Supplements

Supplement 1

Demographic Info of Caregiver(s)

Characteristic		SIESTA+TAU (n=47)	TAU (n=45)
		n (%)	n (%)
Education caregiver 1	Master / Doctor	18 (38)	16 (36)
	Bachelor	19 (40)	21 (47)
	Associate degree	3 (6)	2 (4)
	Secondary education	6 (13)	6 (13)
	Primary education	1 (2)	0 (0)
Education caregiver 2	Master / Doctor	15 (32)	14 (31)
	Bachelor	13 (28)	11 (24)
	Associate degree	2 (4)	4 (9)
	Secondary education	9 (19)	8 (18)
	Primary education	5 (11)	2 (5)
	Not indicated / applicable	3 (6)	6 (13)

Note. Caregiver 1 = biological mother (n=91), foster mother (n=1); Caregiver 2 = biological father (n=77), stepfather (n=3), foster father (n=1), sister of mother (n=1), adoptive father (n=1).

Supplement 2

CONSORT 2010 checklist of information to include when reporting a randomised trial*

Section/Topic	Item No	Checklist item	Reported on page No
Title and abstract			
	1a	Identification as a randomised trial in the title	Title page
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	Title page
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	1-2
	2b	Specific objectives or hypotheses	2
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	5, 7
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	N.A.
Participants	4a	Eligibility criteria for participants	3-4
	4b	Settings and locations where the data were collected	5-6
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	6, 8, S3
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed	7, 9-10, S4-5
	6b	Any changes to trial outcomes after the trial commenced, with reasons	N.A.
Sample size	7a	How sample size was determined	5
	7b	When applicable, explanation of any interim analyses and stopping guidelines	N.A.
Randomisation:			
Sequence generation	8a	Method used to generate the random allocation sequence	5
	8b	Type of randomisation; details of any restriction (such as blocking and block size)	5

Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned	5
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions	5
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how	5
	11b	If relevant, description of the similarity of interventions	8-9
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes	10
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses	10
Results			
Participant flow (a diagram is strongly recommended)	13a	For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome	4, 7
	13b	For each group, losses and exclusions after randomisation, together with reasons	7
Recruitment	14a	Dates defining the periods of recruitment and follow-up	6
	14b	Why the trial ended or was stopped	6
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group	4-5, S1
Numbers analysed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups	10-13, S5-7, 9, 13
Outcomes and estimation	17a	For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)	10-13, S5-7, 9, 13
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended	N.A.
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory	10-13, S8, 10-12
Harms	19	All important harms or unintended effects in each group (for specific guidance see CONSORT for harms)	13
Discussion			
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses	15

Generalisability	21	Generalisability (external validity, applicability) of the trial findings	14-16
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	14-16
Other information			
Registration	23	Registration number and name of trial registry	5
Protocol	24	Where the full trial protocol can be accessed, if available	5
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders	Title page

Citation: Schulz KF, Altman DG, Moher D, for the CONSORT Group. CONSORT 2010 Statement: updated guidelines for reporting parallel group randomised trials. BMC Medicine. 2010;8:18.

*We strongly recommend reading this statement in conjunction with the CONSORT 2010 Explanation and Elaboration for important clarifications on all the items. If relevant, we also recommend reading CONSORT extensions for cluster randomised trials, non-inferiority and equivalence trials, non-pharmacological treatments, herbal interventions, and pragmatic trials. Additional extensions are forthcoming: for those and for up-to-date references relevant to this checklist, see www.consort-statement.org.

Supplement 3

Content of SIESTA Sessions

During the first session, psychoeducation about sleep, adolescence, and ADHD is covered, allowing adolescents to set their own goal(s). The primary focus of this session is on the relationship with the adolescent and their motivation. Moving on to the second session, in-depth psychoeducation on sleep hygiene is provided, and adolescents actively evaluate their sleep behavior. In the third session, adjustments related to healthy sleep hygiene practices are made. The use of an alarm clock is discussed and offered, and relaxation exercises are explored. In the form of behavior experiments adolescents can try out and evaluate whether these changes work for them. After the third session, the caregiver's first session takes place. Caregivers receive the same psychoeducation about sleep, sleep hygiene, adolescence, and ADHD, while also discussing realistic expectations towards the intervention and their adolescent when it comes to changing their sleep behaviors. In the fourth adolescent session, a functional analysis of the sleep problem is made, specifying the goals set in the first session, and creating an individualized sleep plan. Session five introduces an extra plan covering sleep related aspects such as rumination, planning and organization, circadian rhythm (daylight and activity during the day), and motivation (how do I keep up the sleep plan), depending on the adolescent's needs. During the sixth session, the sleep plan is finalized, and carefully verified to ensure its adapted towards the specific needs of the adolescent. After the sixth session, the caregiver's second session takes place, focusing on a balance between controlling and letting go of the adolescent's sleep. Specific examples of positive communication about the adolescent's sleep are also covered. The seventh and final adolescent session focuses on relapse prevention, providing a comprehensive overview of the adolescent's progress and ensuring sustained positive outcomes. An overview of the content and homework per session can be found in the Supplements of Keuppens et al., [1].

Supplement 4

Outcome Measurements

Primary Outcome Measures

Self- and Caregiver-Reported Sleep Questionnaires

To assess sleep hygiene, adolescents completed the revised Adolescent Sleep Hygiene Scale (ASHSr; [2]). This self-report questionnaire consists of a total scale (main analysis) and six factors (exploratory analyses): physiological, behavioral arousal, cognitive/emotional, sleep environment, sleep stability, and daytime sleep. Each question has six ordinal response categories ranging from 1 to 6, with higher scores indicating better sleep hygiene. The ASHSr had an adequate internal consistency in the current study ($\alpha = .76$ total scale). Moreover, adolescents filled out the Chronic Sleep Reduction Questionnaire (CSRQ) to measure their extent of chronic sleep deprivation [3]. It consists of 20 items resulting in a total scale (main analysis) and four subscales (exploratory analyses): shortage of sleep, irritation, loss of energy, and sleepiness. Participants answer on a 3-point Likert scale with higher scores indicating more chronic sleep deprivation with a clinical cutoff at 40. This validated questionnaire had good internal consistency in this sample ($\alpha = .86$ total scale). Additionally, adolescents filled out two subscales of the School Sleep Habits Survey (SSHS): daytime sleepiness and sleep/wake problem behaviors. Questions on the sleepiness scale are scored on a 4-point Likert scale and on the sleep-wake problem behaviors scale on a 5-point Likert scale, with higher scores indicating more sleepiness and sleep-wake problem behaviors [4]. This validated self-report questionnaire had questionable to acceptable internal consistency in the present study (sleepiness; $\alpha = .71$; sleep/wake problem behaviors; $\alpha = .66$).

Caregivers assessed the sleep problems of the adolescents on the Children Sleep Habits Questionnaire (CSHQ). Forty-five items are rated on a 3-point Likert scale and result in a total scale (main analysis) and eight subscales (exploratory analyses); bedtime resistance,

sleep onset delay, sleep duration, sleep anxiety, night wakings, parasomnias, sleep disordered breathing, and daytime sleepiness. Higher scores indicate a more disturbed sleep with a clinical cutoff at 41 [5]. This validated questionnaire had acceptable internal consistency in the current sample ($\alpha = .77$ total scale).

Actigraphy and Sleep Diaries

Sleep parameters were measured using wrist actigraphy [6] and sleep diaries for one week at all three measurement points. MotionWare Sleep Analysis software calculated sleep/wake periods by transforming accelerometer data from the actigraphs into a quantitative measure of (in)activity during 30-sec epochs [7]. As recommended by CamNtech, the Tri-Axial Mode 3 algorithm was used. Participants were instructed to wear the MotionWatch 8 on their non-dominant wrist and to press the event marker button at lights out (the moment they tried to fall asleep) and when getting up which enables the algorithm to improve the reliability of sleep onset and offset times [8]. In the rare case that adolescents forgot to press the button, the missing information was added manually from the sleep diary, thereby also improving calculations. If the timing of sleep diaries and actigraphs did not overlap, the algorithm of the software was used. Sleep diaries included questions about lights out, sleep onset, sleep offset, getup time, and number of awakenings after sleep onset. Moreover, sleep diaries measured caffeine and alcohol use in the evening and participants could write down irregularities, e.g., with their ADHD medication. An ecological momentary assessment app (mPath) with automatic reminders was used to assess sleep diary questions about lights-out, sleep onset, sleep offset, and get-up [9]. For both instruments sleep parameters were calculated for total sleep time (TST; time asleep between sleep onset and sleep offset), sleep onset latency (SOL; time from lights out to sleep onset), sleep efficiency (SE; percentage of time spent asleep TST while in bed), and number of awakenings (NoA; number of times awake after sleep onset and before sleep offset).

Secondary Outcome Measures

ADHD Symptoms

The Disruptive Behavior Disorder Rating Scale (DBDRS) was filled out by caregivers to measure symptoms of ADHD through a combination of the inattention and hyperactivity-impulsivity subscales. These subscales consist of 18 items with higher scores indicating more symptoms [10]. The total scale including both inattention and hyperactivity-impulsivity subscales was used for the main analysis and demonstrated excellent internal consistency in this study ($\alpha = .90$).

Comorbidities

Symptoms of various comorbidities were assessed using questionnaires filled out by the adolescents and caregivers. ODD symptoms were measured using the according subscale of eight items of the caregiver-rated DBDRS with higher scores indicating more ODD symptoms [10]. The ODD subscale demonstrated excellent internal consistency in this study ($\alpha = .91$). Anxiety symptoms were evaluated using the total scale of the SCARED-R, a self-report questionnaire with robust psychometric properties [11]. The SCARED-R had excellent internal consistency in the present study ($\alpha = .95$ total scale). Higher scores indicate more anxiety and the 69 items result in nine subscales (exploratory analyses): separation anxiety symptoms, panic disorder symptoms, animal anxiety symptoms, medical anxiety symptoms, situational anxiety symptoms, social anxiety symptoms, OCD symptoms, PTSD symptoms, and generalized anxiety symptoms. Depressive symptoms were assessed through the self-reported Child Depression Inventory 2 (CDI-2), a validated questionnaire with good internal consistency ($\alpha = .88$), with a higher score indicating more depressive symptoms [12]. The CDI-2 is comprised of 28 items on 3-point Likert scales (0 = absence of symptoms, 1 = mild or probable symptoms, 2 = definitive symptom) and demonstrated good internal consistency in this study ($\alpha = .80$).

Functional Outcomes

Regarding functional outcomes, caregiver-adolescent conflict was evaluated with the total scale of the Conflict Behavior Questionnaire (CBQ), a validated caregiver-reported instrument with two subscales dissatisfaction with the *other* person's behavior and evaluations of the *interaction*s between the two memebers, demonstrating excellent internal consistency in this sample ($\alpha = .92$ total scale). The CBQ consists of 44 conflict behaviors statements that are answered with yes or no, resulting in two subscales (exploratory analyses); other (dissatisfaction with the adolescent's behavior) and interaction (evaluation of the interactions between caregiver and adolescent) [13]. To assess adolescents' educational achievement, caregivers completed the Homework Problems Checklist (HPC) of 20 items on 4-point Likert scales (0 = never, 1 = at times, 2 = often, 3 = very often) with the total scale as main analysis and the subscales management and completion as exploratory analyses [14] and teachers filled out the Classroom Performance Scale (CPS) of 20 Likert-type questions on a 5-point scale (from 1 = always to 5 = never) with the total scale as main analysis and the subscales academic competence and interpersonal competence as exploratory analyses [15]. Both instruments are validated and exhibit excellent internal consistency in the present study (HPC: $\alpha = .92$; CPS: $\alpha = .94$). For all function outcome measures, higher scores indicate more problems on the respective outcome.

Supplement 5

Closed Ended Adolescent (N = 42) and Caregiver (N = 42) Satisfaction Questions

Closed ended questions	Adolescents	Caregivers
	Mean (SD)	
How do you rate SIESTA overall?	4.44 (.67)	4.43 (.67)
I find the workbook that was used…	4.33 (.75)	N.A.
Was SIESTA useful for you?	4.30 (.65)	N.A.
How satisfied are you with SIESTA?	4.26 (.73)	N.A.
How fun was SIESTA?	3.90 (.87)	N.A.
I find the approach to treat my adolescents' sleep problems…	N.A.	4.57 (.67)
I expect that SIESTA will yield good results in the future.	N.A.	3.68 (.71)
I would recommend SIESTA to other caregivers.	N.A.	4.12 (.80)

Note. N.A. = question not asked to adolescent or caregiver; Scale 1 = negative to 5 = positive

Supplement 6

Treatment as Usual for ADHD

Looking at the amount and type of treatment for ADHD and related problems, 16 participants of the SIESTA+TAU group (range = 0-14; *M* = 2; *SD* = 3.29; 13 psychologist/psychiatrist, four paramedic) and 17 of the TAU group (range = 0-21; *M* = 3.23; *SD* = 5.11; 12 psychologist/psychiatrist, seven paramedic) had at least one session with another clinician between pre-test and post-test. There were no significant differences in amount of sessions between the groups (χ^2 (1, *N* = 33) = .14, *p* = .71). Between post-test and follow-up, 27 participants of both groups had at least one session with another clinician (SIESTA+TAU; range = 0-56; *M* = 4.60; *SD* = 9.95; 19 psychologist/psychiatrist, nine paramedic; TAU: range = 0-24; *M* = 2.36; *SD* = 4.30; 19 psychologist/psychiatrist, eight paramedic). There were no significant differences in amount of sessions between the groups (χ^2 (1, *N* = 46) = .06, *p* = .80). With regards to medication from pre-test to post-test seven participants of the SIESTA+TAU group and 10 of the TAU group changed their ADHD medication type or dose (although they were specifically instructed not to do so from pre-test to post-test; χ^2 (1, *N* = 17) = .82, *p* = .37), and from post to follow-up 15 participants of the SIESTA+TAU group and 13 of the TAU group (χ^2 (1, *N* = 28) = .10, *p* = .75). Lastly, from pre-test to post-test six participants of the SIESTA+TAU group and nine of the TAU group started melatonin use (although they were instructed not to do so from pre-test to post-test; χ^2 (1, *N* = 15) = .88, *p* = .35), and from post to follow-up 15 participants of the SIESTA+TAU group and 17 of the TAU group (χ^2 (1, *N* = 32) = .35, *p* = .56).

Supplement 7

Data Attrition of Primary Outcome Measures

Missingness of the ASHSr ranged from 0-1.1% at pre-test, was 3.3% at post-test, and was 7.6% at follow-up. The CSRQ showed similar missingness ranging from 0-3.3% at pre-test, 4.3% at post-test, and 8.7% at follow-up. On the SSHS percentages ranged from 0-1.1% at pre-test, 4.3% at post-test, and from 7.6-8.7% at follow-up. Missingness of the caregiver-reported CSHQ ranged from 2.2-14.1% at pre-test, 6.5-17.4% at post-test, and 6.5-12% at follow-up. Missing items for actigraphy measures ranged from 2.2-3.3% at pre-test, 10.9-13% at post-test, and 15.2-18.5% at follow-up. Missing items for sleep diary measures ranged from 1.1-2.2% at pre-test, 7.6-9.8% at post-test, and 6.5-13% at follow-up.

Supplement 8

Exploratory Within-Group Analyses of Primary Outcomes

		Pre-test to post-test		Pre-test to follow-up	
		$t_{SIESTA+TAU}(46)$ $t_{TAU}(44)$	*p*	$F_{SIESTA+TAU}(2,92)$ $F_{TAU}(2,88)$	*p*
Adolescent sleep hygiene scale (ASHSr; self-report)	SIESTA+TAU	-4.32	**<.001**	13.18	**<.001**
	TAU	2.18	**.04**	4.04	**.02**
Chronic sleep reduction questionnaire (CSRQ; self-report)	SIESTA+TAU	5.17	**<.001**	19.48	**<.001**
	TAU	-.73	.47	3.76	**.03**
Sleep-wake problem behaviors (SSHS; self-report)	SIESTA+TAU	3.09	**.006**	7.05	**.001**
	TAU	-.08	.92	1.85	.17
Sleepiness (SSHS; self-report)	SIESTA+TAU	2.02	.05	2.04	.14
	TAU	-1.15	.26	.91	.41
Children's sleep habits questionnaires (CSHQ; caregiver-report)	SIESTA+TAU	2.29	.15	2.93	.07
	TAU	.16	.66	2.78	.07
TST Actigaph	SIESTA+TAU	1.79	.10	.21	.81
	TAU	-.64	.55	1.04	.36
SOL Actigaph	SIESTA+TAU	.65	.57	.68	.47
	TAU	2.31	**.04**	6.13	**.005**
SE Actigaph	SIESTA+TAU	-.16	.68	.22	.76
	TAU	-2.22	.06	6.06	**.006**
NoA Actigaph	SIESTA+TAU	1.88	.12	1.78	.18
	TAU	.08	.68	1.68	.19
TST Sleep diary	SIESTA+TAU	-.97	.37	5.11	**.008**
	TAU	-1.36	.19	3.11	**.049**
SOL Sleep diary	SIESTA+TAU	2.13	.08	8.46	**<.001**
	TAU	1.88	.07	7.45	**.001**
SE Sleep diary	SIESTA+TAU	-2.18	.07	7.82	**<.001**
	TAU	-2.31	.06	10.17	**<.001**
NoA Sleep diary	SIESTA+TAU	2.72	**.01**	12.79	**<.001**
	TAU	2.83	**.02**	6.51	**.007**

Supplement 9

Means, Standard Deviations, Estimated Coefficients, Standard Errors, and Effect Sizes for Secondary Outcomes

		Pre-test	Post-test	Follow-up	Pre- to post-test			Pre-test to follow-up		
Outcome per treatment group		*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*B* (*SE*)	*p*	η_p^2	*B* (*SE*)	*p*	η_p^2
ADHD symptoms (DBDRS)	SIESTA+TAU	27.15 (10.10)	24.04 (9.90)	22.78 (10.45)	-.06 (1.48)	.97	.00	.87 (1.71)	.61	.01
	TAU	28.24 (10.34)	24.56 (10.26)	22.26 (8.33)						
ODD symptoms (DBDRS)	SIESTA+TAU	7.04 (4.80)	6.19 (4.91)	6.63 (4.84)	-.048 (.66)	.47	.01	1.83 (.93)	.05	.05
	TAU	7.21 (6.04)	6.68 (5.40)	5.41 (5.01)						
Anxiety symptoms (SCARED)	SIESTA+TAU	39.58 (20.29)	32.51 (20.28)	28.94 (17.07)	-6.45 (3.29)	.06	.05	-1.94 (3.59)	.59	.00
	TAU	40.65 (22.85)	40.40 (23.19)	37.67 (23.67)						
Depressive symptoms (CDI-2)	SIESTA+TAU	15.52 (5.91)	12.48 (6.48)	11.26 (6.47)	-3.09 (1.11)	**.007**	.09	.76 (1.49)	.62	.01
	TAU	15.97 (6.86)	15.98 (6.49)	13.67 (7.29)						
Caregiver-adolescent conflict	SIESTA+TAU	12.79 (8.17)	11.78 (8.86)	10.79 (8.56)	.12 (1.53)	.94	.00	.19 (1.79)	.91	.00
(CBQ)	TAU	12.11 (10.07)	11.22 (9.06)	9.75 (8.63)						
Homework Problems (HPC)	SIESTA+TAU	45.31 (11.65)	42.59 (10.56)	40.88 (11.32)	-2.57 (1.85)	.17	.02	1.20 (2.42)	.62	.00
	TAU	46.60 (10.87)	46.08 (12.28)	43.12 (10.39						
Classroom performance[a] (CPS)	SIESTA+TAU	40.12 (13.30)	38.60 (10.73)	40.07 (14.57)	.94 (2.94)	.75	.00	-1.16 (3.94)	.77	.01
	TAU	34.80 (10.65)	36.52 (10.05)	37.28 (9.36)						

Note. Significant p values after the BKY correction in bold; [a]Completer analysis due to 30.4% missingness at pre-, 51.1% at post-, and 65.2% at follow-up test

Supplement 10

Post-hoc Within-Group Analyses of Secondary Outcomes

		Pre- to post-test		Pre- to follow-up	
		$t_{SIESTA+TAU}(46)$ $t_{TAU}(44)$	*p*	$F_{SIESTA+TAU}(2,92)$ $F_{TAU}(2,88)$	*p*
ADHD symptoms (DBDRS; caregiver-report)	SIESTA+TAU	2.88	**.008**	11.19	**<.001**
	TAU	3.74	**<.001**	13.77	**<.001**
ODD symptoms (DBDRS; caregiver-report)	SIESTA+TAU	1.80	.09	1.76	.18
	TAU	1.26	.22	4.50	**.02**
Anxiety symptoms (SCARED-R; self-report)	SIESTA+TAU	2.96	**.01**	14.69	**<.001**
	TAU	.29	.77	.60	.54
Depressive symptoms (CDI-2; self-report)	SIESTA+TAU	3.42	**.002**	16.06	**<.001**
	TAU	-.01	.99	4.59	**.01**
Caregiver-adolescent conflict (CBQ; caregiver-report)	SIESTA+TAU	.55	.59	2.16	.13
	TAU	.45	.65	1.88	.16
Homework Problems (HPC; caregiver-report)	SIESTA+TAU	1.88	.08	3.52	**.049**
	TAU	.38	.70	2.30	.10
Classroom performance (CPS; teacher-report)[a]	SIESTA+TAU	-.34	.74	.04	.96
	TAU	-.30	.77	1.05	.37

Note. [a]Completer analysis due to 30.4% missingness at pre-test, 51.1% at post-test, and 65.2% at follow-up; pre- to post-test SIESTA $t(16)$ and TAU $t(19)$; pre- to follow-up SIESTA $F(2,14)$ and TAU $F(2,16)$

Supplement 11

Analyses With Melatonin use as Covariate

	Pre-test to post-test			Pre-test to follow-up		
Outcome per treatment group	*B (SE)*	*p*	η_p^2	*B (SE)*	*p*	η_p^2
Primary outcomes						
ASHSr Total	.41 (.09)	**<.001**	.21	.17 (.06)	**.005**	.09
CSRQ Total	-4.91 (1.34)	**<.001**	.14	2.46 (1.51)	.11	.03
SSHS Daytime sleepiness	-.85 (.51)	.10	.03	.74 (.61)	.23	.02
SSHS Sleep-wake problems	-1.58 (.85)	.07	.04	1.18 (1.10)	.29	.02
CSHQ Total	-2.85 (1.51)	.07	.06	1.21 (1.39)	.39	.01
TST Actigraph	-.16 (.12)	.19	.02	.22 (.18)	.22	.02
SOL Actigraph	.09 (.08)	.29	.02	-.31 (.16)	.09	.10
SE Actigraph	-.01 (.01)	.31	.02	.03 (.01)	.07	.06
NoA Actigraph	-.04 (1.54)	.98	.00	-.92 (1.81)	.61	.00
TST Sleep diary	.04 (.15)	.77	.00	-.05 (.21)	.82	.00
SOL Sleep diary	-.06 (.14)	.65	.01	-.22 (.18)	.23	.02
SE Sleep diary	.00 (.02)	.84	.01	.02 (.02)	.38	.02
NoA Sleep diary	.03 (.08)	.70	.00	-.17 (.11)	.14	.05
Secondary outcomes						
ADHD symptoms	-.02 (1.49)	.99	.00	.88 (.51)	.61	.01
ODD symptoms	-.47 (.66)	.48	.01	1.84 (.93)	.05	.04
Anxiety symptoms	-6.47 (3.32)	.06	.05	-1.95 (3.55)	.58	.00
Depressive symptoms	-3.06 (1.07)	**.006**	.09	.76 (1.49)	.62	.01
Caregiver-adolescent conflict	.07 (1.53)	.96	.00	.19 (1.80)	.92	.00
Homework problems	-2.59 (1.87)	.17	.02	1.20 (2.43)	.62	.00
Classroom performance[1]	.67 (2.97)	.82	.00	-1.60 (3.97)	.69	.01

Note. Significant p values are in bold; [1]Completer analysis due to 30.4% missingness at pre-test, 51.1% at post-test, and 65.2% at follow-up

Supplement 12

Analyses With ADHD Medication Change as Covariate

	Pre-test to post-test			Pre-test to follow-up		
Outcome per treatment group	*B (SE)*	*p*	η_p^2	*B (SE)*	*p*	η_p^2
Primary outcomes						
ASHSr Total	.42 (.09)	**<.001**	.22	-.23 (.08)	**.005**	.09
CSRQ Total	-5.04 (1.35)	**<.001**	.14	2.46 (1.51)	.11	.03
SSHS Daytime sleepiness	-.93 (.50)	.07	.04	.74 (.61)	.23	.02
SSHS Sleep-wake problem behaviors	-1.73 (.87)	.05	.05	1.18 (1.10)	.29	.02
CSHQ Total	-2.83 (1.46)	.06	.06	1.21 (1.39	.39	.01
TST Actigraph	-.17 (.12)	.17	.02	.22 (.18)	.22	.02
SOL Actigraph	.08 (.08)	.34	.02	-.31 (.16)	.09	.10
SE Actigraph	-.01 (.01)	.40	.02	.03 (.01)	.07	.06
NoA Actigraph	-.01 (1.54)	.99	.00	-.92 (1.81)	.61	.00
TST Sleep diary	.05 (.15)	.71	.00	-.05 (.21)	.82	.00
SOL Sleep diary	-.07 (.14)	.63	.01	-.22 (.18)	.23	.02
SE Sleep diary	.01 (.02)	.75	.01	.02 (.02)	.37	.02
NoA Sleep diary	.02 (.08)	.79	.00	-.17 (.11)	.14	.05
Secondary outcomes						
ADHD symptoms	-.02 (1.50)	.99	.00	.87 (1.72)	.61	.01
ODD symptoms	-.46 (.66)	.49	.01	1.83 (.93)	.05	.04
Anxiety symptoms	-6.34 (3.25)	.06	.05	-1.94 (3.59)	.59	.00
Depressive symptoms	-3.05 (1.10)	**.007**	.09	.76 (1.49)	.62	.01
Caregiver-adolescent conflict	.17 (1.54)	.91	.00	.19 (1.78)	.92	.00
Homework problems	-2.51 (1.84)	.18	.02	1.19 (2.42)	.62	.00
Classroom performance[1]	.84 (2.94)	.78	.00	-1.28 (3.96)	.75	.00

Note. Significant p values are in bold; [1]Completer analysis due to 30.4% missingness at pre-test, 51.1% at post-test, and 65.2% at follow-up

Supplement 13

What has improved after SIESTA	N responders	What remained unchanged after SIESTA	N responders
Adolescents			
Falling asleep faster	23	Nothing / everything improved	14
Sleep hygiene practices	12	Falling asleep faster	5
Sleep in general	11	Less nighttime wakings	4
Less rumination, stress, and being more relaxed before sleep	8	Getting up faster	4
Feeling more energetic during the day	5	Feel more energetic during the day	3
Improvement at school	4	Yawning	1
A lot has improved	1	Rumination	1
		Using the phone in bed	1
Not answered	7	Not answered	13
Caregivers			
Awareness of sleep processes and sleep hygiene	25	Going to bed too late	7
Going to bed on time / alone / when sleepy	11	Planning and organization difficulties	5
Getting up faster	6	Media use before bed	3
Feeling more relaxed	5	Sleeping through the night	3
No longer needing melatonin to fall asleep	2	Little improvement	3
Less conflict about sleep	2	Falling asleep faster	2
Sleeping through the night	2	Getting up by themselves	2
Aware of own (sleep) needs	2	Discrepancies week and weekend sleep patterns	1
More energy during the day	2	Daytime sleepiness	1
Routine throughout the day	1	Not being relaxed before bed	1
At school on time	1	Trusting to be able to fall asleep without melatonin	1
Relaxation exercises	1	Energy during the day	1
Less irritable	1	ADHD symptoms remain a pedagogical challenge	1
Falling asleep faster	1	Nothing / everything improved	1
Open to psychotherapy	1	I do not know	1
Reading before bedtime	1	Lying	1
Not answered	6	Not answered	9

References

1. Keuppens L, Marten F, Baeyens D, et al (2024) A Pilot Study of a Cognitive-Behavioral Sleep Intervention Specifically for Adolescents With ADHD and Sleep Problems: A Qualitative and Quantitative Evaluation. Cognitive and Behavioral Practice 31:367–382. https://doi.org/10.1016/j.cbpra.2023.12.001

2. Storfer-Isser A, Lebourgeois MK, Harsh J, et al (2013) Psychometric properties of the Adolescent Sleep Hygiene Scale. Journal of Sleep Research 22:707–716. https://doi.org/10.1111/jsr.12059

3. Meijer AM (2008) Chronic sleep reduction, functioning at school and school achievement in preadolescents. Journal of Sleep Research 17:395–405. https://doi.org/10.1111/j.1365-2869.2008.00677.x

4. Wolfson AR, Carskadon MA (1998) Sleep Schedules and Daytime Functioning in Adolescents. Child Development 69:875–887. https://doi.org/10.1111/j.1467-8624.1998.tb06149.x

5. Owens JA, Spirito A, McGuinn M (2000) The Children's Sleep Habits Questionnaire (CSHQ): psychometric properties of a survey instrument for school-aged children. Sleep 23:1043–1051

6. CamNtech Ltd MotionWatch

7. Sadeh A, Sharkey KM, Carskadon MA (1994) Activity-based sleep-wake identification: an empirical test of methodological issues. Sleep 17:201–207. https://doi.org/10.1093/sleep/17.3.201

8. CamNtech Ltd (2019) The MotionWatch and MotionWare User Guide: Issue 1.2.26a

9. Mestdagh M, Verdonck S (2019) M-path

10. Oosterlaan J, Baeyens D, Scheres A, et al (2008) VvGK6-16. Vragenlijst voor gedragsproblemen bij kinderen van 6 tot en met 16 jaar. Harcourt Test Publishers, Amsterdam

11. Muris, PEHM, Bodden, D, Hale, WW, et al (2007) SCARED-NL. Vragenlijst over angst en bang-zijn bij kinderen en adolescenten. Boom Uitgevers

12. Kovacs M, Bodden D, Braet C, Stikkelbroek Y (2016) CDI-2 Screeningsvragenlijst voor depressie bij kinderen en jongeren. Hogrefe, Amsterdam

13. Prinz RJ, Foster S, Kent RN, O'Leary KD (1979) Multivariate Assessment of Conflict in Distressed and Nondistressed Mother-Adolescent Dyads. Journal of Applied Behavior Analysis 12:691–700. https://doi.org/10.1901/jaba.1979.12-691

14. Anesko KM, Schoiock G, Ramirez R, Levine FM (1987) The Homework Problem Checklist: Assessing children's homework difficulties. Behavioral Assessment 9:179–185

15. Brady CE, Evans SW, Berlin KS, et al (2012) Evaluating School Impairment With Adolescents Using the Classroom Performance Survey. School Psychology Review 41:429–446. https://doi.org/10.1080/02796015.2012.12087498