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Modular CBT for Youth Social Anxiety Disorder: A Case Series Examining Initial Effectiveness

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ABSTRACT

Cognitive Behavioral Therapy (CBT) is the most efficacious treatment for childhood anxiety disorders. At the same time, several studies showed that for children and adolescents with social anxiety disorder (SAD), standard protocolized CBT seems to be less efficacious than for youth with other types of anxiety disorders, suggesting that children with SAD need a different approach. The purpose of this study was to examine the effectiveness of a modularized cognitive behavioral therapy (CBT) for children with SAD, including mindfulness. Ten children and adolescents (50% girls, aged 8–17 years) referred for SAD were measured at pretreatment, posttreatment and 10 weeks follow-up. Results showed that 5 youths (50%) were free of their SAD posttreatment, and 8 (80%) at follow-up. Clinically meaningful improvements from pretest to follow-up were found in 90% and 60% of the cases, for the total anxiety symptom score and social anxiety symptom score, respectively. Pre-post-follow-up group analyses revealed significant improvements in SAD severity (combined parent and child report) and social anxiety symptoms across child, mother, and father report. The remission rate of 80% and substantial social anxiety symptom decline is promising, providing a starting point for improving treatments of youth with SAD.

Social anxiety disorder (SAD) is one of the most common mental disorders and anxiety disorders in children and adolescents, with prevalence rates reaching 10% in adolescence (Burstein et al., 2011; Kessler et al., 2012; Merikangas et al., 2010). The DSM-5 (American Psychiatric Association [APA], 2013) characterizes SAD as a persistent, intense fear of social situations in which the individual may be negatively evaluated by others. In children, this fear must occur in peer settings and not just in interactions with adults (APA, 2013). SAD is a typical childhood onset disorder, as first incidence after the age of 21 is very low (Bögels et al., 2010; Burstein et al., 2011). Untreated SAD in children and adolescents leads to negative consequences such as impairments in interpersonal functioning, loneliness, school refusal and dropout, lower educational level, subsequent anxiety, depressive, and substance use disorders (e.g., Beidel, Turner, & Morris, 1999; Burstein et al., 2011; Kendall, Safford, Flannery-Schroeder, &

Webb, 2004; Wittchen & Fehm, 2003). If untreated, SAD generally persists in adulthood, relates to reduced quality of life, and does not remit until up to 40 years after onset (Comer & Olfson, 2010). Thus, there is a clear need for effective treatment of SAD early in development.

Cognitive Behavioral Therapy (CBT) is the most efficacious treatment for anxiety disorders (ADs) in children and adolescents, with moderate to large effect sizes compared to other therapies (Reynolds, Wilson, Austin, & Hooper, 2012) and approximately 50–70% of children being free of their primary AD after treatment (e.g., Bodden et al., 2008; Hudson et al., 2015a; In-Albon & Schneider, 2007). CBT for childhood ADs generally consists of a "skill-building" phase in which children acquire skills that reduce anxiety (e.g., psycho-education, cognitive restructuring, coping skills), and an "exposure" phase in which children are gradually exposed to their feared situation and practice new skills (Detweiler, Comer, Crum, &

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Albano, 2014). Nevertheless, a substantial number of studies from multiple sites (e.g., Crawley, Beidas, Benjamin, Martin, & Kendall, 2008; Ginsburg et al., 2011; Hudson et al., 2015a, 2015b; Wergeland et al., 2016) have shown that delivery of this general form of CBT is less successful for SAD than for other types of ADs in both children and adults, even at long-term follow-up (Kodal et al., 2018).

One strategy to enhance therapy outcomes that is recently gaining in popularity (Ng & Weisz, 2016) is to deliver therapy in a more individualized way. In general, this means tailoring the selection and implementation of therapy techniques to the personal needs of the clients (Crawley et al., 2008; Hudson et al., 2015b; Kendall, Settipani, & Cummings, 2012). With regard to CBT manuals, these are individualized by dividing it into separate self-contained modules such as cognitive therapy and problem-solving skills, that can be matched to the individual strengths and needs, and used multiple times or not at all (Ng & Weisz, 2016). Such modular therapies for children with anxiety disorders, depression, trauma, and/or conduct problems have so far shown to offer incremental benefit over usual care and protocolized CBT, and a steeper decrease in child's anxiety symptoms than the standard treatment (Chorpita, Taylor, Francis, Moffitt, & Austin, 2004; Chorpita et al., 2013; Weisz et al., 2012). For children with SAD, modular therapy could, for example, provide therapists with more time to invest in symptoms that have previously been identified as needing more attention during treatment in children with SAD such as challenging common cognitive biases and in building the therapeutic alliance (Crawley et al., 2008). Moreover, modular therapy could also support trends in usual clinical practice, in which therapists – possibly due to time constraints – tend to use parts of treatment manuals instead of the whole manual (Chu et al., 2015). Concluding from this literature, modular therapy appears to have the potential to improve treatment outcomes for children dealing with psychopathology, and may be a promising strategy for improving effectiveness in particular for children with SADs.

Another recent line of thinking regarding the treatment of psychopathology has focused on the implementation of innovative therapy techniques, such as mindfulness approaches. With regard to adult and youth anxiety (disorders), it has been suggested that these clients could benefit from mindfulness interventions, especially when integrated with existing CBT protocols (Maric, Willard, Wrzesien, & Bögels, 2019; van Bockstaele & Bögels, 2014). Mindfulness as a method implies welcoming daily hassles and stressors with attention, acceptance and calmness. By increasing awareness for the present moment and encouraging the individual to divert its attention to internal experiences and environmental stimuli, mindfulness may be a method to target (distorted) cognitive processes (van Bockstaele & Bögels, 2014). This may sound paradoxical as CBT models for SAD (e.g., Clark & Wells, 1995) view the tendency to focus on internal experiences as one of the key mechanisms that keeps the problem going. However, in essence and practice, the two approaches (CBT and mindfulness) are more complementary than contrasting. Mindfulness teaches the clients to attend to all their experiences – cognitions and emotions – consciously and non-judgmentally, providing clarity, in this way either helping the client to let go of the disturbing thoughts or identifying thoughts that can be further actively challenged in cognitive therapy. Earlier on, Bögels and Mansell (2004) proposed six different change mechanisms of attentional processes training in SAD: reducing hypervigilance by focusing on broader aspects of self and environment; reducing attentional avoidance; reducing self-focused attention; increasing mindfulness to counter mindless ruminating; increasing attention control; and increasing self-esteem through enhanced concentration (also called "flow"). In line with this reasoning, treatment of SAD in adults with mindfulness was found to be more effective than waitlist in decreasing social anxiety symptoms (Bögels, 2006). In addition, the mindfulness groups demonstrated similar improvements when compared to (group) CBT (Goldin et al., 2016; Kocovski, Fleming, Hawley, Huta, & Antony, 2013). At this moment, empirical evidence regarding the efficacy of mindfulness in children and adolescents with SAD is lacking (Maric et al., 2019).

In the present study, we incorporated these recent suggestions in the treatment of youth with anxiety disorders. We implemented a modular CBT adapted from the Dutch CBT manual Discussing+Doing = Daring (Bögels, 2008)

including modules such as cognitive therapy and exposure; and additional elements of mindfulness therapy. Accordingly, we aimed to explore: (i) the effectiveness of modularized CBT (including mindfulness) in these 10 youths; and (ii) which modules and treatment components were used in each participant. The expectation is that exploration of these questions in children and adolescents with SAD on a single-case level will provide us with initial information about the utility of a modular CBT approach for treating SAD in youth.

Method

Participants and procedure

This study is part of a larger currently ongoing study examining working mechanisms of modularized CBT for childhood ADs in a sample of at least 100 children in the age range 7–18 years, with various primary anxiety disorders. The inclusion criteria for the current study were a) primary diagnosis of SAD based on DSM-5 criteria (APA, 2013); b) no comorbid pervasive developmental disorder; c) having completed at least a pretest and posttest measure; and d) IQ > 80. After the final assessment point, families received a gift card of 20 euros. Participants gave active informed consent, and ethical approval was obtained from the Ethical Committee of the University of Amsterdam.

Initially, 16 participants were selected based on their SAD. Six participants were not included in the current study because of the incomplete assessments at pre- and post-treatment and/or follow-up (either child or parent report, and/or audiotapes or therapist information was missing). In comparison to the 10 study completers, the six participants who were excluded had on average the same diagnosis severity at pretest, were one year older, and received fewer treatment sessions. With regard to treatment outcomes (child and parent data were collapsed due to some missing data), it was found that four out of six were free from their social anxiety disorder at follow-up and three out of six scored below the SCARED cutoff for social anxiety at follow-up. None of the 10 included cases were suicidal or housebound; however, all participants did avoid one or more situations (ranging from,

e.g., not daring to play with other kids to not going to school) and rated their anxiety as severely impairing (using Clinical Severity Rating of ADIS-C/P; Silverman & Albano, 1996) for their daily functioning. The average CSR for both study completers (n = 10) as well as the participants who were excluded (n = 5, as 1 ADIS-C/P on pre-treatment was missing) was 6.8.

The children and adolescents were aged 8–17 years (mean age = 11.70, SD = 2.69), 50% girls. The majority of the sample had a Dutch ethnicity (n = 8); two participants indicated Asian or South-American ethnicity. Both parents were included in the study, the majority were married (90%), and their educational levels were on average (distribution of, respectively, low-middle-high educational level for mothers: 11%-44%-44%; for fathers: 30%-30%-40%). Participants were treated by eight different therapists; participants 2 and 8, and 6 and 7 had the same therapist. All therapists were female, had a master's degree in psychology, their ages ranged from 23 to 59 years (M = 35.63, SD = 11.64), and experience as a mental health-care professional ranged from 1 to 40 years (M = 12.38, SD = 13.35).

Measures

Anxiety diagnosis

SAD and comorbid disorders were assessed with the Dutch version of the Structured Clinical Interview for DSM-5 Disorders for Children (Wante, Braet, Bögels, & Roelofs, in press). Parent and child reports were combined based on standard procedures used in the SCID-junior. The SCID-junior was used instead of the commonly used Anxiety Disorders Interview Schedule – Child/Parent Versions (ADIS-C/P; Silverman & Albano, 1996) because the SCID-junior is based on DSM-5 instead of DSM-IV criteria. In order to compare the severity of diagnoses to previous studies, we additionally determined an impairment score between 0 and 8, comparable to the Clinical Severity Rating (CSR) of the ADIS-C/P. Research investigating the psychometric properties of the SCID-junior is ongoing (C. Braet, personal communication, July 12, 2017). In our larger, currently ongoing study (Van Steensel, Telman, Maric, & Bögels, in

preparation), interrater agreement (kappa) based on the presence or absence of the anxiety disorder was high; SCID-junior child report κ = 0.82, SCID-junior parent report κ = 0.72. The assessment interview pre- and post-treatment was conducted by the first author or a research assistant, who were independent from the therapists and who were blind about the specific assessment time point and which treatment modules were used with that specific client.

Anxiety symptoms

The 71-items Screen for Child Anxiety Related Emotional Disorders (SCARED-71; Bodden, Bögels, & Muris, 2009), child and parent report, was used to assess child anxiety symptoms, rated on a three-point scale (0 = (almost) never; 1 = sometimes; 2 = often). The total scale and social anxiety subscale were used (9 items), which have good psychometric properties (total scale: α > .94; social anxiety subscale α > .85) for both child and parent report (Bodden et al., 2009).

Therapist flexibility

In line with modularized approaches, we assessed therapist flexibility by coding audiotapes of the treatment sessions (N = 82) with the Discussing + Doing = Daring Adherence Checklist-Flexibility Scale (DDDAC-F). The DDDAC-F is based on the Coping Cat Adherence Checklist-Flexibility Scale and manual (CCPAC-F and CCPAC-F manual; Chu & Kendall, 1999; Southam-Gerow, Jensen Doss, Gelbwasser, Chu, & Weisz, 2001). Because of the modular character of the Discussing + Doing = Daring protocol, the fixed session format of the CCPAC-F could not be used. Therefore, a list of all possible session elements (= subparts of the different modules; e.g., discuss normal anxiety versus anxiety disorder in the psycho-education module and explain the rationale of exposure in the module of exposure) was created. Coders identified the used techniques from each session and scored these on the DDDAC-F form. In line with the manual (Southam-Gerow et al., 2001), therapist flexibility was rated on a 6-point scale ranging from 0 (not at all flexible) to 5 (extremely flexible) and functional appropriateness of the flexibility on a 6-point scale ranging from 0 (not at all appropriate) to 5 (extremely

appropriate). For each session, a mean flexibility score was calculated from the flexibility scores of the subparts of that session. All 82 available therapy sessions were randomly distributed among the two coders, and 25% randomly selected sessions were coded by both coders. A two-way random effects single-measures ICC showed a fair agreement (ICC = .48) which is not unreasonable in the exploratory phase of the research and is even somewhat higher than the .40 found in the study of Chu and Kendall (2009). Therapist affinity with mindfulness, cognitive restructuring and exposure were registered by means of a scale question (0–10 range): "How much affinity do you have with following therapy techniques: (a) cognitive techniques; (b) mindfulness; and (c) exposure".

Modular CBT

The modular approach of this treatment is based on the original 12-session manual and three optional parent sessions ("Discussing + Doing = Daring"; Bögels, 2008). The original manual consists of various CBT elements (e.g., psycho-education, cognitive restructuring, experiments, exposure, task concentration, relaxation, relapse prevention) and the optional parent sessions concern parental modeling, child-parent communication and parental guidance. The original manual contains detailed information about each session and its goals (e.g., in the session psycho- education: "explain normal anxiety versus anxiety disorder"; in the exposure session: "address the rationale for doing exposure"). To facilitate individually tailored treatment and therapist flexibility, the modularized version consists of 10 modules: psycho-education, cognitive restructuring, coping skills, task concentration, dealing with feelings, mindfulness exercises (body scan, meditation), experiments, exposure, parental guidance, and relapse prevention.

All therapists in this study had at least a master's degree and were qualified to diagnose and treat children and adolescents (under the supervision of a post-master health-care psychologist). CBT, in general, is well implemented in the master and post-master educational system in the Netherlands, as well as in the community mental health-care centers. According to the national guidelines, CBT is the treatment of choice for

childhood anxiety disorders (Van Rooijen, 2018). Therapists were all working in different community mental health-care centers. Therefore, they received supervision following the guidelines of the center they worked in (which varies from once in two months to multiple times a week).

Of the eight therapists, four had a post-master health-care psychology registration, one had completed a PhD program, and three were post-master psychologists trained in CBT.

The therapists received an initial 4-hour training in the use of the modular protocol provided by the first, second and/or last author. Therapists were instructed to choose from the optional modules, based on their theoretical knowledge (e.g., all therapists also received written information including a summary of the current knowledge around (treatment of) childhood anxiety disorders), clinical experience and combined with patient information. Moreover, therapists decided on treatment dosage (number of sessions) and number and length of homework assignments. Having the opportunity to choose from the optional modules facilitated the therapist to tailor the treatment to the individual needs of the child and family, and to include components that she thought may improve the treatment of youth with SAD. The therapist could, for example, give more attention to mindfulness, or to experiments, or additional parental guidance. Therapist affinity with mindfulness, cognitive restructuring and exposure were registered and ranged from 5 to 10 (M = 7.60, SD = 1.26) for the mindfulness module, from 7 to 10 for the cognitive module (M = 8.40, SD = 1.07), and from 6 to 10 for the exposure module (M = 8.40, SD = 1.58).

Data testing and exploration

The effectiveness of modularized CBT was investigated through inspection of percentages of cases that improved regarding diagnosis (SCID) and symptoms of social anxiety (SCARED-71) from pre- to posttest, and to follow-up measurement points. Further, for each case, the Reliable Change Index (RCI; Jacobson & Truax, 1991) was calculated. The RCI facilitates investigation of clinically meaningful change in the severity of SAD diagnosis (SCID) and levels of (social) anxiety symptoms (SCARED-71) pre- to post-treatment, and pre- to follow-up

treatment. A RCI > 1.96 or < −1.96 indicates clinically reliable change (Jacobson & Truax, 1991).

Following Jarrett and Ollendick (2012), non-parametric Friedman tests and Wilcoxon tests were carried out for the whole group to analyze pre-post and pre-follow-up differences on severity ratings of SAD (CSR scores) and anxiety symptoms (SCARED-71).

To provide answers to our other questions regarding specific modules and treatment techniques implemented and participants' characteristics, the data were inspected qualitatively.

Results

Effectiveness of modularized CBT for SAD

Results from the SCID interview with parents and children showed that 50% of the children and adolescents were free of their SAD diagnosis at posttest, and 80% at follow-up. Combined results from the parent and child report of SAD symptoms (SCARED-71) revealed slightly lower percentages of children and adolescents scoring below the clinical threshold of social anxiety symptom severity, namely 30% and 60% at posttest and follow-up, respectively (see Table 1). Clinically meaningful improvements were found from pretest to follow-up on combined results (more than 1 reporter) for 90% of children and adolescents for the total anxiety score (SCARED-71), and for 60% of children and adolescents with regard to social anxiety subscale of the SCARED-71.

Additionally, in Table 2 percentages of social and total anxiety symptom reduction per child, mother and father report from posttest to follow-up are presented.

Non-parametric Friedman tests were carried out to examine if participants showed a significant decline over time. For CSR scores we found a significant effect for both reporters. Parent report: $\chi^2(2, N = 8) = 12.00$, $p = .002$, and child report: $\chi^2(2, N = 7) = 9.54$, $p = .008$. Wilcoxon tests showed significant improvement for parent report from pretreatment to posttreatment, $Z(2, N = 8) = −2.38$, $p = .018$, and from pretreatment to 10 weeks follow-up $Z(2, N = 8) = −2.04$, $p = .041$. For child report the same was found: $Z(2, N = 7) = −2.04$, $p = .042$, and

Table 1. Summary of participant characteristics, clinical outcomes, and session content.

C	Sex	Age	Comorbidity	CRS pre-test	Free of diagnosis post-test/FU	Below cutoff social anxiety	Sig RCI total SCARED-71	Sig RCI social SCARED-71	#s	Exp Gen	Exp Anx	Aff cog	Aff exp	Aff mnf	PE	CR	F	MFN	TCT	CS	E	ES	PG	SR
1	F	8	-	6	N/Y	N/N	*	-	7	3	10	8	10	5	14.3%	14.3%	0%	0%	0%	14.3%	57.1%	0%	0%	14.3%
2	M	12	GAD	7	Y/Y	Y/Y	*	*	7	10	30	8	9	7	28.6%	28.6%	14.3%	0%	0%	14.3%	42.9%	0%	0%	14.3%
3	F	9	-	6	N/N	Y/Y	*	*	12	5	10	9	9	8	16.7%	16.7%	8.3%	0%	0%	8.3%	75%	0%	8.3%	8.3%
4	M	13	-	8	Y/Y	N/N	*	-	6	25	> 50	10	10	8	25%	25%	25%	0%	25%	25%	50%			
5	F	14	SpP	7	Y/Y	N/Y	-	-	15	8	8	8	7	10	20%	26.7%	6.7%	26.7%	6.7%	33.3%	46.7%	13.3%	20%	20%
6	M	11	SEP, SpP, GAD, ADHD, MD	8	Y/Y	Y/Y	*	*	10	1	0	7	6	8	10%	40%	10%	0%	10%	10%	50%	0%	0%	20%
7	M	8	-	7	N/N	N/N	*	-	14	1	0	7	6	8	7.1%	92.9%	7.1%	14.3%	0%	57.1%	71.4%	64.3%	0%	14.3%
8	M	17	-	6	N/Y	N/Y	*	-	11	10	30	8	9	7	18.2%	54.5%	0%	63.6%	9.1%	45.5%	54.5%	18.2%	18.2%	36.4%
9	F	12	SpP, GAD	6	Y/Y	N/N	*	*	11	7	20	9	8	8	9.1%	18.2%	18.2%	18.2%	9.1%	18.1%	18.1%	36.4%	0%	9.1%
10	F	13	GAD, MD, ADHD-I, Ins	7	N/Y	N/Y	*	*	23	40	> 50	10	10	7	34.8%	52.2%	0%	4.3%	4.3%	34.8%	4.3%	8.7%	8.6%	13.0%

C = Client; F = Female, M = Male; GAD = Generalized Anxiety Disorder, SpP = Specific Phobia, SEP = Separation Anxiety Disorder, MD = Mood Disorder, ADHD-I = ADHD predominantly inattentive subtype, Ins = Insomnia; N = No, Y = Yes; Below cutoff social anxiety symptoms as reported by >1 reporter; * = significant RCI change pretest to follow-up, reported by >1 reporter; #s = number of sessions; Exp Gen = clinical experience in general (number of years), Ex Anx = experience with treating anxiety in children (number of treated cases), Aff cog = affinity with cognitive module (measured on a scale 1–10), Aff exp = affinity with exposure module (measured on a scale 1–10), Aff mnf = affinity with mindfulness module (measured on a scale 1–10); PE = Psycho-education, CR = Cognitive Restructuring, F = dealing with feelings, MFN = Mindfulness, TCT = Task Concentration Training, CS = Coping Skills, E = Exposure, ES = Experiments, PG = Parental Guidance, SR = Summary + Relapse Prevention. Note that when PG is 0%, parents could still be involved in therapy, but not for separate sessions; note: Percentages do not sum to 100% because often several modules were used in one session.

Table 2. Percentages of SCARED-71 symptom reduction reported by child, mother, and father.

	Child report		Mother report		Father report	
	Post-test	FU	Post-test	FU	Post-test	FU
Social anx symptoms below cutoff	44.4	60	25	44.4	33.3	50
Social anx symptoms improved RCI	50	50	37.5	87.5	37.5	44.4
Total anx symptoms below cutoff	33.3	50	50	66.7	22.2	70
Total anx symptoms improved RCI	50	66.7	62.5	100	62.5	77.8

RCI = reliable change index; FU = follow-up.

from pretreatment to 10 weeks follow-up $Z(2, N = 7) = -2.39$, $p = .017$.

For child anxiety symptoms (as measured with the SCARED-71) over time, Friedman tests showed a significant decrease in symptoms over time for all three reporters: mother report: $\chi^2(2, N = 8) = 13.00$, $p = .002$, father report: $\chi^2(2, N = 9) = 16.22$, $p < .001$, and child report: $\chi^2(2, N = 6) = 9.65$, $p = .008$. Post-hoc Wilcoxon tests showed significant improvement for mother report from pretreatment to posttreatment, $Z(2, N = 8) = -2.52$, $p = .012$, and from pretreatment to 10-weeks follow-up $Z(2, N = 8) = -2.53$, $p = .011$. For father report, comparable results were found: from pretreatment to posttreatment, $Z(2, N = 9) = -2.67$, $p = .008$, and from pretreatment to 10-weeks follow-up $Z(2, N = 9) = -2.67$, $p = .008$. For child report comparable results were found: $Z(2, N = 5) = -2.02$, $p = .043$, and from pretreatment to 10-weeks follow-up $Z(2, N = 6) = -2.21$, $p = .027$.

Modules and treatment components used with each participant

Based on the (82) audiotapes that were coded, therapists had an average score of 2.18 (scale 0– 5; SD = 0.65; range 0.80– 3.67) on the flexibility scale. Thus, it seemed that therapists showed a medium amount of flexibility (flexibility score of 2 out of 5 = content adaptation of the manual, for example, through including relevant examples to the interest of the child into treatment lessons), and they used it in a functional way (functional flexibility: M = 2.88, SD = 0.44; range = 2– 3.80; functional flexibility score of 3 out of 5 = moderately appropriate, the

child responded positively to the modifications the therapist made to the session).

An overview of therapy content for each individual participant is shown in Table 1. In addition, the number of sessions varied largely between the clients, with an average of 11.60 sessions of therapy, ranging between 6 and 23 sessions. The length of sessions ranged between 40 and 70 minutes, with an average of 58 minutes. Moreover, the participants with the same therapist (2 and 8; 6 and 7) did not show similarity in treatment content, which could be an indication of the flexibility of the therapist as well as an indicator of a personalized approach.

For the majority of cases (80%), most time in each therapy trajectory was spent on exposure including preparation of tasks, execution, and evaluation. The younger participants (aged between 8 and 12; participants 1, 2, 3, 6 and 7) seemed to have received more exposure (addressed in 50–75% of the sessions) than the adolescent participants (4–55%). Further inspection of the session content showed that half of the participants received mindfulness exercises, and this was always used next to the general "core" CBT practices such as cognitive restructuring and exposure, thus not replacing these modules. The younger participants (aged between 8 and 12; participants 1, 2, 3, 6 and 7) seemed to have received less mindfulness (addressed in 0 – 14% of the sessions) than the adolescent participants (4–64%). Task concentration training was used in 6 of 10 treatments. Interestingly, most of the younger participants (aged between 8 and 12; participants 1, 2, 3, 6 and 7) did not receive task concentration (addressed in only once case in 10% of the sessions) while all of the adolescent participants received some extent of task concentration (4.3– 25.0%). Parent sessions were added in 4 out of 10 cases.

Discussion

This study evaluated a modularized CBT program with additional inclusion of mindfulness exercises for a selection of children and adolescents with social anxiety disorder (SAD) referred to community mental health care. Results showed that a relatively short (average 11 sessions) modular

CBT was effective with 50% of the children and adolescents being free of their SAD diagnosis post-treatment and 80% at 10-weeks follow-up. Taken as a whole, substantial improvements in SAD diagnosis and social anxiety symptoms were found directly after the treatment and at follow-up. The effects were consistent across child, mother, and father report. However, some youths still showed (sub)clinical levels of social anxiety symptoms at posttest and follow-up. It appears that the adapted protocol is feasible and promising in improving treatment outcomes of youth SAD.

Our results that 50% of the children and adolescents were free of SAD immediately after treatment and 80% at follow-up are larger than reported in previous CBT trials specifically aimed at treating children and adolescents with SAD (30%; Melfsen et al., 2011; Spence, Donovan, March, Kenardy, & Hearn, 2017) as well as CBT trials including children with different ADs (30.7–40.6%; Ginsburg et al., 2011; Hudson et al., 2015a). Also, children in this study received a lower number of sessions (11 on average) as compared to most studies using 12–16 sessions of manualized CBT (e.g., Bodden et al., 2008; James, James, Cowdrey, Soler, & Choke, 2013; Kendall et al., 2004), and lower than SAD-specific CBT (e.g., 20 sessions, Melfsen et al., 2011). This could be explained by the way in which therapy was delivered: therapists were instructed to tailor the treatment to the individual client and could choose which modules to use. In line with our results, Weisz et al. (2012) found that children in the modularized treatment condition showed faster improvements than youth in care as usual. Our results showed indications of a personalized approach, in that: (i) the therapists were offered a training in the modularized treatment, so the therapists were aware (and "allowed") to vary the treatment based on the needs of the client, and (ii) our finding that the same therapists provided treatments based on different combination of modules to different clients. Moreover, therapists frequently used the novel module of mindfulness. Although we cannot state which adaptation led to the enhanced effectiveness rates, it appears that modular CBT with the inclusion of mindfulness

does benefit youth with SAD when looking into anxiety outcomes.

With respect to the use of the modules, it became evident from these 10 cases that therapists varied in the number of sessions that were used in the treatment and the dosage of each module. Furthermore, it was found that (on average) therapists used a medium level of flexibility in their sessions (2 out of 5) and this flexibility was moderately adaptive and functional (3 out of 5). Interestingly, when looking into our sample, a wide range of ages can be found; the 10 clients ranged between 8 and 17 years old. In addition, the number of sessions implemented with the clients ranged between 6 and 23. When inspecting the results in a qualitative manner, we could not detect any associations between, e.g., the age of the participants and the number of sessions or the treatment outcomes (effectiveness). We conclude tentatively that this modular treatment set-up did really stimulate the therapists to arrange the treatments in a more individualized way, presumably taking into account patient characteristics and complaints. The treatments furthermore included many exposure sessions which may explain (part of) the high effectiveness as studies including adults with SAD have shown that a larger number of exposure sessions led to better results (Feske & Chambless, 1995). With respect to mindfulness, we found that in 50% of the cases this module was implemented in treatment and was implemented next to (one of) the "core" elements of CBT (cognitive restructuring and exposure). We consider this percentage of 50% quite high given that this is – to our knowledge – the first study that added mindfulness to a modular CBT for youth, and that the majority of the therapists who participated in this study were not mindfulness trainers. Interesting, mindfulness – and task concentration training – seemed to be used more in adolescents than in younger children. These modules may be used to target the self-focused attention that is suggested to play a role in SAD (e.g., Clark & McManus, 2002; Heimberg, Brozovich, & Rapee, 2010; Rapee & Heimberg, 1997), which may become more apparent in adolescence. Another interesting finding was that in 40% of the cases parent sessions were added to the

treatment. This percentage is quite high given the findings of several meta-analyses (In-Albon & Schneider, 2007; Ishikawa, Okajima, Matsuoka, & Sakano, 2007; Reynolds et al., 2012; Thulin, Svirsky, Serlachius, Andersson, & Ost, 2014) that adding parent sessions to child CBT does not improve treatment effectiveness of CBT for childhood anxiety disorder. It may be that especially in youth social anxiety disorder, parent sessions may be important. Note however that we cannot compare this 40% parent involvement found in this study of 10 participants with SAD to a rate of parental involvement used in participants with other types of childhood anxiety disorders.

Future recommendations and limitations

Although this study provides preliminary evidence for the effectiveness of modularized CBT for youth SAD, the study is limited because of the uncontrolled design and small sample size. Therefore, we cannot state which adaptation of the CBT led to the high effectiveness in this sample; whether it was the modular therapy, the inclusion of mindfulness, or that other therapist, client, or therapy (e.g., exposure) characteristics have played a role. Future studies using, for example, multiple baseline procedures (Nakamura, Pestle, & Chorpita, 2009) or RCTs need to be carried out in order to examine active ingredients that need to be implemented in therapy for youth SAD. Also, cognitive constructs and/or mindful attention or awareness (Brown, West, Loverich, & Biegel, 2011) and its relation to social anxiety outcomes and the use of specific modules should be investigated if we want to gain insight into the mechanisms of change. Another limitation is the lack of long-term follow-up measurement, and it is unclear whether the prolonged effects still hold at longer-term follow-up, as previous research has shown that children with SAD are less likely to further recover during longer follow-up periods, compared to children with generalized anxiety disorder and separation anxiety disorder (Kodal et al., 2018). Finally, this study included some adaptations to benefit children with SAD (i.e., modular therapy, mindfulness training), but other disorder-specific adaptations could also be of interest, such as social skills training (Beidel, Turner, & Morris, 2000) or

more intensive parent education training (Öst, Cederlund, & Reuterskiöld, 2015).

Clinical implications

This study showed that therapists are able to implement a modular CBT, by choosing elements out of the evidence-based therapy that could fit the individual child. Moreover, most children and adolescents in this study received many sessions of exposure, which has been suggested to be less successful for children with SAD due to the possibility of strengthening their fear belief in case of failed exposure tasks (Hudson et al., 2015b), and are often left out by therapists when treating child ADs in general (Chu et al., 2015). Results of the current study imply that it is feasible to use exposure for children with SAD, for example, through roleplay, preparing a speech task for a public recruited at the treatment center, or conducting exposure tasks in the city environment. In addition, it seems that it is possible to treat children referred with SAD in relatively few sessions with a modular approach. Previous research concerning children with ADs has shown that relaxation training had a limited effect on anxiety improvement, compared to exposure and cognitive restructuring (Peris et al., 2015). However, mindfulness is not the same as relaxation, and tentatively, mindfulness may be a good addition to CBT for childhood social anxiety disorder.

Conclusions

Youth with SAD tend to respond less well to general CBT than youth with other ADs (e.g., Crawley et al., 2008; Ginsburg et al., 2011; Hudson et al., 2015a, 2015b; Wergeland et al., 2016), and modular CBT (including the possibility to add mindfulness in addition to the core elements of CBT) seems to be one way to improve outcomes. A next step would be to examine whether the modular and adapted protocol used in this study outperforms general and non-modular CBT for children and adolescents with SAD, and whether the inclusion of mindfulness adds to treatment effectiveness. In this study, therapist flexibility was moderately adequate which further strengthens the use of modular therapy, as one of the goals

of modular therapy is to enable therapists to adhere to the manualized protocol and at the same time facilitate flexible application of the protocol (Weisz et al., 2012). However, further investigations of therapist flexibility in modular treatment, as well as how therapists choose from the different modules, are necessary and could lead to a better understanding of how to deliver modular CBT for children and adolescents with SAD.

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