Cognitive Behavior Therapy for Adolescents with Attention Deficit Hyperactivity Disorder

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ADHD in Adolescence

- Adolescence - Crucial stage of development

- Inattentiveness, restlessness and impulsivity more pervasive and impairing than in normal adolescence

- ADHD in childhood → impairing ADHD symptoms in adolescence
  \[\text{(Ingram, Hechtman & Morgenstram, 1999)}\]

- Additional functional impairments
ADHD in Adolescence

• Common comorbidities:
  – anxiety
  – depression
  – conduct disorder
  – oppositional defiant disorder
  – substance abuse

• However, severe dearth of literature on CBT treatment of ADHD in adolescence

• Only one published study (Antshel et al, 2012)
Antshel et al, 2012

• Efficacy of CBT for managing adolescent ADHD

• 68 adolescents (14-18 years old) on medication for ADHD and comorbidities underwent manualised group CBT [Safren, 2005]

• Outcome variables:
  – ADHD
  – Mood
  – Anxiety
  – Conduct
  – Functioning
Assessment measures:

- Intelligence:
  - WASI

- ADHD:
  - ADHD Rating Scales

- Comorbidity
  - Kiddie-Schedule for Affective Disorders and Schizophrenia-Epidemiologic version,
  - Behavior Assessment System for Children

- Global Impairment:
  - Global Assessment of Functioning (GAF)
  - Impairment Rating Scale (parent & teacher reports)
Antshel et al, 2012

- Comorbidity:
  - Oppositional Defiant Disorder (54.41%)
  - Generalised Anxiety Disorder (46.55%)
  - Major Depressive Disorder (35.29%)
  - Substance abuse (29.41%)
  - Conduct Disorder (17.64%)
  - Learning Disability (7.35%)
Antshel et al, 2012

• CBT - 3 core modules:
  – Psychoeducation about ADHD – 4 sessions
  – Learning to reduce distractibility – 3 sessions
  – Cognitive restructuring strategies – 2 - 5 sessions

• CBT-3 Optional modules (4 sessions):
  – reducing procrastination
  – improving communication skills
  – improving anger/ frustration management

• CBT adherence:
  – All adolescents completed all modules
  – 55% never missed any sessions; 45% missed 1-3 sessions
Antshel et al, 2012

Behavioural symptoms - Behavior Assessment Scales for Children (BASC-2)
Antshel et al, 2012

Functioning

- Average weekly class absences
- Average weekly school tardiness

Time

Mean Score

Pretreatment

Posttreatment

p=0.007

p=0.001
Antshel et al, 2012

p=0.001
Antshel et al, 2012

• GAF score=52.2 (SD-11.5) ➔ moderate to serious symptoms and impairment
  
  (APA, 2000)

• Results:
  – reduction in medication dosage
  – improvement in:
    • adolescent’s self esteem
    • parent ratings of medication adherence
    • parent and teacher ratings of inattentive symptoms
    • school attendance
    • teacher reports of adolescent’s relationship with the teachers
    • academic progress

• ADHD + anxiety or depression benefited more from CBT than ADHD + ODD (parent ratings)
Tse, Tagalakis, & Hechtman, 2006

- Feasibility and acceptability of a CBT intervention for adolescents with ADHD

- English speaking adolescents (13-17 years old) on stable medication for ADHD block randomised to:
  - Waiting list treatment (later received CBT)
  - CBT (n=16)

- Primary outcome measures:
  - Conners Global Index
  - Clinical Global Impression Scale
Tse, Tagalakis, & Hechtman, 2006

- Secondary outcome measures for:
  - ADHD symptoms
  - Social skills
  - Self esteem
  - Comorbidities
  - Medication adherence

- 16 adolescents were treated in 2 groups (n=7, n=9)

- 12, 1 ½ hour long skills oriented modules:
  - Education about ADHD
  - Goal achievement
  - Organisation
  - Time management
  - Anger management
  - Relationship management
  - Cognitive restructuring
  - Self esteem
Tse, Tagalakis, & Hechtman, 2006

- Coaching provided twice every week
- Homework and handouts provided
- Preliminary analysis suggested a trend toward improvement on CGI (blind clinician rating)

**Strengths:**
- randomisation
- structured skill training
- inclusion of independent blind rater
- multiple sources of information

**Limitations:**
- small sample size
- inclusion of Anglophones only
Mongia & Hechtman, 2012 (submitted)

• Efficacy of CBT for adolescents with ADHD

• 18 subjects block randomised to:
  – Wait list groups (n=8) – Later received CBT
  – CBT (n=18) i.e. (10) + 8 (from waiting list group)

• 14 CBT sessions- Elaborate education about ADHD and a summary session added to the 12 session module by Tse et al., 2006

• Objective outcome measures for:
  – adolescents
  – parents
  – teachers
Assessment measures - Mongia & Hechtman, 2012

- **Adolescent Measures**: Sheehan Disability Scale, Conners Global Index, & Rosenberg Self Esteem Scale.

- **Parent Measures**: Sheehan Disability Scale, Conner's Global Index.

- **Teacher Measures**: Conner's Global Index

- **Independent Blind Clinician Measures**: Sheehan Disability Scale, Conner's Global Index, & Clinical Global Impression

- Out of 18 adolescents:
  - 16 completed CBT
  - 15 completed follow up assessments
Results - Mongia & Hechtman, 2012

Conner’s Global Index (CGI)

Self report (p=0.048*)

Parent report - Total (p=0.040*)
Conner’s Global Index (CGI)

- CGI (Self Report)
  - Baseline to post treatment improvements in restlessness and impulsivity dimension (p=0.048*)
  - Improvement maintained at follow up

- CGI (Parent Report)
  - Pre to post treatment improvements in total scores and in restlessness/impulsivity dimension of CGI (p=0.040* & p=0.030*, respectively)
  - Improvements maintained at follow up
Results - Mongia & Hechtman, 2012
Conner’s Global Index (CGI)

Conners Global Index (CGI)- Independent Blind Clinician Report Mean (Restless-impulsive)

IE report- Restless-Impulsive Post-F/u (p=0.030*)
Results - Mongia & Hechtman et al., 2012

- CGI (Independent Blind Clinician Report)
  - baseline to post treatment - no improvements
  - post to follow up - improvement in restlessness and impulsivity (p=0.030*)

- CGI (Teacher Report) - No improvements
Results - Mongia & Hechtman, 2012

Sheehan Disability Scale

Self report post intervention to follow up improvements (p=0.019*)

IE report - baseline to post treatment (p=0.023*)
Results - Mongia & Hechtman et al., 2012

Sheehan Disability Scale

- SDS (Self Report)- post intervention to follow up improvements (p=0.019*)

- Independent Blind Clinician’s Ratings - baseline to post treatment (p=0.023*)

- SDS (Parent Report)-No improvements
Pre to post intervention improvements in self esteem (p=0.023*)
Results - Mongia & Hechtman et al., 2012

- Rosenberg Self Esteem Scale - Self Report (RSES)
  - Pre to post intervention improvements in self esteem (p=0.023*)
- Increased awareness about ADHD and its management post intervention (self report)
- Increased confidence
- Treatment gains maintained at 3 months follow up
Results - Mongia & Hechtman, 2012

Pre to post treatment improvements in severity of ADHD (p=0.01**)
Results - Mongia & Hechtman et al., 2012

Clinical Global Impression Scale (Independent Blind Clinician Rated)

• Pre to post treatment improvements in severity of ADHD ($p=0.01^{**}$)

• Improvements maintained at 3 months follow up
Results-
Mongia & Hechtman et al., 2012

Coaching calls

- Average number of calls during intervention - 16 (maximum 24)
- Average number of calls during follow up was 6 (maximum 9)
- Good progress with tasks and better goal planning
- CBT strategies practiced by adolescents - 70% of the times
- Coaching calls led to improved motivational levels
Participant feedback

- positively rated the CBT group
- derived most support from coaches
- All subjects used medication throughout the study; however some missed medication frequently during follow up period.
- Adolescents reported that they learnt a lot in the CBT group:
  - Organization
  - Stress management
  - Focus training
  - Information about ADHD
Results - Mongia & Hechtman et al., 2012

Parent feedback

• CBT intervention helped improve:
  – participant’s knowledge about ADHD
  – level of motivation
  – social behavior
  – self esteem
  – impulse control
  – stress management
  – acceptance of ADHD medication
  – Distractions

• Adolescents saw parental involvement as a hindrance

• However, parents expressed the need for parent support groups
Methodological Limitations

• Small sample size
• Low power
• Lack of actual control group
• Short duration of follow up (i.e. 3 months),
• Inclusion of subjects with a mix of comorbidities
• Lack of assessment of SES
• No control over other treatments during follow up
Strengths of the study

• One of the first studies assessing the efficacy of CBT in adolescents with ADHD

• Our group CBT was well received by adolescents with ADHD and their parents

• The medication dosages constant during the intervention

• Improvements in ADHD symptoms, motivation, level of disability reported by adolescents, their parents and independent blind clinician

• Inclusion of proportional number of adolescent females with ADHD
Strengths of the study

- Coaches: an integral part of our CBT intervention
- Blinding served as an effective method for reducing bias
- Structured nature of our CBT intervention
- Use of standardized outcome measures
- Treatment gains maintained at long term
Adolescent ADHD

Other psychosocial treatments

• Child interventions
  – social skills training
  – behaviour therapy
  – study skills training

• Parent training

• School interventions
  – classroom management
  – improving communication
Adolescent ADHD - Conclusions

• CBT can be beneficial for adolescents with ADHD

• May help in improving:
  – ADHD symptoms
  – self esteem
  – social skills
  – adherence to medication
  – school performance
  – relationships with parents

• Need for more controlled research
Thank you!