly interfere with functioning in all spheres
Multiple Choice Question #3

What are the two DSM-5 diagnostic categories for ASD?

a. Social Communication and Restricted and Repetitive Patterns of Behaviors
b. Language and Communication
c. Social and Communication
d. Repetitive Behaviors and Repetitive Interests
Additional Changes

• Can now have comorbid diagnoses:
  • Language Disorders
  • Global Developmental Delay (under 5 years old)
  • Attention-Deficit/Hyperactivity Disorder
  • Anxiety and Mood Disorders
  • Medical Comorbidities
Family and Economic Impact
Economic Impact

• Lifetime cost estimates average $1.4 million to $2.4 million

• Costs include health care, education, ASD-related therapy, family-coordinated services, and parental productivity loss

• Also: residential care or supportive living, personal productivity loss, medical expenses.

• Taken together, it is estimated that total societal costs of caring for children with ASD were over $11.5 billion in 2011
Family Impact

• Parents of children with ASD have reported high levels of stress
  • Access to needed services and quality of care compared to parents of children with other
developmental disabilities or mental health conditions.

• Some parents also report having to stop work to care for their child with ASD
  • Mothers who maintain employment end up working about 7 hours less per week and
  • Earn 56% less than mothers of children with no major health issues
Multiple Choice Question #4

What is the lifetime cost of ASD?

a. $4 billion
b. $1.4 billion
c. $11.5 million
d. $100,000
Resources: Helpful links

• Autism Speaks – http://autismspeaks.org
  • Adult toolkit

• Association for Science in Autism Treatment - http://www.asatonline.org/for-parents/learn-more-about-specific-treatments/

• Centers for Disease Control and Prevention, Learn the Signs. Act Early: http://www.cdc.gov/ncbddd/actearly/index.html

• American Academy of Pediatrics Policy Page: http://pediatrics.aappublications.org/site/aappolicy/index.xhtml