Pay Attention: ADHD Through the Lifespan

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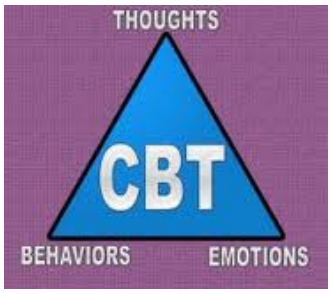
Week 12: Psychosocial Treatments for Adults with ADHD

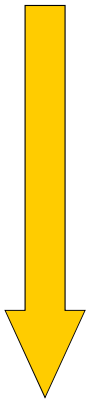


Homework Review

Developmental Trajectory of ADHD Symptoms: From Childhood to Adulthood

The nature and frequency of ADHD symptoms changes with age

Children



Motoric hyperactivity
Aggressiveness
Low frustration tolerance
Impulsiveness

Wilens TE et.al. *Annual Review of Psychiatry*. 1999;19:1-34; Millstein RB et.al. *J Attention Disorder*, 1997;2:159-166.

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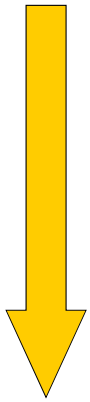

Children

Motoric hyperactivity
Aggressiveness
Low frustration tolerance
Impulsiveness

Adolescents

Easily distracted
Inattentiveness

Wilens TE et.al. *Annual Review of Psychiatry*. 1999;19:1-34; Millstein RB et.al. *J Attention Disorder*, 1997;2:159-166.

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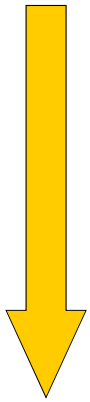


Children

Motoric hyperactivity
Aggressiveness
Low frustration tolerance
Impulsiveness

Adolescents

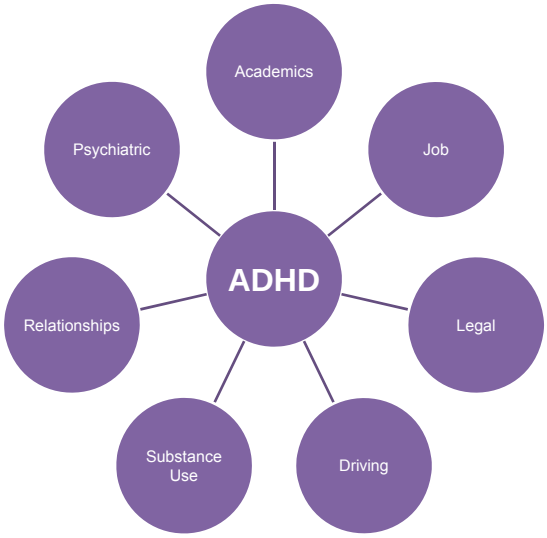
Easily distracted
Inattentiveness

Adults

Shifts activities
Easily bored
Impatient
Restlessness

Wilens TE et.al. *Annual Review of Psychiatry*. 1999;19:1-34; Millstein RB et.al. *J Attention Disorder*, 1997;2:159-166.

Contextual Model of ADHD



Domains of Impairment from ADHD

- Psychological
- Educational
- Occupational
- Interpersonal
- Financial
- Health and Well-being
- Organizational

ADULT ADHD:
It's everywhere you want to be!

Why adults with ADHD seek psychosocial treatment

- Residual symptoms of ADHD
- Ongoing functional impairment
- Non-response to medications or intolerable side effects
- Comorbidity (complex symptoms, inadequate response)
- Insufficient coping skills ("pills don't teach skills")
- Demoralization: Negative belief system affecting life options and coping

Published Psychosocial Treatment Studies (N=21)

- Ratey et al. (1992) – "treatment failures"
- Wiggins et al. (1999) – educational gp (TFA)
- Wilens et al. (1999) – chart review CBT/meds
- Hesslinger et al. (2002) – DBT group
- Philipsen et al (2007) – DBT-group , multi-site replication
- Stevenson et al. (2002, 2003) – CRP group treatment & self-directed CRP
- Safren et al. (2005, 2010) – CBT/meds v. meds only; CBT v. relaxation
- Weiss et al. (2006, 2012) – PST & meds
- Rostain & Ramsay (2006) – CBT & meds
- Ramsay & Rostain (2011) – CBT only
- Solanto et al. (2008, 2010) – CBT gp focused on EFs
- Virta et al. (2008, 2010); Salakari et al. (2010) – CBT gp rehabilitation/ 6 mo. fu
- Bramham et al. (2009) ; Emilsson et al. (2011) – CBT group
- Hirvikoski et al. (2011) – DBT group, independent replication

ADHD Psychosocial Treatment Research

Strengths

- Good assessment strategies
- Both individual and group treatments
- Treatment viewed as acceptable
- Improvements in symptoms and ratings of impairments

Weaknesses

- Most are open studies, limited randomization
- Requires adherence
- Participants may not represent more severe cases of ADHD
- Cost, availability

Psychosocial Intervention Domains

- Psychoeducation
- Therapeutic relationship
- Procrastination
- Time + effort management
- Organization
- Problem management
- Decision making
- Cognitive modification
- Behavior modification
- Implementation strategies

Mechanisms of Change: CBT for Adult ADHD

- Prolongation
  - Emotional
  - Cognitive
- Informed decision making
- Implementation focus
- Therapeutic alliance
- Cognitive and behavioral modification
- Scaffolding
  - Psychoeducation
  - External environment
  - Cognitive scaffolding
  - Interpersonal
- Point of performance
  - Metaphors
  - Tangible plans
  - Environmental engineering
  - Reminders

Ramsay, 2010, *J. of Cog Psychol*

Mechanisms of Change: CBT for Adult ADHD

<u>Key Factors</u>

- Behavioral > Cognitive
- Motivation issues
- Skill practice
- Manualized approach

Knouse & Safren, 2010, *Psych Clinics of North Am*

Mid-Lecture Questions

Cognitive Behavioral Therapy
in Clinical Practice

CBT for Adult ADHD

(Ramsay & Rostain, 2005, 2007, 2008)

- Based on cognitive model of psychopathology
- Time efficient, structured, active
- Collaborative problem-solving approach
- Easily combined with other treatments
- Integrative (e.g. cog rehab, family)
- Developmentally sensitive (e.g. life stages)
- Balance between “accepting” and “challenging” symptoms
- Regular homework (“weekly assignments”)

CBT for Adult ADHD

(Ramsay & Rostain, 2005, 2007, 2008)

- Individual CBT model (as compared to group treatments)
- Identify areas of functional impairment and develop goals using specific examples from daily life
- Dynamic interplay of cognitions, behavior, and affect and executive dysfunction (case conceptualization)
- “Internalization of language at the point of performance within an affirming relationship providing scaffolding”

Cognitive Interventions: Adults

- Modify distorted cognitions, beliefs
- Develop valued personal goals
- Prioritize treatment objectives
  - Planning and organizing
  - Decision-making
  - Problem-solving
  - Attention regulation, capacity building
  - Affect regulation

"What are the treatment goals?"

Broad		Specific (behavioral markers)
"I want to be organized."	→	**"I'd like to go through my mail each day and have a plan for dealing with bills."**
"I don't want to procrastinate anymore."	→	**"I'd like to be able to hand in my expense reports on time rather than putting them off and being late."**
"I want to be on time for meetings."	→	**"I'd like to use a planner to keep track of my appointments AND I want to use reminders and coping skills to arrive on time."**
"I'd like to be more decisive…well, maybe… I'm not sure."	→	**"I'd like to have a system for reviewing my options AND committing to an action."**

Change Strategies

What are you thinking?

Attitude Adjustments

- Core Beliefs
  - Failure
  - Mistrust (of self)
  - Inadequacy
  - Defectiveness / Shame
- Automatic Thoughts
  - Overgeneralization
  - Magical thinking (e.g., meds)
  - Comparative thinking
  - All-or-nothing thinking
  - Shoulds
  - Internalization / Externalization
  - Mind reading / Fortune telling
  - Magnify / Minimize

Common thoughts

- "I've tried before. Nothing works for me."
- "Jim does not have to write down everything… (therefore, I should not have to do it.)"
- "This is really hard. It's going to be awful. I remember how bad it was when I tried it before."
- "I would not be facing this now, if I had done it before."
- "It will somehow work out for the best."
- "It's best if I just wing it" OR "Think about what?"

Cognitive Modification

1. Catch and write down thoughts
2. Compare with the evidence ("defense attorney")
3. Identify potential flaws in reasoning
4. Develop alternatives
5. Consider worst-case… Likelihood? Handle it?
6. Best case.. Likelihood? Handle it?
7. Most likely case?
8. How can I influence this situation?
9. How would I advise a friend?
10. Talk out loud to yourself, talk through the plan

Change Strategies

What are you doing?

Behavior Modification

1. Monitor behaviors (count, accept observations)
2. "What do I want to do?"- Define behavioral goal, specific steps
3. "What am I doing?"- Define unhelpful behaviors, specific steps
4. "What am I reinforcing?"- What behavior is rewarded
5. "Start small" – change one thing (DAILY GOAL)
6. Exposure to discomfort (you can handle it, acceptance)
7. Reinforce success
8. Stimulus control – remove temptations, set up to succeed
9. Use REMINDERS, MOTIVATORS (evocative metaphors, sayings)
10. Set up and follow personal RULES (that will become HABITS)

Change Strategies

What are you NOT doing?

Procrastination Cycle

Task

▼

Negative thought (or absence of adaptive thought)

▼

Aversive feeling (or competing salient feeling or distraction)

▼

Escape behavior / rationalization (procrastination)

▼

Relief (negative reinforcement)

Procrastination: Rationalizations

- "Once I finish X, then I'll do it."
- "I have to be in the mood to do it."
- "I have to be at my best to do it."
- "I'll wake up early tomorrow (stay up late) and do it."
- "I just need this one thing (software, book, etc.) and then I'll be ready."
- "I've got time (or I work best under pressure)"
- "I don't want to do it."

Reducing Procrastination

1. Specific action point (smallest point of engagement – "lower the bar")
2. Make plan realistic (K.I.S.S. = Keep It Small and Specific)
3. Enhance relevance, motivation, reward
4. Make specific appointment (start time, end time, location)

Reducing Procrastination (2)

5. Cognitive rehearsal: Anticipate and plan for barriers (cognitive, emotional, behavioral) (Risk/Resource Ratio)
6. Implement plan – Behavioral activation / accept a degree of discomfort (10 minute rule)
7. Chunk it (i.e., break down big task) and …
8. End task by planning next step (chaining)

Mid-Lecture Questions

Behavioral Interventions: Adults

- Time management
- Organization, “Environmental engineering”
- Communication skills, assertiveness
- Resilience (e.g., using skills)
- Frequent reinforcement
- Activation (e.g., “10 minute rule”)
- Refocusing reminders (i.e., alarm)

Change Strategies

WHEN are you?

Time management/planning essentials

- Schedule keeping system
  - Manual vs. digital
  - Plan time (e.g., financial budget)
  - Monitor time (e.g., actual spending)
  - Personalize ("choreography")
  - Visible timepiece !!!!
- Review planner
- "recommended daily allowance"
- To do list (main, daily)
- "Start task /enter room with a plan" (start & end time)

Change Strategies

WHERE is what you need?

Organization essentials

- Simple solutions, start small, devote time
- Organizational needs (“What is the problem?”)
- Assess what to keep and what to discard
- Finding the right tools to solve the job (automate, when possible / outsource)
- What “should” work v. what “does” work

Change Strategies

WHY did I let that bother me so much?

Managing impulsivity / emotionality

- Recognize high risk situations, warning signs for impulsivity
- Anticipate reasonably predictable "impulsivity" situations in daily life
- Prepare coping plan / rehearse
- Graded practice
- AVOID ("trouble avoided is a problem solved")
- Harm reduction after-the-fact
- Challenge thoughts of "no control"
- Acceptance of discomfort
- Attention allocation

Alternative Interventions: Neurofeedback, Cognitive Training

Neurofeedback for ADHD

- Delta waves (1-4 Hz) – sleep or complex problem solving
- **Theta waves (4-8 Hz)** – creativity, insight, deep states, drowsy
- Alpha waves (8-12 Hz) – alert, peaceful, meditative
- Sensorimotor rhythm waves (SMR; 12-15 Hz) – alert, relaxed
- **Beta waves (13-21 Hz)** – sustained, focused attention
- High beta waves (20-32 Hz) – anxiety, hyper-alert, intense
- Gamma waves (38-42 Hz) – cognitive processing, learning

- ADHD = HIGH Theta : LOW Beta ratio
  (5-15% = HI SMR : HI Beta)

Neurofeedback for ADHD

Adult studies

- Rossiter & La Vaque (1995)
  - N = 46 (8-21 yo)
  - 23 NFT/meds (downtrain theta/uptrain beta) v. 23 meds only (concurrent individual and family therapy; nonrandomized)
  - NFT improved on CPT, parent ratings of behavior + internalization (ns diff w/ meds) – problematic combination of and switching of treatments in both groups

- Kaiser & Othmer (1997)
  - N = 530 (n = 122, 17-67 yo with "attention problems"; no control group; no description of assessment protocol)
  - NFT improved CPT (inattention, impulsivity, variable response)
  - Pre- vs. post-treatment (no follow up ADHD or functional measures)

- Kaiser (1997)
  - N = 142 (19-79 yo with "attention problems")
  - NFT + metacognitive strategies improved CPT (inattention, impulsivity, variable response) – limitations same as those listed above

Neurofeedback

- Monastra et al. (2002)
  - N = 100 (6-19 yo) fitting “slow wave” profile
  - NFT + CCC (n=51) v. CCC (n=49)
    - CCC = meds, parent counseling, academic support
  - NFT = improvements parent/teacher ratings, CPT (no differences on or off meds)
  - 1 year follow up (med washout) – NFT group had normalized QEEG / CCC only group had “slow wave” profile
  - Atypical under response to meds in CCC; nonrandomized; bundled with additional treatments; limited generalizability

Computerized Cognitive Training Programs

- Various interactive programs
- Based on the “exercise” principle, “mental boot camp,” etc.
- Various cognitive skills (e.g., WM, auditory & visual processing, reading skills) and “brain games”
- Variations in use of a “coach” to increase adherence and provide positive reinforcement
- Variations in length of training (ex. 5 hours/wk for 24 wks in one case)

Targeted Working Memory Training

- Working memory deficits implicated in ADHD
- Very important executive functions associated with self-regulation
- WM also may be associated with problem solving / fluid IQ
- Recent study indicates that WMT associated with increased dopamine receptor density in cortical prefrontal and parietal regions (McNab et al., 2009, Science)

Working Memory Training – Basics

- Training done at home on a PC/Mac
- Supported by a trained coach
- 5 weeks of training – 5 times per week (25 sessions)
- Every session = 30-40 minutes
- Tangible reward given, every 5 sessions
- Results tracked online
- Booster training sessions available
- Versions for preschool, school age, and adult users
- Completion rates: 90% for school age, 80% for adults

Working Memory Training

Training program for adults introduced in 2007 (non ADHD studies)

- Westerberg & Klingberg, 2007
  - N = 3 healthy adult males (fMRI = middle and inferior frontal gyrus regions [skill learning])
- Westerberg, Jacobaeus et al., 2007
  - 18 post stroke adults randomized; ↑ WM + cog function
- Westerberg, Brehemer, et al., 2007
  - 45 seniors improved on WM tasks (not as much as younger)

NFT/WMT Treatment Research

<u>Strengths</u>

- Tentative to promising positive results
- Appealing as both assessment and treatment strategy
- WMT has strong designs and documented generalized WM gains

<u>Weaknesses</u>

- Little independent replication, vested interests
- Few studies of adults with ADHD
- Questionable outcome measures, control groups
- Do positive results generalize to daily functioning
- Mechanisms of action?
- Adherence? Costs?

Quiz Questions