

## CHAP 14 NEURODEVELOPMENTAL DISORDERS

### Overview

- In general, childhood is associated with significant development changes that follow a specific pattern
- As a result, any disruption in the development of early skills will likely disrupt the development of later skills
- DSM
  - Disorders usually first diagnosed in early lifespan.

### ADHD

- The primary characteristics of persons with ADHD are **inattention**, **overactivity**, and **impulsivity**
- May start many tasks but rarely finish them, have trouble concentrating, and do not seem to pay attention when others speak
- These symptoms may lead to other problems such as poor academic performance and peer difficulty
  - Most often diagnosed among boys in school
- DSM-5 has 2 categories of symptoms
  - Inattention (6+)
    - Difficulty
      - Paying attention to details or tasks
      - Listening and carrying out directions
      - Listening when spoken directly
      - Organizing daily schedule, tasks, activities
      - Sustaining attention tasks or play activities
    - Doesn't follow through on instructions and fails to finish school work, chores, or duties in the workplace
    - Often avoids, dislike, or is reluctant to engage in tasks that requires sustained mental effort
    - Often loses personal belongings
    - Is easily distracted and make careless mistakes
    - Is often forgetful in daily activities
  - **Hyperactivity + Impulsivity**
    - Often fidgets with hands or taps feet or squirms in seat
    - Often leaves seat in situations or elsewhere in which remaining seated is expected
    - Often runs or climbs excessively in situations in which it is inappropriate
      - Adults = feelings of restlessness
    - Often has difficulty playing or engaging in leisure activity quietly
    - Constantly on the move as if propelled by a motor
    - Often talks excessively
    - Often blurts out answers
    - Has difficulty waiting in turn
    - Often interrupts or intrudes on others
  - **Either the first (inattention) and/or the 2nd and 3rd characteristic must be present**

- Clinical Description- ADHD
  - Difficulty sustaining attention on a task or activity
  - Fail to complete tasks, seem to be not listening, and may display motor hyperactivity
  - Children are often described as fidgety in school, unable to sit still for more than a few minutes
  - Lack of impulse control, especially cognitively
    - Often blurts out answers
    - Has difficulty waiting in turn
    - Often interrupts or intrudes on others
  - Onset = age 3-4
- Cause
  - Genetics, brain damage, toxins, and food additives, and maternal smoking
    - More than 1 gene appears responsible for ADHD
      - The gene for the D4 receptor, the dopamine transporter gene, and the dopamine D5 receptor gene appear to be associated with ADHD
      - Most of the attention to date focus on genes associated with dopamine, although norepinephrine, serotonin, and GABA are also implicated in the cause of ADHD
    - Maternal smoking increases the likelihood of having a child with a specific mutation involving the dopamine system
    - Pregnancy complication
      - Low birth weight
      - Alcohol
    - Roles of Toxins
      - Allergens and food additives
      - No evidence
- Treatment
  - Biological interventions
    - Stimulant medication is effective in reducing the core symptoms of ADHD
    - The paradoxical effects of stimulant medication are the same in children and adults with and without ADHD
    - Stimulant medications reinforce the brain's ability to focus attention during problem-solving tasks
    - The beneficial effects don't last in the long term once stop taking the drug
    - All of these drugs seem to improve compliance and decrease negative behaviors in many kids, and they don't affect learning and academic performance
    - Side effects
      - Insomnia, downiness, irritability

#### Specific Learning Disorder

- Difficulties learning and using academic skills. Cover problems related to academic performance in reading, math, and writing
- 1+ Symptoms for 6+ months
  1. Inaccurate or slow and effortful word reading
  2. Difficulty understanding the meaning of what is read

3. Difficulties with spelling
  4. Difficulties with written expression
  5. Difficulties mastering number sense, number facts, or calculation
  6. Difficulties with math reasoning
- This performance is substantially and quantifiably below what would be expected given the person's
    1. Chronical age
    2. Measured IQ
    3. Education
      - Significantly interference with academic or occupational performance, or with activities of daily living
      - Begin during school-age years but may not be fully manifest until the demands for those academic skills exceed the individual's capacities
  - o Are not better accounted for by intellectual disabilities, uncorrected visual, or auditory acuity, other mental disorders, or inadequate educational instruction
  - o There is a large difference between a person's actual performance VS expected achievement on an individually administered standardized test
    1. There is an unexpected underachievement
  - o Learning disorders are **NOT** due to any sensory deficits
  - o Stats
  - o Causes
    1. Psychological and motivational factors that have been reinforced by other play an important role in the success of people with learning disorders
    2. Psychosocial contributions and factors which seem to determine outcome
      - Motivational factors
      - Socioeconomic status
      - Cultural expectations
      - Parental interactions
      - Expectations
      - Child management practices
      - School support
  - o Treatment
    1. Educational interventions
      - Specific skill instructions
        - Vocabulary
        - Discerning meaning
        - Fact finding
      - Strategy instruction
        - Decision making
        - Critical thinking
      - Compensatory skills

#### Autism Spectrum Disorder (ASD), aka. Autism

- ASD is a neurodevelopmental disorder that affects how one perceives and socializes with others