What are the Earliest Signs of ADHD?

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Learning Objectives

1. Discuss how ADHD may manifest prior to the school age period.
2. Review the literature of infants at familial risk for ADHD.
3. Brief discussion on how parenting behaviours may play a role in ADHD developmental pathways.

Challenges

• Normative behaviours for young children
• Challenge of linking early behaviours with later diagnoses
• Lack of developmental sensitivity
• No consensus on underlying deficit or single etiology
- Retrospectively, parents report differences in their children as early as infancy
  - More squirm
  - Less interested in cuddling
  - Impatient, easily frustrated
  - Require more attention
  - Sleep/nap less

- Toddler years
  - Inability to sustain attention for even a few minutes
  - Constantly distracted by sights and sounds
  - Difficulty sustaining eye contact
  - Better attention for high interest things such as a favorite video game or playing outside when high energy levels are required
  - Excessively hyperactive, always in motion
  - Lack of interest in cuddling or quiet activities
  - Difficulty calming down after becoming excited
  - Highly impulsive: will jump off of decks, slides or out of windows, will run into the street more often
  - Accident-prone
  - Difficulty sleeping, may have a hard time falling asleep and may be up at 5:00 AM each morning

- Preschool years
  - Inability to sit still
  - Lack of interest in quiet activities or in listening to stories
  - Changes activities every few minutes
  - Inconsistency in attention skills, may be able to hold attention when an activity is interesting, but not able to keep attention for other activities
  - Always in motion, sometimes running without looking, may run into street or fall often
  - Can be very talkative
  - Poor social skills
  - Behavioral problems, not listening, disobeying or consistent unsafe behaviors
  - Can be clumsy or have underdeveloped coordination
  - May grab toys from classmates, siblings or friends
  - Difficulty waiting for their turn
  - May be aggressive, causing fights or hitting other children
Preschoolers

• Prevalence
  – 2-6 % meet DSM criteria
  – 5.1 % based on PAPA
• Validity
  – Criteria are not developmentally sensitive
    • Preschool Age Psychiatric Assessment (PAPA)

Preschoolers

• Recent increase in diagnoses
  – BUT, are we over-identifying?
• Less than 100% persistence
  – 25 -50 % of preschoolers diagnosed with ADHD will no longer meet criteria in childhood or adolescence

Preschoolers

• Inattention
  – Difficulty sustaining attention in tasks or play activities
  – Difficulty controlling attention to rules in one-to-one play activities
• Hyperactivity
  – Talks excessively
  – Difficulty controlling talking when remaining quiet is expected (e.g., story time)
• Impulsivity
  – Interrupts & intrudes on others
  – Difficulty refraining from interrupting when provided with structure and support to participate in engaging activities
Sonuga-Barke et al. (2005)

What about prior to preschool?
What have we looked at?

Regulatory disturbances
- Crying
- Sleep
- Feeding
• Temperament
  - Negativity
  - Activity level
  - Attention
• Emotion regulation

Regulatory Disturbances
• Wolke et al. (2002); Rao et al. (2004)
  – ↑ infant crying → ↑ child hyperactivity
• Thunstrom (2002)
  – Infant sleep disturbance → ADHD
• Becker et al. (2009)
  – DRD4 moderates the relationship between regulatory disturbances and ADHD

Temperament
• Sanson et al. (1993)
  – ↑ activity & reactivity → ↑ activity, reactivity, behaviour problems @ 3 & ↑ hyperactivity @ 8
• Rende (1993)
  – ↑ infant emotionality → childhood attention problems – boys only
• Goldsmith et al. (2004)
  – ↑ infant irritability & anger → ADHD sx
Temperament cont’d

• Auerbach et al. (2004, 2005, & 2008) – At-risk infants
  – Neonates: irritability and difficulties with state lability & self-soothing
  – 7 months: less interest in block play & more anger reactivity
  – 12 months: increased activity & anger
  – 25 months: lower inhibitory control & effortful control

Emotion Regulation

• Less data available
  – Theoretically:
    • ADHD can be viewed as a disorder of self-regulation
    • Regulation starts very early
      – Physiological, emotion, attention, behaviour

Ninowski (2010)

• 78 mothers – varied on ADHD symptomatology and their 8-12 month old infants
• Questionnaire and observational data
• Goal to identify indicators of risk for ADHD in infancy based on maternal familial risk (FR)
Key Findings

- Was FR for ADHD related to infant temperament and emotion regulation?
  - FR → ↑ negative temperament, activity, distress to limitations, ↓ duration of orienting and sustained attention
  - FR → ↑ negative reactivity, avoidant behaviours, ↓ focused orientation strategies

Summary

- Infant temperament variables related to ADHD differ from the temperament variables related to other disorders.
- BUT,
  - Is any one variable necessary or sufficient?
  - How specific are these variables to ADHD compared to externalizing behaviours in general?
  - Is there a threshold of risk that must be met?
  - What role do other non-temperament variables play in the developmental pathway?

The role of parenting

- Olsen et al. (2002)
  - ↑ object stimulation & ↓ restrictiveness
  - ↓ impulsivity @ 8 yrs
- Jacobvitz et al. (2004)
  - ↑ hostility → ↑ ADHD symptoms @ 7 yrs
Parenting cont’d

• Carlson et al. (1995)
  – Intrusive parenting → distractibility @ 3.5 yrs, hyperactivity @ 6, 8, & 11 yrs
• Gaertner et al. (2008)
  – Maternal praise, warmth, & positive affect →↑ sustained attention
  – Maternal over-control →↓ sustained attention

Ninowski (2010)

• Maternal insensitivity/intrusiveness partially mediated the relationship between familial risk and infant attention

Why is it important?

• Early Identification
• Early Intervention
• Possibility of altering developmental trajectory
References


