Behavioural and Cognitive Psychotherapy, 2002, 30, 69–78
Cambridge University Press. Printed in the United Kingdom

CHANGES IN SYMPTOMS OF OCD AND APPRAISAL OF RESPONSIBILITY DURING COGNITIVE BEHAVIOURAL TREATMENT: A PILOT STUDY

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Abstract. A consecutive series of six adolescents referred for obsessive compulsive disorder were treated using a cognitive behavioural approach that included procedures intended to: (1) reach a shared understanding of the psychological nature of the problem; (ii) normalize intrusive thoughts; (iii) help the patient to reappraise notions of responsibility; and (iv) help the patient re-evaluate the basis of their fears. The effects of treatment were measured using standardized questionnaires designed to elicit beliefs about responsibility, and symptoms of anxiety, depression, and obsessive compulsive disorder. During the course of treatment, appraisals of responsibility changed at the same time as changes in symptom levels. The results suggest a more cognitive approach to treatment can be helpful for this age group, and that cognitive change is associated with clinical improvement.

Keywords: Cognitive behaviour therapy, responsibility, outcome study, children.

Introduction

The psychological treatment of children and adolescents suffering from obsessive compulsive disorder (OCD) has become the focus of much research (March, Mulle, & Herbel, 1994; de Haan, Hoogduin, Buitelaar, & Keijers, 1988; Wever & Rey, 1997; Thomsen, 1996). Early studies suggested the utility of exposure and response prevention (E/RP), which was based on the research with adult patients (Bolton, Collins, & Steinberg, 1983). E/RP is

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based on a conditioning model of OCD that proposes that anxiety becomes associated with obsessive thoughts through classical conditioning. Extinction fails to occur because of the development of compulsive behaviour, which is, in turn, maintained by negative reinforcement. That is, the occurrence of compulsive behaviour explains the persistence of obsessional problems because it has the effect of terminating exposure and prevents extension. Treatment therefore involves prolonged exposure, while at the same time preventing compulsive behaviour. However, some authors found that it was difficult to engage young patients in this method of treatment (e.g. Apter, Bernhout, & Tyano, 1984; Allsopp & Verduyn, 1988). Similar difficulties working with some adult patients led to efforts to improve the treatment methods through a greater understanding of the cognitive basis for OCD (Salkovskis & Westbrook, 1987).

Initial efforts at introducing a cognitive element into the treatment of young people with OCD used anxiety management techniques to improve the acceptability of exposure and response prevention (March et al., 1994; De Haan et al., 1998). Both these programmes focus on managing the fears induced by exposing oneself to the obsession without performing the compulsion. De Haan et al. (1998) demonstrated that this form of cognitive behaviour therapy was as effective as drug treatment with clomipramine.

Salkovskis (1985) proposed that cognitive factors play a central role in obsessional problems. According to this cognitive theory, people who suffer from obsessional problems misinterpret intrusive thoughts as a sign that they may be responsible for harm to themselves or to others. This interpretation *motivates* neutralizing behaviours, which in turn can strengthen and maintain the threat/responsibility appraisals (Salkovskis, 1999; Rachman, 1997). It therefore follows that procedures that reduce such misinterpretations are likely to benefit patients suffering from OCD.

Salkovskis (1985; Salkovskis & Kirk, 1997) has suggested that treatment of OCD should proceed from an understanding of the meaning that OCD patients attach to their intrusive thoughts. Compulsions and neutralizing behaviours are attempts to reduce perceived responsibility for harm occurring to the patients themselves, or to others. The trigger for the obsessional episode is an intrusive cognition in a person who holds negative beliefs about personal responsibility. For example, somebody who holds the belief ''thinking something could mean I want it to happen'' would be likely to become alarmed at the thought ''Daddy might die''. The sufferer from OCD will be distressed by this interpretation, and they may either actively attempt to suppress the thought or engage in a mental or behavioural ritual until the feeling of distress passes.

Studies of intrusive cognitions have demonstrated that about 80% of normal adults (Rachman & de Silva, 1978; Salkovskis & Harrison, 1984) and adolescents (Allsopp & Williams, 1996) report their occurrence and that many of the intrusions are unpleasant. In non-clinical populations there is evidence that attempts to suppress thoughts increases their salience and frequency (Salkovskis & Campbell, 1994). Furthermore, a recent study demonstrated that manipulating the feeling of responsibility directly reduced levels of distress suffered by OCD patients when exposed to feared stimuli (Shafran, 1997).

A detailed treatment approach based on the theory has been proposed (Salkovskis & Kirk, 1997). Treatment of OCD is likely to require re-education about the significance of intrusive thoughts, as well as learning that it is not necessary to perform a ritual in order to feel comfortable after discomfort has suddenly arisen. Normalizing examples are explored and behavioural experiments are discussed and set up to help the patient understand the counter-

productive role of the strategies that they use when the obsessions are bothering them. Key points in cognitive behavioural therapy are therefore helping the sufferer construct and accept a less threatening account, to test the alternative explanation, and to help them to normalize the experience of intrusive thoughts.

Given that a cognitive approach to obsessions appears relatively complex, it might be argued that it would not transfer well to younger patients. Children and adolescents may be thought to lack the metacognitive skills to utilize a more cognitively oriented programme. However, for other anxiety disorders and depression there is increasing evidence of the benefits of a cognitive approach (Kendall, 1994; Dadds, Spence, Holland, Barrett, & Laurens, 1997; Harrington, Whittaker, & Shoebridge, 1998).

In this study, therefore, we report a pilot study of adolescent patients with obsessive compulsive disorder who were treated using this cognitive rationale. An initial assessment of the severity of the disorder was followed by a variable predetermined period without treatment. Subsequently, the first treatment session comprised an explanation of the formulation of obsessive compulsive disorder as primarily a disorder of appraisal of normal but unpleasant intrusive thoughts. The patient was required to complete homework tasks that would usually be some form of behavioural experiment, but which were negotiated with the client to ensure that they could be accomplished without a large increase in anxiety. The present study describes the treatment of a consecutive series to provide a preliminary indication of the effectiveness of the cognitive approach to the treatment of OCD in this population.

Measures

At each session clients were asked to fill in the following questionnaires: relating to general mood (Beck Anxiety Inventory (BAI) – Beck, Epstein, Brown, & Steer, 1988; Child Depression Inventory (CDI) – Kovacs, 1985); for OCD symptoms, the Obsessive-Compulsive Inventory (OCI – Foa, Kozak, Salkovskis, Coles, & Amir, 1988) and for responsibility cognitions the Responsibility Interpretations Questionnaire (RIQ – Salkovskis et al., 2000), which measures distortions of cognitions related to intrusive thoughts and responsibility. The RIQ has two subscales (belief and frequency), each with 22 responsibility appraisals. The items are the same on both subscales, but on the belief subscale the respondent is asked too rate how much they believed a responsibility appraisal on a scale of 0–100%, whereas on the frequency subscale the respondent is asked to rate how frequently the responsibility appraisal occurred during the past week on a scale of 0 for never to 4 for always. Test-test reliability and internal consistency are reported as good for adult populations (Salkovskis et al., 2000). Furthermore Salkovskis et al. (2000) reported higher levels of responsibility appraisals in patients with OCD than in other psychiatric groups. The OCI is a 42-item questionnaire with seven subscales (Washing, Checking, Doubting, Ordering, Obsessing Hoarding and Mental Neutralizing). Each item is rated from 0 (has not troubled me at all) to 4 (troubled me extremely). Foa et al. (1988) found that it had good test-retest reliability, internal consistency and criterion validity in adult populations.

At the assessment session, and at the sixth session and the final session of treatment the therapist also administered a rater assessed measure of OCD symptoms (YBOCS-R), which was a modification of the Yale-Brown Obsessive Compulsive Scale (Goodman et al., 1989) following the suggestions of Woody, Steketee and Chambless (1995). This differs from the

first version by deleting the resistance items and including the avoidance item in the total score. It also includes two additional items that rate the extent of belief in the intrusion both at the time of occurrence, and when they are not present. The maximum score on the YBOCS-R is 36, four less than the maximum possible on the YBOCS.

Results

Six consecutive referrals of adolescent patients with obsessive compulsive symptoms were treated at two sites by three therapists working in pairs and singly.

Aubrey was a 17-year-old boy with a long history of psychological and pharmacological interventions for school refusal and obsessive compulsive disorder. He had one younger brother about whom there were no concerns. Neither parent had a history of psychological problems. He had been identified by the local education authority as being in need of special education because he had not been able to overcome his anxiety when attending a normal school, and was falling behind in his academic work. He had begun overt ritualizing at about 12 years of age, although no precipitating event was revealed on interview. When first seen he was taking 150mg fluvoxamine daily. He had just failed to transfer from a special school unit to a local further education college because of the anxiety induced by the prospect of such a large setting. At the initial interview it also became apparent that Aubrey was concerned about the possibility of aliens invading the earth, of malfunctions in the computer games he enjoyed and of intruders. He countered these by always switching the TV off from a particular station and by constantly checking that all computer components were in perfect condition. He also avoided social contacts to a significant extent. This seemed to be an unrelated phenomenon and was connected with concerns about the ways in which he might be judged by others. Although he was isolated he did not have difficulties with social interactions in sessions.

Abigail was a 14-year-old only child who developed rituals following a holiday during the course of which she had seen condoms at the side of the path where she was walking. In the year preceding the holiday two of her grandparents had died suddenly. She became afraid of germs and had rituals concerned with washing her hands and the kitchen equipment. She also checked electrical switches. Although her parents had no previous contact with psychiatric services, her mother was unable to leave the house without checking the door latches and domestic appliances.

Brian was a boy of 13 years of age with twin younger sisters and an elder brother. He was doing well at school. His OCD developed following the death of a grandparent and the sudden arrest and jailing of his brother following an alleged assault. There was no known psychiatric history in the family. At initial interview he was washing his hands excessively and cleaning cutlery in order to eat. He was unable to use his fingers to pick up food and eat it. If he had to eat finger foods, such as crisps, he would tip them from the packet directly into his mouth without letting them touch his hands. He also repeatedly asked questions about the whereabouts of his sisters and father.

Bethany was a 14-year-old girl of mixed ethnic origin. Her OCD began shortly after her parents' separation. She had two younger brothers and all three children were progressing well at school. Her mother bore a striking resemblance to Princess Diana and the onset of her OCD followed shortly after the death of the princess. Bethany's obsession was that someone in her family would die. She countered that fear by telephoning her mother's place

of work repeatedly during the day, aligning household objects in fours (the number of people living in her family unit), and by checking doors and cupboards for intruders. She also refused to let her mother go out at night on the grounds that whoever took her out might drink and drive and therefore cause an accident. Separation anxiety was ruled out as an explanation of her difficulties because she was not concerned to be with her mother, but instead was concerned that her mother might have been taken ill or involved in an accident.

Cassie was a 16-year-old girl with an older sister and intact family. Her OCD dated back 18 months to the discovery that her elder sister was unexpectedly pregnant. She was obsessed by the fear of falling asleep in class due to not sleeping well enough at night. This was countered by an elaborate ritual before going to bed that involved eating three tangerines, and performing a number of other routine activities three times. If any part of the routine was missed she had to repeat the whole ritual.

Charlie was a 12-year-old boy with two elder brothers from an intact family. He had a 12-month history of OCD following his father's planned splenectomy. Following the operation, he had been told that it was very important for his father to avoid contact with sick people as far as possible, and his father was prescribed antibiotics to reduce the risk of infections. The parents were able to reassure us that this posed no real risk to Mr S who was able to continue with his senior sales position without taking major precautions. Charlie was concerned about the possibility of bringing home a disease from school. In particular, he felt that the children at his school were likely to contaminate him through the medium of saliva, which he claimed was widely distributed in the school's public places. On his return from school, he would change his clothes and wash thoroughly. He was not concerned about the possibility of contamination from playing soccer on the field near his home. Because he believed the school was particularly contaminated, he would not allow any of his school books or equipment to enter the house and they were therefore discarded in the porch.

The first treatment session was used to develop a shared understanding of the cognitive formulation of their problem. Subsequent treatment sessions focused on the appraisals of behaviour, with a view to enabling the children to experience the discomfort of not performing the rituals. For instance, Charlie was concerned that he might be responsible for bringing home a dangerous illness. We concentrated on examining whether this was an intrusive thought or a reality-based cognition. In one session we discussed when people in the family had been ill at times other than school days, and also on how often children at school seemed to become ill. In Bethany's treatment our approach was initially to investigate how arranging objects might lead to influence on the world. She accepted the view that she could not influence the world by arranging household utensils and was prepared to try an experiment in which deliberately left objects misaligned. We also examined aspects of her appraisals of responsibility for her younger brothers and her mother.

During treatment some children failed spontaneously to report any cognitions. We sought to address this by helping them to consider the reasons why they might have the particular feelings they had. Thus when Brian was unable to explain why he needed to check on the whereabouts of his sisters, we could ask questions about how it might feel if he really did not know where his sisters were. In addition, although he did not answer questions about thoughts, he would say that his sisters were unable to look after themselves, that his mother was not watching them, and that therefore he had to check that they had not got lost. We

reflected this back to him as inappropriate assumption of responsibility for their welfare, as they had arranged to be with friends.

Further details of the patients can be seen in Table 1. Of the six cases seen in this study, only one presented with a comorbid psychological problem (social phobia). The initial mean score on the YBOCS-R was 17.25 while the initial OCI score was 57.67. One of the participants reported very low levels of symptoms on direct questioning but his parent's account suggested that this was a significant underestimate. At the final session of treatment the YBOCS mean score was 3.17 and the OCI mean score was 10.5. These scores can be most usefully compared with the results of previous treatment studies as shown in Figure 1. Since we used a modified YBOCS the results are compared in terms of the percentage maximum score on the YBOCS. The scores on self-reports of OCD, anxiety and depression are shown in Figure 2. Overall it can be seen that the participants made good progress in dealing with their obsessive compulsive symptoms. In Figure 3 we present pooled data on self-reports of OCD symptoms and responsibility appraisals. The correlations between OCI scores and RIQ scores are very high (OCI:RIQ-F $r^2 = 0.95$; OCI:RIQ-B $r^2 = 0.92$).

Discussion

In a study of cognitively oriented treatment of OCD we were able to recruit and retain young people suffering from OCD. These patients were able to complete both clinical and questionnaire assessments of the cognitive distortions seen in OCD. At the conclusion of treatment OCD symptoms had returned to levels similar to those seen on non-clinical populations. OCD symptoms declined at approximately the same rate as the cognitive distortions.

Comparison with previous psychological treatment trials is limited by the use of a modified form of the YBOCS. Nevertheless, if the percentage of maximum scores are used as shown in Figure 1, the participants in this study may be seen to have made substantial reductions in obsessive compulsive symptoms (about 40 percentage points), compared with about 30 percentage points in previous studies of CBT (March et al., 1995; De Haan et al., 1998). It seems, therefore, that a treatment that focuses on cognitions specified to OCD is at least as effective as treatment where more general anxiety cognitions are the focus of treatment. Further research could be designed to test this hypothesis by comparing different forms of cognitive behavioural treatments for obsessive compulsive disorder, (although large groups would be needed in order to provide sufficient statistical power).

A further criticism might be that this group of patients had less severe OCD and thus responded better (quicker and with a greater overall reduction in symptoms) to treatment. If this was so we would expect a large negative correlation between initial YBOCS-R score and change in YBOCS-R, so that individuals with higher scores would change least. In fact, the correlation (0.91) is large and in the opposite direction, which suggests that this form of CBT is more successful with those patients worst affected by their symptoms. Future treatment research should be designed to investigate prognostic indicators such as the chronicity and the severity of the OCD.

Despite the frequent failure of these adolescent patients to provide a clear account of their cognitions, it would appear that the notion of responsibility lies behind their OCD, since significant decreases in scores on responsibility measures coincide with decreases in OCD symptomatology. However, cognitive therapy techniques used in adult work may not be sufficiently effective to reveal the extent to which young people hold these views. The RIQ

Table 1. Details of the six patients

	Aubrey	Abigail	Brian	Bethany	Cassie	Charlie
Gender	Male	Female	Male	Female	Female	Male
Age	17	14	13	14	16	12
Family	Intact	Intact	Intact	Separated	Intact	Intact
Duration of OCD	> 12 months	15 months	12 months	16 months	18 months	
Precipitants	?	Bereavement	Bereavement	?Loss	Family discord (sister's pregnancy)	Paternal splenectomy
Comorbidity	Social phobia, specific learning difficulty	None	Vomit phobia	None	None	None
Obsessional idea	?Alien invasion, death	Death, illness	Sickness	Loss of members of family	Falling asleep in class	Contamination or infection
Compulsions	TV channel on 1 when switched off, arranging books, touching rituals	Washing hands, checking switches, cleaning implements before use	Washing hands, cleaning cutlery before use, ?checking whereabouts of family members	Checking mother's whereabouts, counting to 4, aligning objects	Complex ritual at bedtime	Washing, changing clothes
No. of treatment sessions	10	9	7	8	7	10
Medication	100 mg fluvoxamine	None	None	None		None

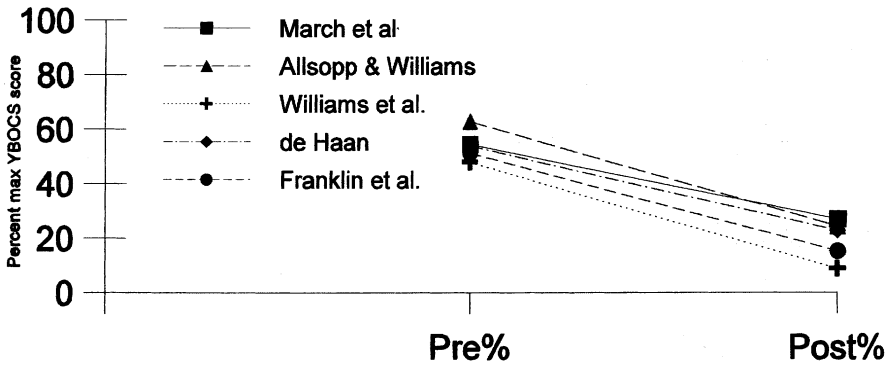

Figure 1. Comparison of CBT trials

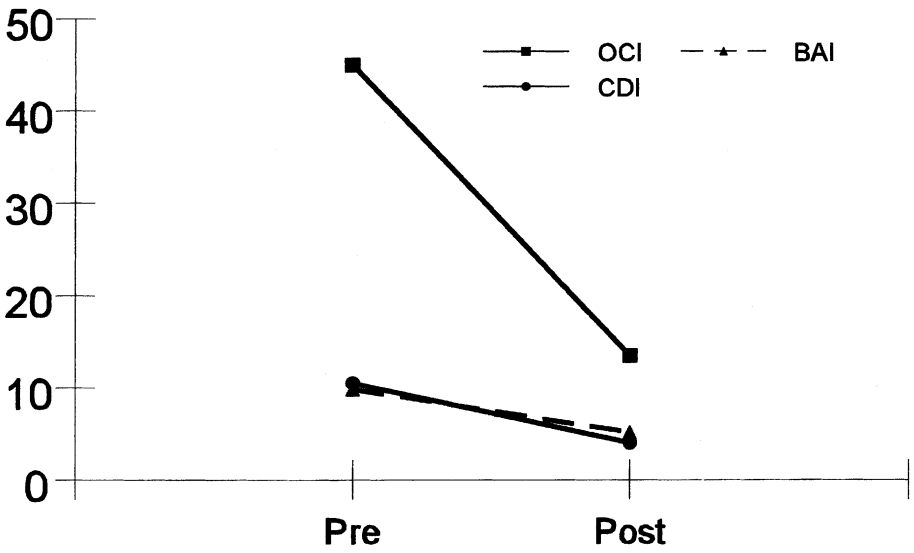

Figure 2. Scores on self-report scales

questionnaire does not seem to be useful, although the young people often said that they were unsure of how to answer the questions. At the same time the experience of the therapists involved in this study suggested that the patients were able to understand that an intrusive thought could be appraised as just that and without greater significance. They also found it helpful that the intrusive thoughts could be regarded as similar to irritating tunes that kept popping into their heads. In other words, normalizing the experience often seemed to be of benefit to the children. Once they grasped that idea they were often able to experiment with delaying the onset of the ritual or even to abandon the ritual altogether. In this way, this type of CBT can be said to have enabled the carrying out of E/RP.

The extent of the success of the CBT approach in the treatment of OCD in young people buttresses the clinical consensus guidelines (Expert Consensus Panel, 1997), which state that CBT is the first choice treatment for young people. Health professionals who identify

https://doi.org/10.1017/S1352465802001078 Published online by Cambridge University Press

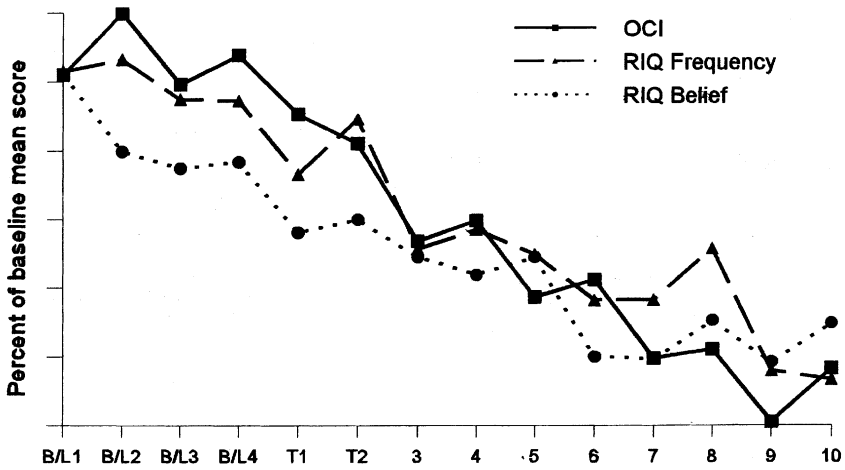

Figure 3. OCD symptoms and responsibility cognitions

adolescents and children with OCD should therefore ensure that CBT is offered. One suggestion would be that the form of the CBT should be one in which the responsibility appraisals are addressed directly in order to enable the OCD to be treated as efficiently as possible.

Acknowledgements

The authors are grateful for constructive discussions with Professor March and Dr de Haan during the preparation of this paper. Paul Salkovskis was a Wellcome Trust Senior Research Fellow when this work was conducted. Elizabeth Forrester was also supported by the Wellcome Trust.

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