Andreia Fernandes Azevedo

O PROGRAMA DE INTERVENÇÃO PARENTAL ‘ANOS INCRÍVEIS’:
EFICÁCIA NUMA AMOSTRA DE CRIANÇAS PORTUGUESAS DE IDADE PRÉ-ESCOLAR COM COMPORTAMENTOS DE PH/DA
The Incredible Years Parenting Programme:

Efficacy in a sample of Portuguese pre-school age children with AD/HD behaviours

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Introduction
AD/HD in Preschool Years

- Symptoms of hyperactivity, impulsivity and/or inattention can emerge early in preschool years
  - Cause impairment for the child, family, school
  - Can be moderately persistent over time
  - Increase risk for further negative long-term difficulties
  - Predict the development of comorbid problems (ODD, CD)

- High developmental changes in this age period:
  - Careful staged approach to identification/intervention
  - Comprehensive and multidisciplinary assessment

- Preschool years: critical moment for early identification/intervention and prime target of investment (clinicians, policies)
AD/HD in Preschool Years

Genes X Environmental risk factors

*Multiple pathways from risk to disorder*  
Sonuga-Barke et al., 2005

**Potential risk factors**

- Negative parent-child interactions
- Dysfunctional parenting
- Low sense of competence
- Stress, marital problems
- Parental psychopathology
- Poorly self-regulated children (difficulty in listening, paying attention,...)

**Target PARENTS in early effective intervention**

**Bidirectional** and reciprocal influences

**Coercive cycle**
Psychosocial Intervention: Parenting Programmes

- Evidence-based psychosocial interventions - **BPT** strongly recommended as first-line intervention for preschool-age children with or at-risk of AD/HD
  
  AAP, 2011; Charach et al., 2011

  ✓ **Psychopharmacological intervention**: children with severe symptoms; after a BPT intervention

  ✓ **PATS Study**: effects lower than in school age-children; increased side effects; limited data of long-term impact; parents concerns and ethical issues

  Kollins et al., 2006; Wigal et al., 2006

Need of effective nonpharmacological intervention for preschool years
Rationale for the Study
### Why this Study?

<table>
<thead>
<tr>
<th>What do we know from literature and research?</th>
<th>What we tried to accomplish?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early intervention</strong> in AD/HD, possibly <strong>more efficacious</strong> in preschool children</td>
<td><strong>Target early intervention</strong></td>
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<tr>
<td>✓ Before association with secondary negative outcomes</td>
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<tr>
<td>✓ Children’s behaviour more prone to change</td>
<td></td>
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<tr>
<td>✓ Parents socialization role</td>
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</table>

- **Evidence of PT short-term effectiveness** (RCTs)
  
  e.g., Bor et al., 2002; Jones et al., 2007; Thompson et al., 2009; Webster-Stratton et al., 2011

- **Growing evidence** that effects can be sustained over time

  Rajwan et al., 2012

- **Examine PT effectiveness** in a **Portuguese sample**

- **Evaluate 12-month effects**: enlarge support
Why the Incredible Years Parenting Programme?

- **Widely researched** (↑ 30 years), **empirically supported** (replicated) **psychosocial intervention** for behaviour problems

- Recent research: **IY is effective for pre-schoolers with AD/HD**
  
  Jones et al., 2007; Webster-Stratton et al., 2011

- Target **different systems** (ecological perspective of child problems)

- **IY previously translated and implemented in Portugal**
  
  Webster-Stratton et al., 2012

- **Need of evidence-based interventions in Portugal**
### Main Purpose

<table>
<thead>
<tr>
<th>Study Aims</th>
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<tbody>
<tr>
<td>Evaluate IY short and medium-term efficacy (6 and 12-months after baseline) in reducing hyperactive behaviours</td>
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<tr>
<td>Analyse the maintenance of post-intervention effects (at 12-month FU)</td>
</tr>
<tr>
<td>Explore the differences in 12-month changes between two groups of children with different levels of initial hyperactivity behaviour</td>
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<tr>
<td>Examine mothers’ attendance, satisfaction and IY acceptability</td>
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</table>
Methods

Study design
Participants
Procedures
Instruments
Intervention
Study Design

Time/Accessment

T1
Pre-assessment

Screening

Baseline

Randomization (3:2)

Intervention Group
IYG (n = 52)

Control Group
WLG (n = 48)

T2
Post-assessment (6 M)

n = 50
n = 37

IY

T3
Follow-up assessment (12 M)

n = 44

IY

Longitudinal Study

Main trial

AD/HD subsample

Methods

Anos Incríveis
Portugal

www.uc.pt
Screening

Methods

Clinically referred (psychologist, paediatrician, child psychiatrist)

n = 54

Pre-school screening

n = 9

Blog, newspaper advertisement, other parents

n = 37

Community referred
**Inclusion Criteria**
- 3 – 6 years old
- SDQ-HY or CP ≥ Portuguese borderline cut-offs
- WWPAS ≥ Portuguese at-risk cut-off (80th percentile)

**Exclusion Criteria**
- Diagnosis of neurological or developmental disorder (autism) and severe developmental delay
- Pharmacological or psychotherapeutic intervention
## Participants

<table>
<thead>
<tr>
<th>Child Variables</th>
<th>IYG</th>
<th>WLC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Socio-demographic data</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (months)</td>
<td>55.92±10.9</td>
<td>55.71±11.03</td>
</tr>
<tr>
<td>Gender (male)</td>
<td>71%</td>
<td>73%</td>
</tr>
<tr>
<td><strong>Clinical Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AD/HD behaviors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WWPAS (≥ 95th percentile)</td>
<td>65%</td>
<td>58%</td>
</tr>
<tr>
<td>PKBS-O/I (85th to 94th percentile)</td>
<td>29%</td>
<td>30%</td>
</tr>
<tr>
<td>PKBS-O/I (≥ 95th percentile)</td>
<td>56%</td>
<td>49%</td>
</tr>
<tr>
<td><strong>Social Skills</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PKBS-SS (≤ 15th percentile)</td>
<td>63%</td>
<td>56%</td>
</tr>
<tr>
<td><strong>Oppositional/aggressive comorbid behaviours</strong></td>
<td>79%</td>
<td>70%</td>
</tr>
</tbody>
</table>
# Participants

## Primary Caregiver (Mother): Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>IYG</th>
<th>WLC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Socio-demographic data</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>92%</td>
<td>96%</td>
</tr>
<tr>
<td>Age (years)</td>
<td>36.37 ± 5.66</td>
<td>34.65 ± 5.94</td>
</tr>
<tr>
<td>Marital Status: Married/as married</td>
<td>83%</td>
<td>73%</td>
</tr>
<tr>
<td>Years of education</td>
<td>13.9 ± 3.89</td>
<td>13.55 ± 3.6</td>
</tr>
<tr>
<td>Family SES(^a): Medium</td>
<td>42%</td>
<td>48%</td>
</tr>
<tr>
<td><strong>Clinical Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive symptoms (≥ 17)</td>
<td>23%</td>
<td>29%</td>
</tr>
<tr>
<td>AD/HD symptoms (≥ 9 symptoms score)</td>
<td>15%</td>
<td>21%</td>
</tr>
</tbody>
</table>
Procedures

Authorizations
Author’s approval for using the programme

Ethical Approval
Portuguese National Committee of Data Protection (CNPD)
Medical Ethical Committee

Informed Consent
Written consent to take part of a RCT

Preliminary Study
Pilot-study

Study Procedures
Dissemination
Screening
First interview: researcher
Baseline assessment: independent trained evaluators (blind)
Randomization: researcher
T2 and T3 assessments: independent trained evaluators
Instruments

**Children Behaviour: Mothers’ and Teachers’ Reported Measures**

**Werry-Weiss-Peters Activity Scale** (WWPAS) Routh, 1978


**Children Behaviour: Mother’s Interview**

**Parental Account of Childhood Symptoms** (PACS) Taylor et al., 1986

**Sense of Competence, Parenting Practices, Psychological Adjustment: Self-Reported Measures**

**Parenting Sense of Competence Scale** (PSOC) Johnston & Mash, 1989

**Parenting Scale** (PS) Arnold et al., 1993

**Beck Depression Inventory** (BDI) Beck et al., 1961; Vaz Serra & Pio Abreu, 1973
Instruments

Mother-Child Interaction Behaviours: Observation Measure

Dyadic Parent-Child Interaction Coding System (DPICS)  
Eyberg & Robinson, 1981

Programme Satisfaction: Self-reported Measures

Weekly Satisfaction Questionnaire  
Webster-Stratton, 2001

Final Satisfaction Questionnaire  
Webster-Stratton, 2001
**Intervention**

**Aims (↑ protective factors ↓ risk factors)**

- Strengthen parent-child relationships
- Increase parents’ nurturing, positive parenting skills and confidence
- Improve parents’ skills of emotional, social, persistence coaching
- Encourage effective limit setting, use of non-violent discipline strategies
- Encourage child cooperation and self-regulation
- Increase family support and strengthen family-school relations

**Groups of 9 to 12 parents**

- 2 trained group facilitators (total=6)
- 14 weeks + 2 booster sessions (9 and 15 months after baseline)
- 2 hours in the evening: university service or mental health centre
- Childcare, snacks, make-up sessions
Intervention

Methods

Topics

• Play; descriptive comments; praise; rewards; household rules; routines; clear commands; parents’ calming thoughts; ignoring; time-out; consequences; problem solving

• Main idea: Strong foundations – use liberally; **Top** – use selectively

Strategies: Multiple method approach

• Role-play - practice; video analysis; brainstorming; group discussion of different topics; buzzes; reading materials; completing handouts; buddy calls; leaders’ call
Results
Pre-Post Comparison: Study 1

Preliminary analysis: baseline

• No significant differences between groups (IYG vs WLG), except DPICS coaching variable (IYG > WLG)

Attrition

• T2 = retention of 87% total participants (IYG > WLG): 100/87

• T3 = retention 85% of IYG participants: 52/50/44
Pre-Post Comparison: Study 1 (children variables)

Repeated measures GLM; Group: between-subjects; Time: within-subjects

Results

- **WWPAS**: $p < .01$, $\eta_p^2 = .11$
- **PKBS-O/I_home**: $p < .01$, $\eta_p^2 = .11$
- **PKBS-O/I_school**: $p < .05$, $\eta_p^2 = .06$
- **PKBS-SS_home**: $p = .052$, $\eta_p^2 = .04$

### Statistical Significant interaction effects (group X time):
- Decrease of reported **attention-deficit/hyperactivity behaviours** at home and at school:
  - IYG > WLG

### Statistical Marginal interaction effects (group X time):
- Marginal increase on reported (home)/observed **social skills**: IYG > WLG
  - DPICS-CPS: $p = .053$, $\eta_p^2 = .06$
Pre-Post Comparison: Study 1 *(mothers’ variables)*

Repeated measures GLM; Group: between-subjects; Time: within-subjects

### Statistical Significant interaction effects (group X time):

- **Decrease** of mothers’ self-reported *dysfunctional discipline practices* (IYG < WLC)
- **Increase** of mothers’ self-reported *sense of competence* (IYG > WLC)
- **Increase** of mothers’ observed *positive parenting and coaching skills* (IYG > WLC)
12-month effects: Study 2 (children variables)

Results
Repeated measures GLM; Time: within-subjects

- **Maintenance of intervention effects (time effect):**
  - **Changes remained stable**, no significant statistical differences between T2-T3 (ES: <.01 to .05)
  - **Exception:** **Significant statistical decrease in children AD/HD behaviours** (mother’s interview) from T2 to T3
12-month effects: Study 2 (mothers’ variables)

Results:
Repeated measures GLM; Time: within-subjects

- Maintenance of intervention effects over time (time effect):
  - Changes remained stable, no significant statistical differences between T2-T3 (ES: <.01 to .02)
  - Exception: Significance decrease on observed coaching skills from T2 to T3 (effect faded out by 12 months)

**PS**: $p < .001$, $\eta^2 = .49$
**PS_T2-T3**: $p = .337$, ns

**PSOC**: $p < .001$, $\eta^2 = .20$
**PSOC_T2-T3**: $p = .900$, ns

**DPICS-PP**: $p < .001$, $\eta^2 = .23$
**DPICS-PP_T2-T3**: $p = .813$, ns
**DPICS-COACH**: $p = .407$, ns

![Graphs showing changes over time for different variables: PS, PSOC, PP, Coach](image-url)
Clinical Significant Reduction of AD/HD behaviours: Study 1 + Study 2

30% reduction of initial baseline scores = clinically significant improvement

Axberg et al., 2007; Webster-Stratton et al., 1989

43% IYG vs 11% WLG (6 month follow-up) [χ² (1) = 11.66; p = .003]

59% IYG (12 month follow-up)
Low and High-Hyperactivity at baseline: Study 3

**Results**

Mann-Whitney *U* test; Group high or low-hyp: between-subjects

- **Groups equivalent at baseline,** except for AD/HD behaviours (**High > Low**)
- **All children improved,** but significant differences in changes (**T1-T3**) on AD/HD behaviours, overreactivity parent practices, and depressive symptoms between groups: **High > Low**

![Graphs showing comparisons between High-Hyp and Low-Hyp groups](image)

- **[WWPAS: ]** *p* = .008
- **[PACS-HI: ]** *p* = .055
- **[PS-OVER: ]** *p* = .018
- **[BDI: ]** *p* = .032
Programme’s Acceptance: Attendance and Satisfaction Variables

- **Programme attendance rate:**
  - **High:** 88% on 9 or ↑ sessions (mean:11 sessions)
  - **Dropped out:** 8% (4 mothers < 4 sessions)

- **Programme satisfaction:**
  - **IY approach to change behaviours** appropriate (29%) or very appropriate (71%)
  - High satisfaction with the sessions’ content and program components (methods, strategies, leaders, group)

![Graph showing methods' usefulness and strategies' usefulness over different sessions and strategies.](image)
Discussion
Main Conclusions

I. Encouraging results, suggestive of significant short-term intervention effects:
   • **Children**: Reduction of AD/HD behaviours (home, school) [medium ES];
     marginal increase of **social skills** *(only at home – target context)*
   • **Mothers**: Improvement of **positive parenting, sense of competence** and
     less **dysfunctional practices** [medium to large ES]

II. Maintenance of gains from 6 to 12-month after baseline (small ES):
   • **Coaching** effect faded out and **AD/HD behaviours** *(mothers’ interview)*
     continued to decrease *(sleep effects?)*
Main Conclusions

III. Similar changes for both high and low-hyperactivity subgroups:
   • But High-Hyp improved more regarding AD/HD behaviours, negative overreactivity practices and depressive symptoms

IV. High acceptability of IY model

Preliminary evidence of IY as a promising:
   Early preventive intervention option for Portuguese children/mothers with similar characteristics
Strengths

• **First Portuguese study evaluating IY in a sample of preschoolers with AD/HD behaviours**

• **Additional support for early psychosocial intervention** Charach et al., 2011; Rajwan et al., 2012

• **Widely researched intervention model**

• **Support form a highly skilled and motivated team**

• **Methodological strengths**: longitudinal study and a subsample of a RCT
  
  multi-methods (observational measure) and multi-informants
  
  blind independent evaluators
  
  inter-rater reliability studies

• **Fill in a gap in clinical practice in Portugal** Almeida et al., 2012
Limitations

- **Small sample size** *(study 3; pre-school teachers and observational measure sample)*

- **Absence of a control group at T3** and a normative group

- **Sample socioeconomical characteristics and higher education**

- **80% of the study took place in a university-based context**

- **Mothers perceptions and reporting bias**

- **Heterogeneous sample:** different risk levels (limitation?)

- **Psychometric properties of some measures** *(low internal consistency)*

- **Programme barriers**

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Cautious Generalization

*(sample characteristics; not diagnosed children)*
Implications
For Research

- Data replication (different contexts and populations)
- Larger randomized sample with longer follow-up periods:
  mediators (key ingredients ?) and moderators of change (for whom and in what
  conditions ?) Gardner et al., 2010
- Analysis of psychometric features of some measures (Portuguese populations)
- Intervention integrity study (facilitator’s adherence to protocol)
- Directly recruit fathers - larger sample sizes (Fabiano et al., 2012)
- Compare IY with usual care: What is more cost-effective in the long run;
  or with other IY set of programmes: Additional benefits?
Lessons Learned: Intervention and Policies

- Early identification (community settings): even low-hyp children
- Disseminate effective early intervention
- Investment in training and supervision (fidelity process)

IY Basic Parent Programme intervention tested in a portuguese sample: 14 + 2 Sessions

(2001 version; with some content adjustments, tailored to AD/HD needs and characteristics)

- Longer version (flexibility): reinforce Coaching parenting skills
- Promote continuous support after the end of the programme
- Monitor children with more severe problems
O PROGRAMA DE INTERVENÇÃO PARENTAL ‘ANOS INCRÍVEIS’:
Eficácia numa amostra de crianças portuguesas de idade pré-escolar com comportamentos de PH/DA

3 de dezembro, 2013

Andreia Fernandes Azevedo
4.2 Resultados: Comportamentos de PH/DA - casa

Pós-FU1-FU2: **Efeito não-significativo** Tempo, $F(2,36) = .498$, ns
4.2 Resultados: Comportamentos de PH/DA – casa e escola

Pós-FU1-FU2: **Efeito significativo** Tempo, F(2,33) = 6.950, p<.01, Effect size partial $\eta^2$ = .263

Pós-FU1-FU2: **Efeito não-significativo** Tempo, F(2,30) = 2.062, ns