



Parental Occupational Executive Training (POET): A unique intervention model for improving daily functioning of young children with ADHD symptoms

Carmit Frisch PhD¹ Emanuel Tirosh MD³, Tsofia Deutsh-Castel
MD² & Sara Rosenblum PhD¹

1. The laboratory of Complex Human Activity and Participation (CHAP) Department of Occupational Therapy, Faculty of Social Welfare & Health Sciences, University of Haifa, Israel 2. child Development Center – Maccabi HMO, Northern district, Haifa, Israel 3. The Hannah Khoushy Child Development Center, Bnai Zion Medical Center, The Rappaport Family Faculty of Medicine, Haifa, Israel

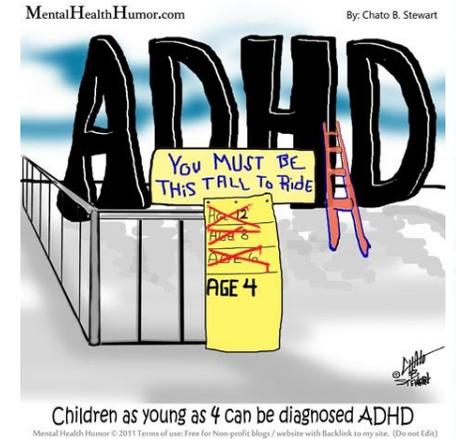
Outline

- Background
 - ✓ Attention Deficit Hyperactive Disorder (ADHD)
 - ✓ Executive Functions
 - ✓ Parents Training
 - ✓ Parental Occupational Executive Training (POET)
- Current study
 - ✓ Rational & hypotheses
 - ✓ Research questions and methods
 - ✓ Research findings
 - ✓ Discussion



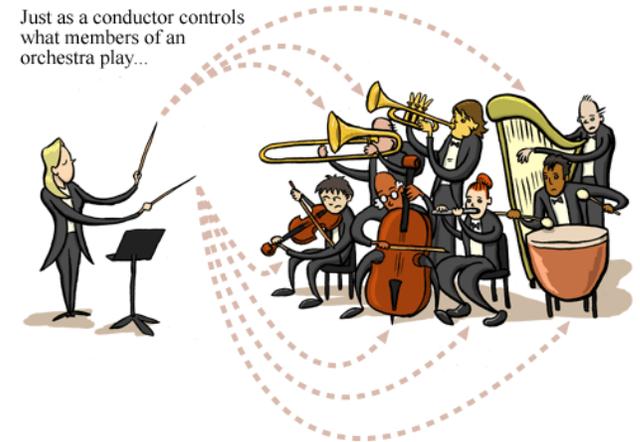
Attention Deficit Hyperactivity Disorder (ADHD)

- Incidence of 5-10%.
- A persistent pattern of inattention and / or hyperactivity-impulsiveness which decrease **daily functioning** & development (APA, 2013)
- For preschool aged children (4–5 years of age), evidence-based parent and/or teacher administered behavior therapy are the **first line treatment** (AAP, 2011)



ADHD & Executive functions

- **Executive Functions (EFs)** - a major mechanism affecting daily function and behavior of preschoolers with ADHD symptoms (Barkley, 1997; Brown, 2006)
- Well developed EFs enable **self control** (Barkley, 1997; Brown, 2006)
- Delayed EFs cause functional impairments, already at 3-4 y (Thorell, 2007)
- **Early interventions, should aim at coping with compromised EFs**



Parents Training

- Parents Training (PTs) programs have good efficacy (Gleason, 2013)
- Parents are the central ‘contextual factor’ in their children’s lives (Rosenbaum & Gorter, 2012)
- Published PTs for preschoolers with ADHD focus on enhancing positive family interactions, child's behaviors and consistent limit setting. (Bor, Sanders & Markie-Dadds, 2002; Jones, et al., 2008)



The POET's Theoretical basis

1. Hybrid neuropsychological model of Executive Functions
(Barkley, 1997): EFs' implications on daily functions
2. Occupational Performance Coaching
(OPC; Graham, Rodger, & Ziviani, 2009): structure of sessions
3. International Classification of Functioning Disability, and Health (ICF; WHO, 2001): contexts and additional skills

Intervention's structure

- Defining **intervention goals**
- **Analyzing** three dimensions that may influence child's daily functioning:
 - ✓ Child himself: **EFs**, additional abilities & characteristics
 - ✓ Occupation: sequence, demands, needed adaptations
 - ✓ Environment: human & non-human aspects
- Developing **a plan** for implementation during the following week, examination, generalization



Study's objectives & hypotheses

- **Objectives:** To investigate the POET's feasibility and efficacy
- **Hypotheses:**
 1. At least 75% of the families will: (a) Arrive all the intervention sessions, (b) Report the implementation of the training
 2. Following the intervention parents will report significant improvement in:
 - **Parents:** Knowledge and abilities (2 questions)
 - **Children:** Function (COPM), EFs (BRIEF, EFORTS), ADHD symptoms (CPRS)
 3. Changes will be maintained up to the 1st & 2nd follow-ups
 4. No significant changes will occur during the waiting phase

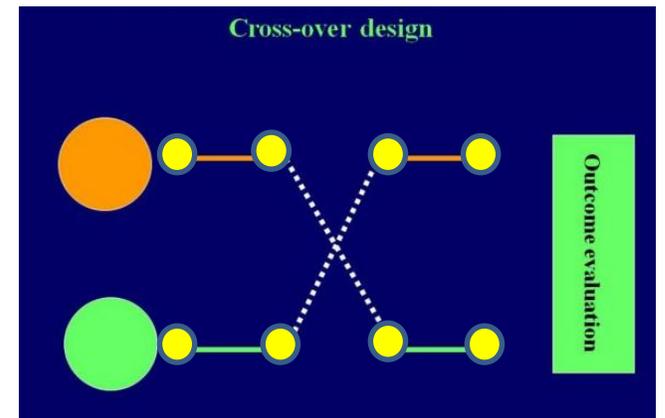
Study's methods

- **Population:** Parents of 72 children aged 4-7y, with ADHD symptoms (according to CPRS, CTRS, & a DSM based questionnaire)
- **Method:** A controlled, multi-center trial, 17 trained occupational therapists, public child developmental centers & private clinic settings
- **Reliability between researchers**



Study's methods (cont.)

- **Excluding:** Children & parents with emotional / behavioral diagnoses, additional treatment, special education
- **Groups:** Study (n=39) and Comparison (n=33)
- **2 Ethic committees:** Haifa University, Maccabi Healthcare Services
- **Intervention Process:** 8-10 personalized, weekly sessions (45 min), 4 measures, a mixed method & cross-over design



Results - feasibility

- 98.6% of the families completed the intervention process and participated in at least two measures
- 80.5% - 94.4% of the families reported implementation of the training up to the seventh session



Results – crossover design

- No significant changes occurred over waiting period in scores of comparison group.
- Significant differences were found between measure 2 of the study group (post intervention) and measure 2 of the comparison group (post waiting) for the tools
 - ✓ 'Knowledge' [t(70)=5.7, p<.001]
 - ✓ 'Skills' [t(70)=6.7, p<.001]
 - ✓ COPM [t(61)=9.82, p<.001]
 - ✓ EFORTS [t(66)=3.83, p<.001]

Results - efficacy

- **Significant differences occurred** in both groups in all measures following the intervention, reflecting improvement in the children's:

- ✓ Occupational performance (COPM)

$F(6, 180) = 37.07, p < .001, \eta^2 p = .55, OP = 1$

- ✓ Management of daily routines (EFORTS)

$F(2, 51) = 27.78, p < .001, \eta^2 p = .52, OP = 1$

- ✓ Executive functions (BRIEF/P)

$F(2, 46) = 12.91, p < .001, \eta^2 p = .36, OP = 1$

- ✓ ADHD symptoms (CPRS)

$F(12, 176) = 2.71, p = .002, \eta^2 p = .16, OP = .99$

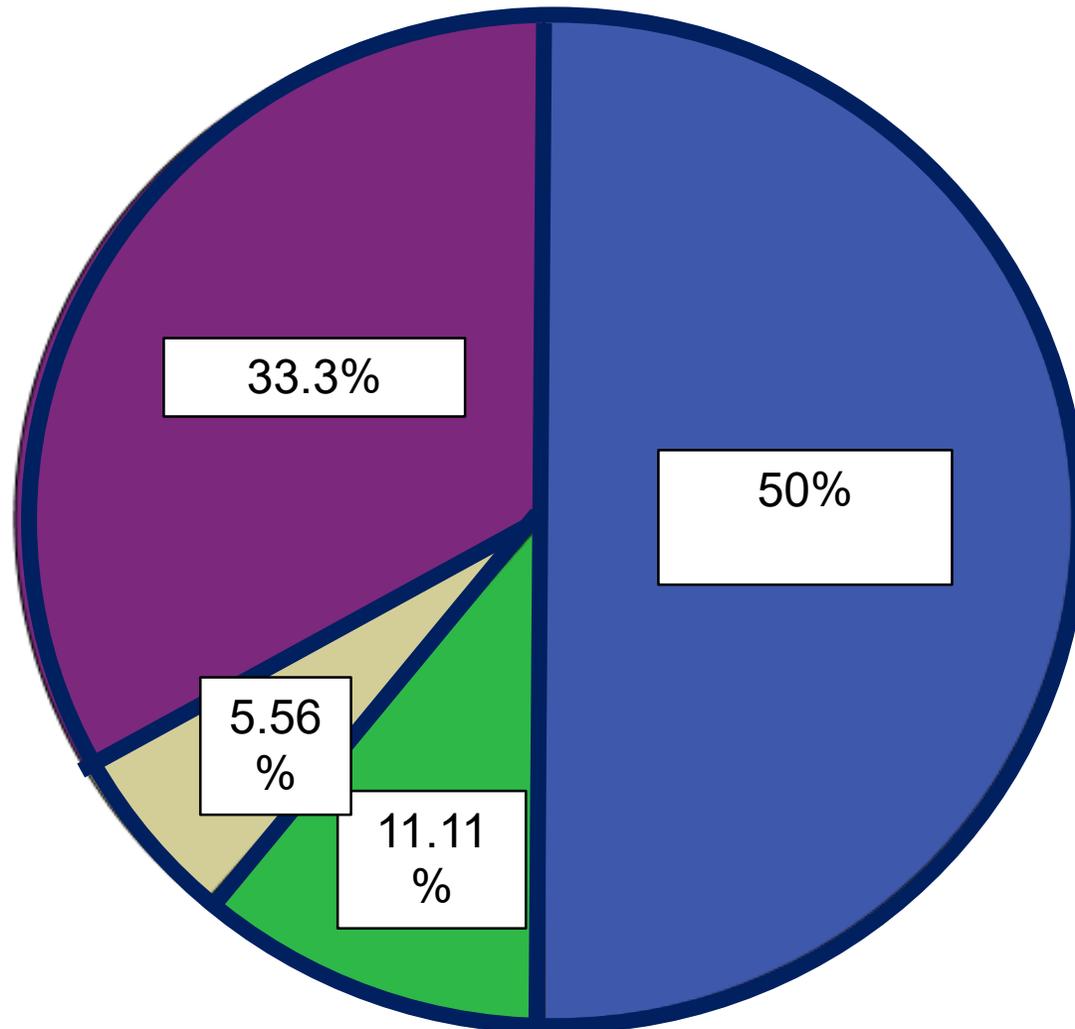


Results (cont.)

- Significant changes were also revealed in the parents' perception of:
 - ✓ Their ability to **understand** their children's difficulties
 $F(2, 53) = 40.41, p < .001, \eta^2 p = .6, OP = 1$
 - ✓ Their capability **to assist** them in their daily functioning
 $F(2, 53) = 45.21, p < .001, \eta^2 p = .63, OP = 1$
- All changes were maintained throughout the follow-up measures
- Some scores even continued to further improve



Children's daily challenges



ADL

- Morning routine
- Evening routine
- Eating / Meals
- Use of objects

Discussion

- Findings suggest that the POET is effective, at least in the short term.
- Similar benefits of parental coaching were found in other studies (Graham, 2010; Dunn at all., 2012; Foster, et al, 2013)
- **The POET is unique in:**
 - Focusing on the mechanism of EFs
 - Being parental based, short-term & evidence base
 - Being tailored for the possible parental weakness
- **Limitations & future directions:**
Larger samples and longitudinal studies; comparison intervention and RCTs.



Thank you for listening!

Carmitfr@gmail.com

