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Treatment of Generalised Anxiety Disorder in Adolescent Females: A Case Series

RUNNING HEAD: Treatment of generalised anxiety disorder in female adolescents

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Word Count: 4,176 words

Abstract

The present study describes the outcomes of a manualised treatment for generalised anxiety disorder (GAD) in female adolescents that combined traditional cognitive behavioural therapy (CBT) with an interpersonal skills component (IP). The CBT component included psychoeducation, somatic management, cognitive restructuring, exposure therapy and problem-solving. The IP component targeted interpersonal avoidance, passive and aggressive interpersonal styles, and co-rumination. Four female adolescents with a principal diagnosis of GAD, participated in 10 weekly 1-hour sessions. Adolescent- and parent- report diagnostic interviews and questionnaires were completed at pre-, mid-, and post-treatment, and at 3-months follow-up. Reductions in GAD and depressive symptoms and improvements in interpersonal functioning for all participants on both adolescent- and parent- report measures suggest that the combination of CBT and IP can benefit adolescent girls with GAD.

Key words: generalised anxiety disorder, adolescents, females, treatment

Cognitive Behavioural Therapy Combined with an Interpersonal Skills Component in the Treatment of Generalised Anxiety Disorder in Adolescent Females: A Case Series

Generalised anxiety disorder (GAD) is a commonly diagnosed paediatric disorder that typically develops in childhood and reaches clinical levels during adolescence and young adulthood (Rapee, 2001; Schiebe & Albus, 1992). Generalised anxiety disorder tends to be more prevalent in females than males from as early as 4-6 years of age (e.g., Lewinshon, Gotlib, Lewinsohn, Seeley, & Allen, 1998), however the sex divergence is most pronounced by adolescence (e.g., Romano, Tremblay, Vitaro, Zoccolillo, & Pagani, 2001). Girls, relative to boys, also report more worries, especially social worries (Campbell & Rapee, 1994). Moreover, the adolescent transition for girls relative to boys is linked with increased importance placed on interpersonal relationships, increased stress associated with interpersonal relationships (see Rudolph, 2002) and anxiety and depression are associated with interpersonal stress during adolescence (Pine, Cohen, Gurley, Brook, & Ma, 1998; Zimmer-Gembeck, Hunter, & Pronk, 2007).

Cognitive behavioural therapy (CBT) is effective for treating paediatric anxiety disorders (e.g., Barrett, Dadds, & Rapee, 1996; Kendall, 1994b; Rapee, Wignall, Hudson, & Schniering, 2000; Silverman et al., 1999; Spence, Holmes, March, & Lipp, 2006). However, its applicability to female adolescents with GAD is unclear because studies have included participants with a range of anxiety disorders who have generally been under 14 years of age, and few studies have assessed sex differences in treatment outcome.

In the only published study of CBT for adolescents with GAD, Leger, Ladouceur, Dugas, and Freeston (2003) reported a case series of seven adolescents with GAD (aged 16-18 years; 4 female; 3 male) receiving CBT (i.e., awareness training, worry interventions, and relapse prevention). The sex of the five adolescents completing treatment was not reported, however, three achieved clinically significant improvements that were maintained 12 months later, whereas less improvement was made by the other two participants. These success rates

parallel findings from adults studies in which only 50% of GAD patients typically achieve high end state functioning post-treatment (Newman, Castonguay, Borkovec & Molnar, 2004). Moreover, the modest treatment success rates of CBT for GAD in comparison with success rates as high as 80-85% in CBT for panic disorder, for example, has prompted considerable research interest into factors affecting outcome in the treatment of GAD (see Waters & Craske, 2005 for review).

Recent studies show that adult GAD patients have more interpersonal difficulty than non-anxious adults by being non-assertive, overly accommodating, self-sacrificing, intrusive, and socially inhibited (e.g., Borkovec, Newman, & Castonguay, 2003). Moreover, studies have shown that adult GAD patients with interpersonal difficulties have not improved after receiving traditional CBT (e.g., Borkovec, Newman, Pincus, & Lytle, 2002). Borkovec and colleagues suggested that the integration of CBT with an interpersonal skills component may be beneficial for improving treatment outcomes for some GAD patients. Such a view accords with the recent emphasis placed on tailoring treatments to the unique symptom presentations of anxious patients in order to maximise treatment outcomes (see Antony, 2002).

Given the pronounced sex differences in the prevalence of GAD during adolescents (e.g., Romano et al., 2001), coupled with increased rates of interpersonal stress and associated links with anxiety and depression in females in particular at the adolescent transition (e.g., Pine et al., 1998; Rudolph, 2002), the present case series study investigated the effectiveness of a manualised CBT program that also included an interpersonal skills component (IP) for treating GAD in adolescent females.

Method

Participants

Four female Caucasian adolescents were included in the present case series (two 14-year-olds; two 16-year-olds). They were referred by parents and school guidance counsellors to the Griffith University Child and Adolescent Anxiety Disorders Program. The inclusion criteria were (1) being between 14–17 years of age, (2) of post-pubertal developmental

status, and (3) having a principal diagnosis of GAD. Written informed consent was obtained from participants and mothers. All participants were the first born children of their parents. Participants A and B resided with their biological parents who were married, Participant C's biological parents were divorced and she resided with her mother and step-father, and Participant D resided with her biological parents who were married and with her maternal grandparents. All participants came from average income Australian families and attended public high schools in the local region.

Measures

Diagnostic assessment. The Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent versions (ADIS-C; Silverman & Albano, 1996) were used to diagnose participants and evaluate treatment outcome. Diagnosis via the ADIS-C is determined by a clinician severity rating (CSR) of 4 or greater (scale 0 to 8) for at least the principal diagnosis (i.e., most severe at presentation). All participants had a principal diagnosis of GAD with a CSR of 4 or greater, in absence of externalising disorders, developmental disorders, psychosis, and organic brain damage. Major depressive disorder (MDD) was not an exclusionary criterion given the high comorbidity between GAD and depression (Craske & Waters, 2005). Participants B, C, and D had comorbid MDD (mean CSR = 6), Participants A, B, and C had comorbid social phobia (mean CSR = 4) and Participants A and B had comorbid specific phobias (mean CSR = 4).

Questionnaires. The number of questionnaires participants completed was kept to a minimum to avoid participant burden. The Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978) is a 37-item youth self-report questionnaire included to assess trait anxiety, which loads highly on GAD (Rapee, 2001). Mean raw scores of 14.55 have been reported for clinically anxious youths (e.g., Spence, 1998). The Centre for Epidemiological Studies Depression Scale for Children (CES-DC, Weissmann, Orvaschel, & Padian, 1980) is a 20-item self-report depression inventory included to evaluate treatment effects given high comorbidity between GAD and depression (Waters & Craske,

2005). A cut-off of 15 is used to indicate significant depressive symptoms. The Inventory of Interpersonal Problems - Circumplex Scales (IIP-C; Horowitz, Alden, Wiggins, & Pincus, 2000) is a 64-item self-report measure providing a total score of interpersonal difficulty and eight subscale scores: Domineering/Controlling; Vindictive/Self-Centered; Cold/Distant; Socially Inhibited; Non-Assertive; Overly Accommodating; Self-sacrificing; and Intrusive/Needy. Standardised T-scores are compared to T-scores of a stratified female normative group, with scores placed in the average, high average, and clinical ranges.

Procedure

Participants, or their parents (primarily mothers), who responded to study advertisements were screened over the telephone in relation to the initial inclusion criteria and eligible participants attended an assessment session at the Griffith University Psychology Clinic. Pre-treatment assessments, including the administration of the ADIS-C with participants and their mothers separately and all questionnaires, were conducted by the second author, a Masters of Clinical Psychology student in her final year of training. All measures were re-administered at mid-treatment, post-treatment and 3-month follow-up by independent assessors blind to participants' diagnostic profile at prior assessment intervals. All assessors were trained to postgraduate level in clinical psychology and were previously trained to reliability in the ADIS-C administration by matching diagnoses and clinical severity ratings for each diagnosis from interviews conducted by a trained diagnostician. All ADIS-C interviews were reviewed during clinical supervision with an experienced clinical psychologist with extensive experience in the area of anxiety disorders in youths and all assessment measures (first author).

The intervention was delivered by the second author utilising a detailed therapist manual and receiving weekly clinical supervision involving ongoing review of treatment progress and viewing of videotaped sessions to check program adherence. Treatment integrity was also maintained by the use of a checklist completed after each exercise by the therapist, which in turn was checked during clinical supervision.

The intervention was based on theoretical and empirical research relating to the psychosocial determinants involved in the development of child anxiety, and GAD in particular (e.g., Craske & Waters, 2005; Dadds & Roth, 2001; Rapee, 2001; Rapee & Spence, 2004; Waters & Craske, 2005) and evidence-based CBT and IP interventions (Barrett, 1998; Cobham, Dadds, & Spence, 1999; Kendall, 1994; Mufson & Fairbanks, 1996; Mufson, Moreau, & Weissman, 1994; Rapee et al., 2000; Spence, Donovan, Brechman-Toussaint, 2000; Spence et al., 2006). All participants were treated individually using a detailed therapist manual. The treatment consisted of 10 one-hour therapy sessions conducted over 10 weeks. The first five sessions were devoted to CBT followed by five IP sessions. All sessions were conducted individually with the adolescent. Parents were seen after individual sessions with adolescents as clinically required or at their request.

The CBT component of treatment included (a) psycho-education about worry and anxiety (session 1), (b) somatic management of physiological symptoms (i.e., breathing exercises, progressive muscle relaxation) (session 2), (c) cognitive restructuring (i.e., identifying and challenging anxious thoughts with positive, coping-focused self-talk) (sessions 3-4), (d) graded exposure to worry-provoking situations (sessions 4-5), and (e) coping skills such as problem-solving (session 5).

Throughout the IP component (sessions 6-10), participants used an Interpersonal Diary (Borkovec et al., 2002) and selected a “Focus Person” from within their social network with whom they were experiencing difficulty to record distressing events and to monitor interpersonal progress as the IP sessions progressed. The diary was reviewed at the commencement of each session and relevant material recorded in the diary was used throughout each session to apply the skills being learned to tangible interpersonal experiences of each participant.

Drawing from adult studies describing the interpersonal patterns of GAD patients (e.g., Borkovec et al., 2002), from interpersonal psychotherapy for depressed adolescents (Mufson & Fairbanks, 1996; Mufson et al., 1994), and the literature describing common

problematic interpersonal behaviours of adolescent girls (Rose, 2002; Rose, Carson, & Waller, 2007), the IP component targeted (a) how worrying affects interpersonal relationships (session 6), (b) interpersonal avoidance (session 7), (c) interpersonal styles (sessions 8-9) and (c) co-rumination (session 10). *Interpersonal avoidance* refers to avoidance of persons with whom difficulties are being experienced. This behaviour pattern was included based on Borkovec et al.'s (2002) observations that adult GAD patients disproportionately focus on protecting themselves from potential interpersonal harm by avoiding others. The focus on *interpersonal style* addressed non-assertive, overly accommodating, self-sacrificing, socially inhibited, and intrusive or needy behaviors (i.e., passive; Pincus & Borkovec, 1994) and hostile relationships, blaming others for their anxiety and a tendency to be vindictive and intrusive (i.e., aggressive; Borkovec et al., 2002). The focus on *co-rumination*, which is particularly characteristic of the interpersonal style of adolescent females relative to males, addressed elaborative discussion, revisiting of problems, and dwelling on negative feelings with another individual, typically a close female friend in the case of adolescent girls (see Rose, 2002). Moreover, co-rumination was considered particularly important to target in the IP component because of strong associations with anxiety and depression in adolescent females compared with males (Rose et al., 2007).

Defining clinically significant treatment response

Clinically significant treatment response was based on the method used by Leger et al. (2003) in their case series study of seven adolescents with GAD. Participant treatment response on the child-report questionnaires (RCMAS-C; CES-DC) was defined as a 20% change in pre-treatment scores. A CSR of 3 or less on the GAD module was defined as treatment response on the ADIS-C. Thus, overall treatment response status for each participant was then defined as follows: criteria reached on all 3 measures = high; 2 measures (one of which was the ADIS-C GAD module) = moderate; 1 measure = low; 0 measures = no treatment response. Mother-report treatment response status was defined as “high” for a CSR

of 3 or less on the GAD module of the parent-report ADIS-C or as “unchanged” if the CSR on the GAD module continued to be 4 or greater.

Results

Table 1 displays the adolescent- and mother-report assessment scores, percentages of change and treatment response status at pre-, mid-, post-treatment and 3-month follow-up for each participant. Participants B, C, and D self-reported moderate improvement and Participant A reported minimal improvement by mid-treatment. However, all participants achieved high treatment response status by post-treatment and maintained these improvements at 3-month follow-up. These gains were also reflected in mothers’ reports, although mothers of Participants A, B, and C reported a high treatment response by mid-treatment, earlier than their daughters reported themselves.

Insert Table 1 here

In terms of comorbid diagnoses, co-occurring MDD remained in the clinical range by mid-treatment for Participants C and D (mean CSR = 5) but reduced to the non-clinical range for Participant B (CSR = 2). Comorbid social phobia and specific phobia also remained in the clinical range by mid-treatment for Participant B and C (mean CSR = 4) but reduced to non-clinical levels in Participant A (mean CSR = 4). However, the CSRs of all comorbid conditions reduced to within the non-clinical range by post-treatment and were maintained at the 3-month follow-up assessment.

Also as shown in Table 1, pre-treatment interpersonal difficulties scores (i.e., IIP-C total scores) were in the clinical range for Participants A, C and D and in the high average range for Participant B. By mid-treatment, IIP-C total scores were within the high average range for Participants A, B, and D and within the average range for Participant C. Moreover, all participants’ IIP-C total scores reduced to within the average range by post-treatment and these gains were maintained at the 3-month follow-up assessment.

Discussion

This study highlights the effectiveness of CBT combined with an interpersonal skills component for treating GAD in adolescent females. Diagnostic and self-report evaluations obtained from adolescent participants and their mothers confirmed the intervention produced clinically meaningful reductions in GAD symptomatology in all four participants by post-treatment as well as maintenance of treatment gains at a 3-month follow-up assessment. These findings are consistent with recent advances in the adult GAD treatment literature, which has shown improved treatment outcomes by combining interpersonal skills with CBT in adult GAD patients (Borkovec et al., 2003).

Although three of the four participants achieved moderate treatment gains by mid-treatment after receiving just the CBT component, high treatment response status and associated reductions in comorbid diagnoses were achieved following the 10-week intervention of CBT and IP. Thus, the present results suggest that the sequencing of CBT followed by IP may be a clinically useful approach to consider in the treatment of GAD in adolescent females, particularly in cases with comorbid MDD and/or high levels of interpersonal difficulty. This is consistent with reports from participants in the present study that the CBT component gave them practical strategies for managing their anxiety and related problems, which in turn, gave them the confidence to address relationship problems. Nevertheless, as the utilisation of a case series design does not entail adequate controls for the effectiveness of the different treatment components to be determined, causality about the contribution of the CBT and IP components cannot be elucidated. Controlled investigations comparing CBT, IP and a combined intervention for adolescent females with GAD are needed to address this issue.

Although the findings from this first implementation of CBT-IP with adolescent females with GAD are encouraging, their interpretation must be moderated by several limitations. The modest number of participants and the use of a case series design prevent firm conclusions about the generalisability of results. Also, the inclusion of a longer follow-

up assessment would have permitted long-term maintenance of treatment gains to be determined. Additional questionnaire measures that specifically assess change in worrying (e.g., the Penn State Worry Questionnaire), the hallmark symptom of GAD, should also be included in future studies. Also, treatment integrity could have been improved by an independent assessor not affiliated with the study undertaking random checks of sessions using a session checklist. Because participants in the present study were seen as individual cases referred for treatment as part of routine clinical practice rather than within a controlled treatment study, such design rigour was not possible; however, future studies should seek to do this. Finally, although all participants and their mothers reported high levels of satisfaction with the treatment at post-treatment assessment, formal evaluation of client satisfaction should be conducted to augment the clinical outcome data.

In summary, the present study showed that at the single case level, a combination of CBT plus an interpersonal skills component produced clinically meaningful improvements in symptomatology and interpersonal functioning in adolescent girls with GAD. These results encourage further study of the independent as well as the combined effectiveness of CBT and IP in the treatment of GAD in adolescent females.

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Table 1

Adolescent- and mother-report measures for each participant as a function of assessment interval.

Reporter	Measures	Pre-Treatment	Mid-Treatment		Post-Treatment		3-month Follow-up	
		Score	Score	% Change	Score	% Change	Score	% Change
Participant A								
Adolescent	ADIS-GAD	6	4	C	2	NC	1	NC
	RCMAS	16	15	6.25%	6	62.50%	1	93.75%
	CES-DC	41	15	63.41%	10	75.61%	5	87.80%
	TRS			Low		High		High
	IIP-C	78	66		42		36	
Mother	ADIS-GAD	6	2	NC	3	NC	2	NC
	TRS			High		High		High
Participant B								
Adolescent	ADIS-GAD	6	4	C	2	NC	0	NC
	RCMAS	19	11	42.11%	1	94.74%	3	84.21%
	CES-DC	23	13	43.48%	5	78.26%	0	100%
	TRS			Mod.		High		High
	IIP-C	66	64		42		44	
Mother	ADIS-GAD	4	2	NC	0	NC	1	NC
	TRS			High		High		High
Participant C								
Adolescent	ADIS-GAD	7	4	C	3	NC	1	NC
	RCMAS	25	16	36%	1	96%		-
	CES-DC	42	16	61.90%	8	80.95%		-
	TRS			Mod.		High		-
	IIP-C	70	55		40		-	
Mother	ADIS-GAD	5	2	NC	2	NC	0	NC
	TRS			High		High		High
Participant D								
Adolescent	ADIS-GAD	6	4	C	1	NC	2	NC
	RCMAS	22	15	31.82%	14	36.36%	9	59.09%
	CES-DC	33	12	63.64%	8	75.76%	2	93.94%
	TRS			Mod.		High		High
	IIP-C	71	65		60		56	
Mother	ADIS-GAD	7	6	C	3	NC	2	NC
	TRS			UC		High		High

^a Questionnaire measures not returned at 3-month follow-up assessment.

Note. ADIS-GAD = Interference rating for generalised anxiety disorder component from the ADIS-C/P; RCMAS = Revised Children's Manifest Anxiety Scale raw total score; CES-DC = Centre for Epidemiological Studies Children's Depression Scale total score; IIP-C = Inventory of Interpersonal Problems - Circumplex Scale total score; TRS = Treatment Response Status; C = Clinical severity rating; NC = Non-Clinical severity rating; UC = Unchanged; Negative % of change = deterioration in symptoms.