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## **CH 2: Psychosocial interventions for treatment of behavioural disorders. [Updated 2015]**

**SCOPING QUESTION: What is the effectiveness of psychosocial interventions (including caregiver skills training) for behavioural disorders in children and adolescents?**

### ***BACKGROUND***

Behavioural disorders refer to a set of conditions that are characterized by hyperkinetic activity and/or persistent and repetitive instances of dissocial, aggressive or defiant conduct (ICD-10). Elevated levels of these behavioural problems are associated with several adverse outcomes, including poor academic achievement, social functioning and family distress, as well as more distal outcomes, such as lower rates of employment and greater likelihood of incarceration, psychiatric disorders and drug and alcohol abuse (McGalloway et al., 2012; Loe and Feldman, 2007). Poor outcomes are even more likely for children identified with a behavioural disorder, such as attention-deficit/hyperactivity disorder (ADHD), conduct disorder (CD) or oppositional defiant disorder (ODD) (Loe and Feldman, 2007).

There is recent evidence that suggests that psychosocial family interventions have a positive effect on the behavioural adjustment of children, school performance, caregiver mental health and caregiving skills (Daley et al., 2014). Psychosocial and caregiver skills training interventions focus on teaching children and their caregivers (i.e., parents and other family members or guardians who are raising a child or adolescent with a behavioural disorder) methods and strategies to reduce problematic behaviour and enhance prosocial behaviour. These interventions have the advantage of being able to be delivered across a range of contexts including the clinic, home or school.

WHO previously recommended that parent skills training should be considered for the treatment of behavioural disorders in children aged 0-7 years. The current evidence profile updates recommendation evidence, has an expanded scope and provides an overview of the most recent meta-analyses examining the effectiveness of psychosocial interventions for reducing behavioural problems in children and adolescents up to age 18 with an identified behavioural disorder. In addition, the evidence profile will also consider the effects of these interventions on secondary outcomes, such as student academic achievement, family functioning, caregiver satisfaction, adverse effects and issues related to the feasible implementation of these interventions.



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## ***PART 1: EVIDENCE REVIEW***

### **Population/ Intervention / Comparison / Outcome (PICO)**

- **Population:** Children and adolescents with behavioural disorders
- **Interventions:** Psychosocial interventions including caregiver skills training
- **Comparison:** Usual care or no treatment control
- **Outcomes:**
  - **Critical** – Symptom reduction, school performance, family functioning
  - **Important** – User and caregiver satisfaction, adverse effects of treatment

### **Search strategy**

The following databases were searched: CINAHL, Cochrane Database, EMBASE, MEDLINE and PsychINFO. The search terms were developed to capture meta-analyses and systematic reviews examining psychosocial interventions for children with behavioural disorders aged 0 – 18 years, including caregiver skills training interventions. Behavioural disorders were defined in accordance with the ICD-10 (F90 – F91), with the resulting search terms including both specific disorders and reference to broader behaviours that are characteristic of behavioural disorders, such as disruptive or aggressive behaviour. Boolean expressions were used within each database to capture relevant meta-analyses and systematic reviews (see example expression below). The titles and abstracts for the returned citations were then reviewed and potentially relevant references were retained for further examination to determine whether they would be included in the evidence profile.

Meta-analyses were deemed eligible if they included studies examining the effects of a psychosocial intervention on the behavioural outcomes of children aged 0 – 18 years. Psychosocial interventions were defined as any intervention that emphasizes psychological, behavioural or social factors, rather than biological factors, such as pharmacotherapy. Reviews including samples of students with additional risk factors (e.g., child abuse or disability characteristics) were not included in the current review. The primary outcome used in the meta-analysis that needed to be drawn from a standardized posttest measure of behavioural functioning and represented in a standardized mean difference (SMD) effect size. For meta-analyses reporting multiple outcomes, those based on broad domain scores (e.g., antisocial behaviour) were prioritized over those relating to specific



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constructs (e.g., oppositional behaviour). Meta-analyses that aggregated measures of behavioural constructs with emotional constructs associated with the ICD-10 (F92 – F93) were not included in the review because these issues are dealt with separately. However, the statistical summaries associated with each psychosocial intervention examined separately in a given review were used. The meta-analysis had to include studies that used prospective group designs such as randomized control trials (RCTs) or quasi-experimental designs with treatment as usual control groups. Finally, the meta-analysis had to be conducted within the past two years to ensure recommendations are based on the most recent research.

*Example Boolean Phrase:*

- ("hyperinketic disorder" OR "hyperkinesis" OR "conduct disorder" OR "oppositional defiant disorder" OR "attention deficit" OR "behavioural dis\*" OR "externalizing" OR "disrupt\*" OR "inatten\*" OR "impulsi\*" OR "hyperactive\*" OR "antisocial\*" OR "aggress\*" OR "conduct\*") AND ("intervention" OR "therap\*" OR "treatment\*" OR "train\*" OR "educat\*" OR "program" OR "counseling" OR "cognitive behavioural" OR "behavioural" OR "parent skills" OR "psychosocial" OR "psychotherapy") AND (("child\*" OR "youth" OR "student\*" OR adolescen\*" OR "preschool" OR "school age\*") OR ("parent\*" OR "family" OR "families" OR "mother\*" OR "father\*" OR "caregiver\*")) AND ("meta-analysis" OR "systematic review")

**Included in GRADE tables or footnotes**

- Daley D, Van der Oord S, Ferrin M, Danckaerts M, Doepfner M, Cortese S, Sonuga-Barke EJS (2014). Behavioural interventions in attention-deficit/hyperactivity disorder: A meta-analysis of randomized controlled trials across multiple outcome domains. *Journal of the American Academy of Child & Adolescent Psychiatry*.53(8):835-847. doi:10.1016/j.jaac.2014.05.013.
- Furlong M, McGilloway S, Bywater T, Hutchings J, Smith SM, Donnelly M (2012). Behavioural and cognitive-behavioural group-based parenting programmes for early-onset conduct problems in children aged 3 to 12 years. *Cochrane Database of Systematic Revies*.2:CD008225. doi:10.1002/14651858.CD008225.pub2.
- Erford BT, Paul LE, Oncken C, Kress VE, Erford MR (2014). Counseling Outcomes for Youth With Oppositional Behaviour: A Meta-Analysis. *Journal of Counseling & Development*.92(1):13-24. doi:10.1002/j.1556-6676.2014.00125.x.

**Excluded from GRADE tables and footnotes**

Review	Reason for Exclusion
Bennett C, Barlow J, Huband N, Smailagic N, Roloff V (2013). Group-based parenting programs for improving parenting and psychosocial	Focus of meta-analysis is on caregiver outcomes with no child outcomes reported.



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<p>functioning: A systematic review. <i>Journal of the Society for Social Work and Research</i>.4(4):300-332.</p>	
<p>Comer JS, Chow C, Chan PT, Cooper-Vince C, Wilson LA (2013). Psychosocial treatment efficacy for disruptive behaviour problems in very young children: A meta-analytic examination. <i>Journal of the American Academy of Child &amp; Adolescent Psychiatry</i>.52(1):26-36. doi:10.1016/j.jaac.2012.10.001.</p>	<p>Included control groups with active treatments.</p>
<p>Hodgson K, Hutchinson AD, Denson L (2014). Nonpharmacological treatments for ADHD: A meta-analytic review. <i>Journal of Attention Disorders</i>.18(4):275-282. doi:10.1177/1087054712444732.</p>	<p>Included quasi-experimental designs in the analyses.</p>
<p>Jeynes W (2012). A meta-analysis of the efficacy of different types of parental involvement programs for urban students. <i>Urban Education</i>.47(4):706-742.</p>	<p>Not focused on children with behavioural disorders.</p>
<p>Klasen H and Crombag AC (2013). What works where? A systematic review of child and adolescent mental health interventions for low and middle income countries. <i>Social Psychiatry and Psychiatric Epidemiology</i>.48(4):595-611. doi:10.1007/s00127-012-0566-x.</p>	<p>Includes pharmacotherapy interventions.</p>
<p>Leijten P, Raaijmakers MA, de Castro BO, Matthys W (2013). Does socioeconomic status matter? A meta-analysis on parent training effectiveness for disruptive child behaviour. <i>Journal of Clinical Child &amp; Adolescent Psychology</i>.42(2):384-392. doi:10.1080/15374416.2013.769169.</p>	<p>Does not provide an overall estimate of treatment effect.</p>
<p>Mejia A, Calam R, Sanders MR. A review of parenting programs in developing countries: opportunities and challenges for preventing emotional and behavioural difficulties in children. <i>Clinical Child and Family Psychology Review</i>.15(2):163-175. doi:10.1007/s10567-012-0116-9.</p>	<p>Provided a broad and narrative review of parenting programs.</p>



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<p>Sonuga-Barke EJ, Brandeis D, Cortese S, Daley D, Ferrin M, Holtmann M et al. (2013). Nonpharmacological interventions for ADHD: systematic review and meta-analyses of randomized controlled trials of dietary and psychological treatments. <i>American Journal of Psychiatry</i>.170(3):275-289. doi:10.1176/appi.ajp.2012.12070991.</p>	<p>Included control groups with active control.</p>
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### PICO Table

<b>Population:</b> Children and adolescents with behavioural disorders					
<b>Intervention</b>	<b>Comparison</b>	<b>Outcome</b>	<b>Systematic reviews used for GRADE</b>	<b>Justification for systematic review used</b>	<b>Relevant GRADE Table</b>
<b>ADHD</b>					
Behavioural therapy and cognitive behavioural therapy, including caregiver skills training programmes	No treatment	Symptom reduction	Daley et al. (2014)	The meta-analysis examined the effects of behavioural interventions and cognitive behavioural interventions and reported outcomes related to symptom reduction in children with ADHD.	Table 1
		School performance	Daley et al. (2014)	The meta-analysis examined the effects of behavioural interventions and cognitive behavioural interventions and reported outcomes related to school performance in children with ADHD.	
		Family functioning (caregiving skills)	Daley et al. (2014)	The meta-analysis examined the effects of behavioural interventions and cognitive behavioural interventions and reported outcomes related to parenting skills improvement, including positive and negative parenting (in caregivers of children with ADHD).	



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		Family Functioning (caregiver self-concept)	Daley et al. (2014)	The meta-analysis examined the effects of behavioural interventions and cognitive behavioural interventions and reported outcomes related to caregiver self-concept (in caregivers of children with ADHD).	
		Family functioning (caregiver mental health)	Daley et al. (2014)	The meta-analysis examined the effects of behavioural interventions and reported outcomes related to caregiver mental health (in caregivers of children with ADHD).	
		User and caregiver satisfaction	N/A		
		Adverse Effects	N/A		
<b>Conduct Problems</b>					
Caregiver skills training	No treatment	Symptom reduction	Furlong et al. (2012)	The meta-analysis examined the effects of caregiver training interventions and reported outcomes related to reductions in behavioural symptoms in children with conduct problems.	Table 2
		School performance	N/A		
		Caregiver functioning (caregiver skills)	Furlong et al. (2012)	The meta-analysis examined the effects of caregiver training interventions and reported outcomes related to positive and negative parenting skills (in caregivers of children with conduct problems).	
		Caregiver functioning (caregiver mental health)	Furlong et al. (2012)	The meta-analysis examined the effects of caregiver skills training interventions and reported outcomes related to caregiver mental health (in caregivers of children with conduct problems).	
		Family functioning	N/A		
		Caregiver satisfaction	N/A		



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		Adverse effects	N/A		
<b>Oppositional behaviorbehavior</b>					
Caregiver skills training and behavioural interventions	No treatment	Symptom reduction	Erford et al. (2013)	The meta-analysis examined the effects of caregiver skills training and behavioural interventions and reported outcomes related to oppositional and defiant behaviours in youth with oppositional defiant disorder.	Table 3
		School performance	N/A		
		Caregiver functioning	N/A		
		Family functioning	N/A		
		Caregiver satisfaction	N/A		
		Adverse effects	N/A		

### Narrative description of the studies that went into analysis

The Daley et al. (2014) review included 32 RCTs comparing behavioural interventions to no treatment control groups (including both waitlist control and standard care) in children with ADHD. The samples contained both younger children and adolescents (*Range* = 2 – 15; *M* = 7.8). There were 31 studies that had a caregiver-based component implemented within the home, while four had an additional school-based component. There were 14 studies that included direct intervention with the child. Results indicated that the behavioural interventions generally had positive outcomes on several outcome variables, including proximal ADHD measures ( $k = 19$ ;  $SMD = -.035$ ; 95% confidence interval (CI) =  $-.50$  to  $-.19$ ); and on school performance ( $k = 9$ ;  $SMD = .28$ ; 95% CI =  $.06$  to  $.59$ ). In addition, these interventions also had demonstrated effects on secondary caregiver outcomes including positive parenting ( $k = 9$ ;  $SMD = .68$ ; 95% CI =  $.27$  to  $1.09$ ); negative parenting ( $k = 14$ ;  $SMD = .57$ ; 95% CI =  $.37$  to  $.78$ ) and parenting self-concept ( $k = 7$ ;  $SMD = .37$ ; 95% CI =  $.03$  to  $.70$ ), but not on caregiver mental health ( $k = 9$ ;  $SMD = .09$ ; 95% CI =  $-.06$  to  $0.23$ ). Study quality was assessed with the Jadad scale, with results indicating an average quality of 2.21 on the scale, suggesting generally lower quality studies.

The review by Furlong et al. (2013) aimed to assess the effectiveness and cost-effectiveness of behavioural and cognitive-behavioural group-based parenting programmes for improving child conduct problems (i.e., negative and noncompliant troublesome, disruptive and aggressive behaviour and emotional volatility, including symptoms of oppositional defiance and conduct disorders), parental mental health and parenting skills in children with conduct problems. The review included 10 RCTs comparing behavioural and cognitive-behavioural group-based parenting programs to waitlist controls. The age of children in study samples ranged from 3 to 12 years, with a mean age of 64 months and who were predominately males ( $n = 707$ ; 68.3%). All of the studies took place in high-income European and North American countries. The samples included predominantly Caucasian individuals, with the mother being the primary caregiver and with a mean age of 33 years. The Incredible Years program was the primary intervention in most of the studies and was implemented in between 9 and 16 weekly sessions, with each session lasting between 2- 2.5 hours. The other interventions investigated included the Triple P Positive Parenting Program, Comet Parenting and Barkley's Training Program. Results



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indicated that the parenting programs had consistently positive effects on both primary and secondary outcomes. Specifically, reductions were found on both child conduct problems using parent report ( $k = 13$ ; SMD =  $-.53$ ; 95%CI =  $-.90$  to  $-.16$ ) and independent reports ( $k = 6$ ; SMD =  $-.44$ ; 95% CI =  $-.52$  to  $-.20$ ). Moreover, parenting programs were also found to improve parent mental health ( $k = 8$ ; SMD =  $.36$ ; 95% CI =  $.20$  to  $.52$ ), positive parenting practices ( $k = 9$ ; SMD =  $.52$ ; 95% CI =  $.13$  to  $.91$ ) and negative parenting practices ( $k = 7$ ; SMD =  $.77$ ; 95% CI =  $.59$  to  $.96$ ).

The Erford et al. (2013) review explored the effectiveness of treatments targeted at changing oppositional behaviour. It included 31 RCTs with school-age youth identified as having ODD. Comparison groups included waitlist control ( $k = 13$ ) and treatment as usual ( $k = 3$ ). The children sampled in the studies included within the meta-analysis ranged from 6 to 17 years old, with an average age of 7.71. There were 25 studies (81%) that used caregiver or family skills training as the modality of treatment. Findings suggest that caregiver skills training and behavioural interventions had moderate effects in treating oppositional behaviour in school-age youth when compared to waitlist controls ( $k = 13$ ; SMD =  $.68$ ; 95% CI =  $.50$  to  $.86$ ). Study quality was not considered within this review. Relatedly, there were no analyses examining whether the psychosocial or parenting interventions require the use of specialists for implementation.

## GRADE Tables

**Table 1. Behavioural and cognitive-behavioural therapies vs. controls for ADHD**

Authors: D Maggin and C Servili

Question: Are behavioural and cognitive-behavioural therapies effective for treatment of ADHD in children and adolescents compared to controls?

Bibliography: Daley D, Van der Oord S, Ferrin M, Danckaerts M, Doepfner M, Cortese S, Sonuga-Barke EJS (2014). Behavioural interventions in attention-deficit/hyperactivity disorder: A meta-analysis of randomized controlled trials across multiple outcome domains. *Journal of the American Academy of Child & Adolescent Psychiatry*.53(8):835-847. doi:10.1016/j.jaac.2014.05.013.

Quality assessment							No. of patients		Effect		Quality	Importance
No. of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Behavioural and cognitive-behavioural therapy	Control	Relative (95% CI)	Absolute		
<b>Symptom reduction (measured with caregiver report; better indicated by lower values)</b>												
19	Randomized trials	Serious <sup>1</sup>	No serious inconsistency <sup>2</sup>	No serious indirectness	No serious imprecision	Reporting bias <sup>3</sup>	416	368	-	SMD 0.35 lower (0.50 to 0.19 lower)	⊕⊕○○ LOW	CRITICAL
<b>School performance (measured with caregiver questionnaires and achievement tests; better indicated by higher values)</b>												
9	Randomized trials	Serious <sup>1</sup>	No serious inconsistency <sup>4</sup>	Serious <sup>5</sup>	No serious imprecision	Reporting bias <sup>3</sup>	437	380	-	SMD 0.28 higher (0.06 to 0.59 higher)	⊕○○○ VERY	IMPORTANT





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											LOW	
<b>Positive caregiving behaviours (measured with caregiver reports of positive parenting; better indicated by higher values)</b>												
9	Randomized trials	Serious	Very serious <sup>6</sup>	No serious indirectness	Very serious	Reporting bias <sup>3</sup>	459	452	-	SMD 0.68 higher (0.27 to 1.09 higher)	⊕000 VERY LOW	IMPORTANT
<b>Caregiver mental health (measured with caregiver self-report; better indicated by higher values)</b>												
9	Randomized trials	Serious <sup>1</sup>	No serious inconsistency <sup>7</sup>	No serious indirectness	Serious <sup>8</sup>	Reporting bias <sup>3</sup>	397	380	-	SMD 0.09 higher (0.09 lower to 0.23 higher)	⊕000 VERY LOW	IMPORTANT
<b>Positive caregiving behaviours (measured with observation; better indicated by higher values)</b>												
8	Randomized trials	Serious <sup>1</sup>	Very serious	No serious indirectness	No serious imprecision	Reporting bias <sup>3</sup>	338	330	-	SMD 0.60 higher (0.47 to 0.78 higher)	⊕000 VERY LOW	IMPORTANT
<b>Negative caregiving behaviours (measured with caregiver self-report; better indicated by higher values)</b>												
13	Randomized trials	Serious <sup>1</sup>	Serious <sup>9</sup>	No serious indirectness	No serious imprecision	Reporting bias <sup>3</sup>	555	540	-	SMD 0.57 higher (0.37 to 0.78 higher)	⊕000 VERY LOW	IMPORTANT
<b>Negative caregiving behaviours (measured with observation; better indicated by higher values)</b>												
8	Randomized trials	Serious <sup>1</sup>	Serious <sup>10</sup>	No serious indirectness	No serious imprecision	Reporting bias <sup>3</sup>	241	250	-	SMD 0.43 higher (0.24 to 0.62 higher)	⊕000 VERY LOW	IMPORTANT
<b>Caregiver self-concept (measured with self report of parenting; better indicated by higher values)</b>												
7	Randomized trials	Serious <sup>1</sup>	Serious <sup>11</sup>	No serious indirectness	No serious imprecision	Reporting bias <sup>3</sup>	295	223	-	SMD 0.37 higher (0.03 to 0.70 higher)	⊕000 VERY LOW	IMPORTANT

Adverse effects												
0	No evidence available					None	-	-	-	-		CRITICAL
								0%		-		

<sup>1</sup> Daley et al. (2014) used the Jadad scale rating of study quality, which results in a categorical rating from 1-3 indicating the strength of the evidence. A score of 3 indicates acceptable methodological quality and only eight of the included trials met this criterion.

<sup>2</sup> Daley et al. (2014) reported that the parent measures of child functioning had  $I^2=0.45$ , which was below the threshold.

<sup>3</sup> The search procedures used by Daley et al. (2014) did not include any attempts to identify non-published reports, such as searching the grey literature or having experts review citation lists. In addition, there were no publication bias indices reported.

<sup>4</sup> Daley et al. (2014) reported  $I^2=0.45$  for the achievement tests and questionnaires, which is below the threshold.

<sup>5</sup> Daley et al. (2014) included parent and teacher questionnaires on academic achievement and these represented the most prevalent outcomes (n =6) out of the nine studies reporting on this outcome. As such, these measures are not objective indicators of improvement.

<sup>6</sup> The  $I^2$  associated with the positive parenting measures was 0.85, which exceeded the threshold for inconsistency.

<sup>7</sup> The  $I^2$  for parent mental health was 0.43, which is below the threshold for concern.

<sup>8</sup> The confidence interval includes no effect though there were more than 100 individuals in both treatment arms.

<sup>9</sup> The  $I^2$  for parent self-report of negative parenting behaviours is 0.60, which exceeds the threshold.

<sup>10</sup> The  $I^2$  value reported is 0.65, which exceeds the threshold.

<sup>11</sup> The  $I^2$  reported was 0.68, which exceeds the threshold.

## **Table 2. Caregiver skills training vs. controls for conduct disorders**

Authors: D Maggin and C Servili

**Question: Is caregiver skills training effective for treatment of conduct disorders in children and adolescents compared to controls?**

**Bibliography:** Furlong M, McGilloway S, Bywater T, Hutchings J, Smith SM, Donnelly M (2012). Behavioural and cognitive-behavioural group-based parenting programmes for early-onset conduct problems in children aged 3 to 12 years. Cochrane Database of Systematic Reviews.2:CD008225. doi:10.1002/14651858.CD008225.pub2.

Quality assessment							No. of patients		Effect		Quality	Importance
No. of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Caregiver skills training	Control	Relative (95% CI)	Absolute		
<b>Symptom reduction – Conduct problems (measured with caregiver report; better indicated by lower values)</b>												
13	Randomized trials	Serious <sup>1</sup>	No serious inconsistency	Serious <sup>2</sup>	No serious imprecision	None	618	406	-	SMD 0.53 lower (0.72 to 0.34 lower)	⊕⊕⊕⊕ LOW	CRITICAL
<b>School performance</b>												



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0	No evidence available					None	-	-	-	-		IMPORTANT
Caregiver skills (measured with positive caregiver self-report; Better indicated by higher values)												
7	Randomized trials	Serious <sup>2</sup>	Serious <sup>3</sup>	Serious <sup>2</sup>	No serious imprecision	None	243	186	-	SMD 0.53 higher (0.16 to 0.90 higher)	⊕⊕⊕ VERY LOW	CRITICAL
Caregiver skills (measured with positive parenting observations [independent report] or alternative informant; better indicated by higher values)												
9	Randomized trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	None	315	209	-	SMD 0.47 higher (0.29 to 0.65 higher)	⊕⊕⊕⊕ HIGH	CRITICAL
Caregiver skills – Negative parenting (measured with caregiver self report; better indicated by higher values)												
9	Randomized trials	Serious <sup>1</sup>	No serious inconsistency	Serious <sup>2</sup>	No serious imprecision	None	314	211	-	SMD 0.77 higher (0.59 to 0.96 higher)	⊕⊕⊕ LOW	CRITICAL
Caregiver skills – Negative parenting (measured with observation [independent report] or alternative informant; better indicated by higher values)												
8	Randomized trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	None	297	205	-	SMD 0.42 higher (0.16 to 0.67 higher)	⊕⊕⊕⊕ HIGH	CRITICAL
Caregiver mental health (measured with caregiver self-report; better indicated by higher values)												
8	Randomized trials	Serious <sup>4</sup>	no serious inconsistency	Serious <sup>5</sup>	No serious imprecision	None	393	243	-	SMD 0.36 higher (0.20 to 0.52 higher)	⊕⊕⊕ LOW	IMPORTANT
Caregiver social support												
0	No evidence					None	-	-	-	-		IMPORTANT



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	available							0%		-		
<b>Caregiver Satisfaction</b>												
0	No evidence available					None	-	-	-	-		IMPORTANT
								0%		-		
<b>Adverse effects</b>												
0	No evidence available					None	-	-	-	-		CRITICAL
								0%		-		

<sup>1</sup> No explanation was provided.

<sup>2</sup> Caregiver self-report is an indirect measure of child behaviour.

<sup>3</sup> The I<sup>2</sup> reported was greater than 50%, which indicates that the results were heterogeneous.

<sup>4</sup> The outcome assessment was not masked.

<sup>5</sup> Caregiver self-report of mental health is not an indirect measure.

### **Table 3. Psychosocial interventions vs. controls for oppositional defiant disorder**

**Authors:** D Maggin and C Servili

**Question:** Are psychosocial interventions effective for treatment of oppositional defiant disorder in children and adolescents compared to controls?

**Bibliography:** Erford BT, Paul LE, Oncken C, Kress VE, Erford MR (2014). Counseling Outcomes for Youth With Oppositional Behaviour: A Meta-Analysis. Journal of Counseling & Development.92(1):13-24. doi:10.1002/j.1556-6676.2014.00125.x

Quality assessment							No. of patients		Effect		Quality	Importance
No. of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Caregiver skills training and behavioural interventions	Control	Relative (95% CI)	Absolute		
<b>Symptom reduction (measured with caregiver or teacher report of child behaviour; better indicated by higher values)</b>												
13	Randomized trials	Very serious	No serious inconsistency	Serious	No serious imprecision	None	482	444	-	SMD 0.68 higher (0.50 to 0.86 higher)	⊕000 VERY LOW	CRITICAL



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School performance												
0	No evidence available					None	-	-	-	-		IMPORTANT
								0%				
Caregiving practices												
0	No evidence available					None	-	-	-	-		IMPORTANT
								0%				
Family functioning												
0	No evidence available					None	-	-	-	-		IMPORTANT
								0%				
Caregiver satisfaction												
0	No evidence available					None	-	-	-	-		IMPORTANT
								0%				
Adverse effects												
0	No evidence available					None	-	-	-	-		CRITICAL
								0%				



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### Additional evidence not mentioned in GRADE tables

**Kaslow NJ, Broth NR, Smith CO, Collins MH (2012). Family-based interventions for child and adolescent disorders. Journal of Marital and Family Therapy.38(1):82-100.**

This narrative review examined evidence for family-based interventions for child internalizing and externalizing disorders, including ADHD. Studies suggested that family-based programmes for ADHD (typically delivered in conjunction with pharmacological interventions) resulted in less caregiver-reported child hyperactivity disruptive behaviours. One RCT also suggested a reduction in oppositional and disruptive behaviours in toddlers whose caregivers participated in family-based programmes.

**Lee PC, Niew WI, Yang HJ, Chen VC, Lin KC (2012). A meta-analysis of behavioural parent training for children with attention deficit hyperactivity disorder. Research in Developmental Disabilities.33(6):2040-2049.**

This meta-analysis examined 40 studies on the effect of behavioural caregiver training on child and caregiver outcomes for children with ADHD. An overall moderate effect size ( $k = 40$ ;  $r = 0.34$ ,) was found for measures of child and caregiver behaviour and caregiver perception about parenting at post-treatment. However, at follow-up there was a smaller effect size found ( $k = 17$ ;  $r = 0.17$ , , range: 0.66 to  $-0.40$ ). The strongest effect found was for parenting competence.

## PART 2: FROM EVIDENCE TO RECOMMENDATIONS

### Summary of Evidence table

<b>Outcomes</b>	<b>Intervention</b>		
	Behavioural and cognitive behavioural therapies (Number of studies, Cohen's <i>d</i> [95% CI], quality)	Caregiver skills training (Number of studies, Cohen's <i>d</i> [95% CI], quality)	Behavioural interventions and Caregiver skills training (Number of studies, Cohen's [95% CI], quality)
Symptom reduction	19 studies, $d = -0.35$ (-0.50 to -0.19) In favour of behavioural and cognitive behavioural interventions for children with ADHD, LOW quality	13 studies, $d = -0.53$ (-0.72 to -0.34) In favour of caregiver skills training for children with caregiver report of conduct problems, LOW quality	13 studies, $d = -0.68$ (-0.86 to -0.50) In favour of behavioural interventions and caregiver skills training for children with ODD, VERY LOW quality
School performance	9 studies, $d = 0.28$ (0.06 to 0.59)	N/A	N/A

	In favour of behavioural and cognitive behavioural interventions for children with ADHD, VERY LOW quality		
Caregiver mental health	9 studies, d = 0.09 (-0.06 to 0.23) No statistically significant difference between groups, VERY LOW quality	8 studies, d = 0.36 (0.20 to 0.52) In favour of caregiver skills training for children with conduct problems, LOW quality	N/A
Positive parenting behaviour (self-reported)	9 studies, d = 0.68 (0.27 to 1.09) In favour of behavioural and cognitive behavioural interventions for children with ADHD, VERY LOW quality	7 studies, d = 0.53 (0.16 to 0.90) In favour of Training for children with parent report of conduct problems, VERY LOW quality	N/A
Negative parenting behaviour (self-reported)	13 studies, d = 0.57 (0.37 to 0.78) In favour of behavioural and cognitive behavioural interventions for children with ADHD, VERY LOW quality	9 studies, d = 0.77 (0.59 to 0.96) In favour of caregiver skills training for children with parent report of conduct problems, LOW quality	N/A
Caregiver self-concept	7 studies, d = 0.37 (0.03 to 0.70) In favour of behavioural and cognitive behavioural interventions for children with ADHD, VERY LOW quality	N/A	N/A
Adverse effects	N/A	N/A	N/A



[Updated 2015]

**Evidence to recommendation table**

<p><b>Benefits</b></p>	<p>The available evidence indicates that caregiver skills training and behavioural interventions can reduce symptoms for children with oppositional behaviours. It also suggests that caregiver skills training with behavioural or cognitive behavioural components can reduce symptoms and improve family and caregiver functioning for children with conduct disorders. Additionally, behavioural and cognitive behavioural interventions can be effective in reducing ADHD symptoms and conduct problems, improving school performance and enhancing family and caregiver functioning for children with ADHD.</p> <p>There was some indication that the use of psychosocial interventions could lead to improved academic outcomes for children with ADHD, although most of these measures were indirect assessments based on caregiver reports.</p> <p>There were consistent findings across the reviews that these initial positive gains are reduced over time without additional and ongoing support.</p> <p>Caregiver skills training interventions were also found to increase positive parenting behaviours and to decrease negative parenting behaviours.</p> <p>The benefits on caregiver mental health are unclear because there was no statistically significant difference in one meta-analysis and another meta-analysis showed a positive finding.</p>
<p><b>Harms</b></p>	<p>There were only a few references made to the development of adverse outcomes within the included meta-analyses. The general consensus was that there were no adverse outcomes reported, in terms of additional financial, psychological or familial burdens associated with participation in these interventions.</p>
<p><b>Summary of the quality of evidence</b></p>	<p>The quality of the evidence was reviewed in three of the included meta-analyses. The methods for evaluating research quality varied across the reviews, with each using a different approach. Results of these analyses indicated that the research was generally strong. The most common methodological issues reported in the reviews related to reporting participant drop-out and self-reported outcomes (e.g., Furlong et al., 2013). These methodological limitations might lead to overestimates of the results and should be considered with respect to the generally positive results.</p>





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<b>Value and preferences</b>	
<b>In favour</b>	<p>There is value in strengthening children’s skills for enhanced prosocial behaviours and in strengthening parenting skills for management of disruptive behaviours, beyond their effect in terms of reducing symptoms of behavioural disorders because skills improvement for children and their caregivers contributes more in general to improved child and family functioning.</p> <p>There is value of intervening early to reduce adverse outcomes associated with behavioural disorders.</p>
<b>Against</b>	<p>CBTs are often complex and appear to be rooted most strongly in a particular individual-centered view of life.</p> <p>Participation in treatment programs labelled for children with behavioural disorders may expose children and their families to stigma and discrimination.</p>
<b>Uncertainty or variability?</b>	There is significant variability in terms of values and preferences.

<b>Feasibility (including resource use considerations)</b>	<p>Emerging evidence indicates that some parenting programmes for reducing disruptive behaviours in children involve modest costs and demonstrate strong clinical effect, suggesting it would represent good value for money for public spending (Edwards et al., 2007; Bonin, 2011).</p> <p>There is also evidence indicating that these programmes maintain effectiveness in alleviating problem behaviour among children and in improving well-being among families when implemented in low-resource community-based settings (McGilloway et al., 2012) and middle-income countries (Baker-Henningham et al., 2012).</p> <p>The feasibility of providing CBT in primary health care settings depends on the availability of human and financial resources for training and for the delivery of the intervention, as well as the availability of supportive supervision.</p>
<b>Uncertainty or variability?</b>	Feasibility will vary depend on local resources and capacity.



[Updated 2015]

## Recommendation and remarks

### Recommendation

Behavioural interventions for children and adolescents, and caregiver skills training, may be offered for the treatment of behavioural disorders.

**Rationale:** The available evidence indicates that caregiver skills training and behavioural interventions for the patients can reduce symptoms for children with behavioural disorders and improve family and caregiver functioning. Additionally, behavioural and cognitive behavioural interventions can be effective in improving school performance. There were no adverse outcomes reported, in terms of additional psychological or familial burdens associated with participation in these interventions. There is value of intervening early to reduce adverse outcomes associated with behavioural disorders.

### Remarks

The choice of behavioural intervention (eg. behavioural and cognitive behavioural therapies, school-based therapies, and caregiver skills training), and how it is implemented should be based on the type of behavioural disorder(s) and the age and developmental stage of the child or adolescent. The child or adolescent's family should be involved in the intervention whenever appropriate. The content should be culturally sensitive and should not allow violation of the child or adolescent's basic human rights according to internationally endorsed principles.

The social environment, family context and other psychosocial and physical risk factors that may be contributing to or exacerbating the behaviour disorder should be considered and addressed, whenever possible.

Health care providers should be aware that behavioural problems may be an expression of underlying emotional problem(s)/disorder(s).



[Updated 2015]

### Judgements about the strength of the recommendation

Factor	Decision
Quality of the evidence	<input type="checkbox"/> High <input type="checkbox"/> Moderate <b>X Low</b> <input type="checkbox"/> Very low
Balance of benefits versus harms	<b>X Benefits clearly outweigh harms</b> <input type="checkbox"/> Benefits and harms are balanced <input type="checkbox"/> Potential harms clearly outweigh potential benefits
Values and preferences	<input type="checkbox"/> No major variability <b>X Major variability</b>
Resource use	<b>X Less resource-intensive</b> <input type="checkbox"/> More resource-intensive
<b>Strength</b>	<b>CONDITIONAL</b>

### ***OTHER REFERENCES***

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