Table H-10. Findings on child or parent training or behavioral interventions for ADHD

| **Study****(Companion)****N****Qualitya****Design****Age Categoryb** | **Intervention** | **Comparison** | **Follow-up Times** | **Findings–Intervention** | **Findings–Comparison** | **Between group P value** |
| --- | --- | --- | --- | --- | --- | --- |
| **Academic performance** |
| Abikoff, 201349180GoodRCTb | Organizational skills  | Performance-based intervention precluding skillWaitlist | 12 weeks | Academic Performance Rating ScaleMean=pre: 53.45; post: 62.16(SD=pre: 10.34; post: 10.52)Academic Proficiency ScaleMean=pre: 16.39; post: 18.55 (SD=pre: 4.27; post: 4.26) | Academic Performance Rating ScaleMean=pre: 54.45; post: 63.96 (SD=pre: 11.12; post: 11.90)Academic Proficiency ScaleMean=pre: 17.08; post: 18.35 (SD=pre: 3.54; post: 3.89)Academic Performance Rating ScaleMean=pre: 54.06 ; post: 54.53 (SD=pre: 8.58; post: 9.74)Academic Proficiency ScaleMean=pre: 16.05 ; post: 16.63 (SD= pre: 3.22; post: 3.30) | NSNS |
| Storebo, 20125056GoodRCTb | Social skills group + medication management | Medication management (usual care) | 3 months6 months | Conners CBRS Academic Score Mean=20.13 (SD=15.15)Conners CBRS Academic Score Mean=21.04 (SD= 11.98); Between group MD: -0.48 (95% CI=-7.254 to 6.293) | Conners CBRS Academic Score Mean=17.88 (SD=10.11)Conners CBRS Academic Score Mean=21.52 (SD 12.56) | NS |
| **Acceptability of treatment** |
| Chacko, 200951120GoodRCTc | **STEPP** | BPT programWaitlist | 2.07 months | Parent Treatment Attitude Inventory- Satisfaction with ProcessMean = 16.36 (SD = 2.03) | Parent Treatment Attitude Inventory- Satisfaction with ProcessMean = 14.12 (SD = 2.09) | P<0.01 |
| **Changes in standardized symptom scores** |
| Bai, 20155289GoodRCTb | A psycho-education program based on the theory of planned behavior | General clinical counseling | 3 months | ADHD-RS-IVMean=33.7 (SD=5.4)(Baseline mean=49.9, SD 11.5) | ADHD-RS-IVMean=45.1 (SD=7.9)(Baseline mean=48.1, SD 8.1) | P=.008 |
| Chacko, 200951120GoodRCTc | STEPP | BPT programWaitlist | 2.07 months | Disruptive Behavior Disorder scale-Inattentive Mean = 1.78 (SD = .63)Disruptive Behavior Disorder- Hyperactive/Impulsive:Mean = 1.69 (SD = .57)Treatment Attitude Inventory- Satisfaction with OutcomeMean = 24.18 (SD = 3.02) | Disruptive Behavior Disorder scale-InattentiveMean = 1.67 (SD = .74)Disruptive Behavior Disorder- Hyperactive/Impulsive:Mean = 1.59 (SD = .70)Treatment Attitude Inventory- Satisfaction with OutcomeMean = 20.20 (SD = 2.35)Disruptive Behavior Disorder scale-InattentiveMean = 1.72 (SD = .65)Disruptive Behavior Disorder- Hyperactive/Impulsive:Mean = 1.72 (SD = .56) | NRNRNRNRNR |
| Ferrin, 20145381GoodRCTc | Psycho-educational program | Control | 12 weeks12 months | CPRS inattention -12 weeksMean = 7.95 (SD = 3.84) p = .001CPRS hyperactivity/impulsivity -12 weeksMean = 6.74 (SD = 4.84)Conners parent rating scale – indexMean = 18.6 (SD = 8.66)Conners parent rating scale – opposition subscaleMean = 5.2 (SD = 4.06)Conners parent rating scale- inattention/cognitionMean = 8.26 (SD = 4.3) p = .032Conners parent rating scale – hyperactivity/impulsivityMean = 7.4 (SD = 4.84)CPRS index -12 weeksMean = 16.8 (SD = 7.18) p = .001CPRS opposition -12 weeksMean = 4.95 (SD = 3.79) | CPRS inattention -12 weeksMean = 11 (SD = 3.28) CPRS hyperactivity/impulsivity -12 weeksMean = 8.45 (SD = 4)Conners parent rating scale – indexMean = 21.16 (SD = 7.08)Conners parent rating scale – opposition subscaleMean = 5.63 (SD = 3.86)Conners parent rating scale- inattention/cognitionMean = 10.41 (SD = 3.62) Conners parent rating scale – hyperactivity/impulsivityMean = 8.47 (SD = 3.82)CPRS index -12 weeksMean = 22.44 (SD = 6.13) CPRS opposition -12 weeksMean = 6.18 (SD = 3.87) | P=0.001NSNSNSP=0.0032NSP=0.001NS |
| Hiscock, 201554(Papadopoulos, 201555)244GoodRCTc | Sleep hygiene practices and standardized behavioral strategies | Children in the control group received usual clinical care | 6 Months | ADHD rating scale IV-total symptoms (parent report)Mean = 28.4 (SD = 10.8)ADHD Rating Scale IV – Parent Report (Inattentive)Mean = 15.1 (SD = 6.0)ADHD Rating Scale IV – Parent Report (Hyperactivity/Impulsivity)Mean = 13.3 (SD = 6.0)ADHD rating scale IV Total Score (Teacher Report)Mean = 20.6 (SD = 11.6)ADHD Rating Scale IV: Teacher Report (Inattentive)Mean = 14.1 (SD = 6.9)ADHD Rating Scale IV: Teachers Report (Hyperactivity/Impulsivity)Mean = 8.4 (SD = 6.2) | ADHD rating scale IV-total symptoms (parent report)Mean = 33.8 (SD = 9.5)ADHD Rating Scale IV – Parent Report (Inattentive)Mean = 18.2 (SD = 4.8)ADHD Rating Scale IV – Parent Report (Hyperactivity/Impulsivity)Mean = 15.6 (SD = 5.8)ADHD rating scale IV Total Score (Teacher Report)Mean = 25.1 (SD = 12.6)ADHD Rating Scale IV: Teacher Report (Inattentive)Mean = 12.3 (SD = 6.9)ADHD Rating Scale IV: Teachers Report (Hyperactivity/Impulsivity)Mean = 10.9 (SD = 7.1) | P=0.004P=0.001P=0.04P=0.31P=0.59P=0.19 |
| Ostberg, 20125692GoodRCTb | Barkley based Parent + Teacher behavioral intervention | Waitlist | 10 weeks3 months | ADHD-C ParentMean = 9.1 (SD = 4.5)ADHD-C TeacherMean = 7.7 (SD = 6.3)ADHD-C ParentMean = 7.7 (SD = 4.7)ADHD-C TeacherMean = 7.7 (SD = 5.7) | ADHD-C ParentMean = 9.8 (SD = 6)ADHD-C TeacherMean = 9.4 (SD = 6.3)ADHD-C ParentMean = 10.1 (SD = 5.3)ADHD-C TeacherMean = 9.4 (SD = 5.4) | NSNSP<.05NS |
| Pfiffner, 201457199GoodRCTb | Child Life and Attention Skills Treatment  | Parent group component onlyEvaluation and community careParent group component onlyEvaluation and community care | 10-13 weeks5-7 months | Parent Child Symptom InventoryMean=2.2 (SE=0.3)Child Symptom InventoryMean=2.99 (SE=0.3)Parent Child symptom inventoryMean=2.2 (SE=0.3)Child symptom inventoryMean=3.7 (SE=0.4) | Parent Child Symptom InventoryMean=3.2 (SE=0.3)Child Symptom InventoryMean=4.2 (SE=0.3)Parent Child Symptom InventoryMean=4.1 (SE=0.4)Child Symptom InventoryMean=5 (SE=0.4)Parent Child Symptom InventoryMean=3.2 (SE=0.3)Child Symptom InventoryMean=4.2 (SE=0.4)Parent Child Symptom InventoryMean=4.1 (SE=0.4)Child Symptom InventoryMean=4.2 (SE=0.4)Parent Child Symptom InventoryMean=4.1 (SE=0.4)Child Symptom InventoryMean=4.2 (SE=0.4) | P=.001P<0.001NRNRNRNRP<0.001P=0.396NR |
| Ercan, 201458120FairObservationalb | MPH+11 months of parent training | MPH (Usual care) | 12 months | CPRSMean w/in group change = 7.91 (SD = 6.9)CTRS–teacherMean = 29.69 (SD = 15.03) | CPRSMean w/in group change = 10.07 (SD = 5.74)CTRS–teacherMean = 35.27 (SD = 13.47) | NS |
| Huang, 20155997FairRCTb | Behavioral-based social skill training for patients and parallel parent group sessions | Group therapy for motivation and treatment per usual care, such as medication and counseling at the outpatient department | 6 months | Change in Child Behavioral Checklist Withdrawn SubscaleMean= -.84 (SD=2.3)Change in CBCL Somatic Complaints SubscaleMean within group change= -.14 (SD=2.7)CBCL Change Anxious/Depressed SubscaleMean within group change= -2.19 (SD=4)CBCL Change Social Problems SubscaleMean within group change= -1.4 (SD=2.3)CBCL Change Thought Problems SubscaleMean within group change= -1.02 (SD=2.8)CBCL Change Attention Problems SubscaleMean within group change= -1.26 (SD=2.8)CBCL Change Delinquent Behavior SubscaleMean within group change= -.76 (SD=2.2)CBCL Change Aggressive Behavior SubscaleMean within group change= -4 (SD=7.1) | Change in Child Behavioral Checklist Withdrawn SubscaleMean= -.28 (SD=1.6)Change in CBCL Somatic Complaints SubscaleMean within group change= -1.42 (SD=3.7)CBCL Change Anxious/Depressed SubscaleMean within group change= -.89 (SD=3.7)CBCL Change Social Problems SubscaleMean within group change= -.92 (SD=2.2)CBCL Change Thought Problems SubscaleMean within group change= -1.06 (SD=2.1)CBCL Change Attention Problems SubscaleMean within group change= -1.772 (SD=3.2)CBCL Change Delinquent Behavior SubscaleMean within group change= -.6 (SD=1.9)CBCL Change Aggressive Behavior SubscaleMean within group change= -2.37 (SD=5.9) | P=0.84P=0.14P=0.79P=0.57P=0.60P=0.04P=0.91P=0.94 |
| **Depression or anxiety** |
| Hiscock, 201554(Papadopoulos, 201555)244GoodRCTc | Sleep hygiene practices and standardized behavioral strategies | Children in the control group received usual clinical care | 6 Months | Depression or anxiety-Depression Anxiety Stress ScaleMean = 31.3 (SD = 23.6)Depression or anxiety-Parent mental health with the Depression Anxiety Stress Scale – Total score | Depression or anxiety-Depression Anxiety Stress Scale Mean = 33.9 (SD = 28.5) | P=0.55 |
| **Functional impairment** |
| Chacko, 200951120GoodRCTc | STEPP | BPT programWaitlist | 2.07 months | Impairment Rating Scale (IRS)-Overall Mean = 3.31 (SD 1.41) | Impairment Rating Scale (IRS)-Overall Mean = 4.11 (SD 1.67)Impairment Rating Scale (IRS)- OverallMean = 4.65 (SD 1.30) | P<.01NR |
| Pfiffner, 201457199GoodRCTb | Child Life and Attention Skills Treatment  | Parent group component onlyEvaluation and community careParent group component onlyEvaluation and community care | 10-13 weeks5-7 months | Parent CGIMean=6 (SE=0.7)Teacher CGI SeverityMean=5.8 (SE=0.8)Parent CGIMean=6 (SE=1)Teacher CGI-SeverityMean=3.4 (SE=0.2) | Parent CGIMean=5.8 (SE=0.9)Teacher CGI SeverityMean=5.2 (SE=1)Parent CGIMean=5 (SE=1)Teacher CGI SeverityMean=5 (SE=1.1)Parent CGIMean=5.8 (SE=1)Teacher CGI-SeverityMean=3.5 (SE=0.2)Parent CGIMean=5.3 (SE=0.23)Teacher CGI SeverityMean=3.6 (SE=0.2) | P=0.0P=0.0NRNRP=0.001P=0.775NRNR |
| **Sleep disturbance**  |
| Hiscock, 201554(Papadopoulos, 201555)244GoodRCTc | Sleep hygiene practices and standardized behavioral strategies | Children in the control group received usual clinical care | 6 Months | Sleep disturbance-Child Sleep Habits Questionnaire (CSHQ) Total ScoreMean 53.2 (7.5) | Sleep disturbance-Child Sleep Habits Questionnaire (CSHQ) Total Score, Mean = 55.9 (8.8) | P<0.001 |
| **Workforce participation** |
| Hiscock, 201554(Papadopoulos, 201555)244GoodRCTc | Sleep hygiene practices and standardized behavioral strategies | Children in the control group received usual clinical care | 3 months  | Workforce participation-Days late for workWorkforce participation-Missed days of work  |  | P=0.02P=0.03 (both non-parametric tests) |

a See Methods section “Quality Assessment of Individual Studies” for definitions of quality assessment ratings.

b Age categories: a = children aged ≤6 years, b = children aged 7-17, c = children of all ages ≤17.

Abbreviations: ADHD=attention deficit hyperactivity disorder; BPT=Behavioral Parent training; CBCL=Child Behavior Checklist; CBRS=Comprehensive Behavior Rating Scale; CGI=Clinician Global Impressions; DASS=Depression Anxiety Stress Scale; NR=not reported; STEPP=Strategies to Enhance Positive Parenting; RCT=randomized controlled trial