Overview of Treatments for Obsessive-Compulsive Disorder and Spectrum Conditions: Conceptualization, Theory, and Practice

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This paper presents an overview of obsessive-compulsive disorder (OCD) and the obsessive-compulsive spectrum disorders (OCSDs) by outlining the major arguments for and against the spectrum construct. Cognitive, behavioral, and biological models are reviewed, as are assessment strategies for adults and children. Treatment options for OCD are critically evaluated, and it is argued that exposure and ritual prevention (ERP) has the best support as the first-line psychological treatment. Suggestions for overcoming the most common obstacles faced during treatment are provided. In addition, strategies for dealing with partial or nonresponse or treatment refusal are discussed. Stepped-care models are presented as a potential method of addressing the problems caused by the expense and time commitment of existing treatments. [Brief Treatment and Crisis Intervention 3:127–144 (2003)]

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The symptoms of OCD tend to cluster into recognizable subtypes. Checking and washing are the most common and together account for over 50% of OCD cases (Foa et al., 1995; Mataix-Cols, Baer, Rauch, & Jenike, 2000). Other common subtypes include doubting, mental ritualizing, ordering, hoarding, and scrupulosity (Foa, Koziak, Salkovskis, Coles, & Amir, 1998). A number of studies have attempted to empirically derive OCD subtypes by applying factor analysis to the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) symptom checklist (Goodman, Price, Rasmussen, Mazure, Delgado, et al., 1989; Goodman, Price, Rasmussen, Mazure, Fleischmann, et al., 1989). These studies yield from three to five factors with a high degree of consensus across studies. All studies identified a contamination/cleaning factor, and all studies with four or more factors identified obsessions/checking, symmetry/ordering, and hoarding as factors (Leckman et al., 1997; Mataix-Cols, Rauch, Manzo, Jenike, & Baer, 1999; Summerfeldt, Richter, Antony, & Swinson, 1999). Mataix-Cols and colleagues (1999) added an additional factor, sexual/religious obsessions, in their five-factor solution, while Baer’s (1994) three-factor solution combined symmetry and hoarding into one factor and added another factor, “pure obsessions,” that may be consistent with the obsessions/checking factor in other studies. Thus, factor-analytic studies are generally consistent in identifying at least four core subtypes of OCD: washing, checking, ordering, and hoarding.

A common misconception in OCD concerns the prevalence of patients classified as being “purely” obsessional, without any compulsions. This notion may be an artifact of early definitions of OCD, which maintained that obsessions were mental events and that compulsions were overt behaviors. However, current theories recognize that compulsions can be either actions or thoughts. Mental compulsions (e.g., mental review, counting, praying) are differentiated from obsessions by their function. Obsessions elicit anxiety, while compulsions either reduce anxiety or are completed to stave off a perceived consequence. It is very rare for an OCD patient not to engage in ritualizing; 99.8% of OCD patients describe either mixed behavioral and mental compulsions, or behavioral compulsions only (Foa et al., 1995). Thus, the presence of covert rituals should be routinely assessed, especially in the absence of overt compulsions.

OCD Spectrum Disorders

Although obsessions and compulsions are the defining criteria for OCD, these symptoms are also present in a number of other disorders. For example, body dysmorphic disorder, Tourette’s syndrome, and trichotillomania all involve intrusive or repetitive thoughts or behaviors. Because of the phenomenological overlap of these disorders with OCD, as well as their apparent preferential response to serotonergic medications, researchers have proposed grouping these disorders together into a category called obsessive-compulsive spectrum disorders (OCSDs). It has been argued that the OCSDs affect as many as 10% of the U.S. population and cause significant economic burden, as well as disruptions in quality of life (Hollander et al., 1996).

One conceptualization places OCSDs along a continuum from “compulsive” to “impulsive” (Hollander et al., 1996). The “compulsive” end of the spectrum is characterized by harm-avoidant rituals and includes OCD, hypochondriasis, restrictive anorexia, and body dysmorphic disorder (McElroy, Phillips, & Keck, 1994). The “impulsive” end of the spectrum is characterized by self-damaging behaviors and includes trichotillomania, compulsive gambling, Tourette’s syndrome, bulimia nervosa, kleptomania, and impulsive personality disorders (McElroy et al., 1994). Another conceptualization places disorders along a motoric/obsessional di-
mension. Motoric disorders involve repetitive behaviors without obsessions (e.g., Tourette's disorder). Obsessional disorders reflect the inverse pattern of obsessions without repetitive behaviors (Hollander & Wong, 2000).

OCD and the OCSDs share a common controversy over the degree to which they reflect either a more unified disorder or many distinct disorders. Patients with OCD frequently present with symptoms of more than one subtype (Rasmussen & Eisen, 1988), suggesting a more unified solution. However, that some subtypes of OCD appear to respond differentially to different treatments (Buchanan, Meng, & Marks, 1996; Jenike, Baer, Minichiello, Rauch, & Buttolph, 1997; Lelliott, Noshirvani, Basoglu, Marks, & Monteiro, 1988; Rachman, 1980) suggests that they may be distinct disorders. Similarly, critics argue that the concept of the OCD spectrum is predicated mainly on superficial similarities in surface topography, selective interpretation of medication response data, and misinterpretation of relatively sparse and inconsistent neuroimaging data. Behaviors that resemble each other, they argue, may not represent the same illness, and impulsive behaviors do not serve the same neutralizing function as do compulsions (Abramowitz & Houts, in press; Tolin & Foa, 2001). In addition, the spectrum concept could become overinclusive. For example, the same similarities used to relate Tourette's syndrome to OCD have also been used to relate Tourette's syndrome to autistic spectrum disorders (Barnhill & Horrigan, 2002; Bejerot, Nylander, & Lindstrom, 2001). On the other hand, some of the spectrum disorders tend to respond to similar pharmacological and psychosocial treatments, and some demonstrate a functional relationship between mental and behavioral events that parallels that of OCD; it is therefore suggested that at least some OCSDs may be related to OCD. Articles by Steketee and Neziroglu, Stemberger, Stein, and Mansueto, and Deckersbach, Keuthen, and Wilhelm in this special issue will elaborate on specific OCSDs and their relationship to OCD.

Models of OCD

Behavioral

Behavioral models of OCD (e.g., Kozak & Foa, 1997) posit that compulsive behaviors are a form of avoidance that maintain obsessive fears via negative reinforcement (anxiety reduction) and by blocking opportunities for habituation to feared objects and situations. Indeed, laboratory studies show that exposure to feared stimuli increased patients' anxiety, whereas performing compulsions led to decreased anxiety (Hodgson & Rachman, 1972). Some individuals with OCD, generally checkers, do report increased fear after performing compulsions (Roper, Rachman, & Hodgson, 1973); however, mildly anxiety-evoking behaviors might be considered as avoidance behaviors if they serve to prevent the occurrence of strong anxiety (Herrnstein, 1969). Thus, while checking the stove may elicit anxiety in some patients, refraining from checking the stove is perceived as an even more anxiety-producing event because of the increased risk of an aversive event (e.g., the house burning down). In summary, the specific function of compulsions may vary, but the general function appears to be one of anxiety reduction and/or prevention.

Cognitive

Traditional cognitive models of psychopathology have been “top-down”; that is, they emphasize the role of dysfunctional cognitions in the etiology and maintenance of disorders (Beck, Emery, & Greenberg, 1985). According to such models, OCD is characterized by dysfunctional assumptions, such as overestimation of threat, intolerance of uncertainty, importance of
thoughts, need to control thoughts, responsibility, and perfectionism (Obsessive Compulsive Cognitions Working Group, 1997). Thus, OCD develops and is maintained as normal unpleasant thoughts as being perceived as harmful, immoral, or dangerous. Such beliefs are strengthened when neutralizing strategies lead to decreased anxiety, a factor that overlaps with the behavioral model (Rachman, 1998; Salkovskis, 1985). More recent models of psychopathology have been “bottom-up,” reflecting an emphasis not on beliefs but rather on the processes of mental activity (Williams, Watts, MacLeod, & Mathews, 1997). Information-processing studies of OCD have shown that OCD is characterized by an attentional bias toward threat cues (Foa, Ilai, McCarthy, Shoyer, & Murdock, 1993; Lavy, van Oppen, & van den Hout, 1994); increased memory for, and impaired forgetting of, threat-related stimuli (Constans, Foa, Franklin, & Mathews, 1995; Radomsky & Rachman, 1999; Tolin, Hamlin, & Foa, 2002; Wilhelm, McNally, Baer, & Florin, 1996); decreased memory confidence (Constans et al., 1995; Tolin, Abramowitz, Brigidi, et al., 2001); and difficulty inhibiting the processing of irrelevant information (Enright & Beech, 1990, 1993; Tolin, Abramowitz, Przeworski, & Foa, 2002). Bottom-up and top-down models of OCD should not be considered mutually exclusive; indeed, we propose that an integrated cognitive-behavioral model of OCD must take into account both dysfunctional beliefs and biases as well as deficits in information processing.

**Biological**

Biological models of OCD have focused on the role of abnormal serotonin metabolism and hyperactive frontal-striatal circuits in creating the symptoms of OCD. The serotonin hypothesis is predicated on the observation that patients with OCD respond preferentially to serotonin reuptake inhibitors (SRIs) as opposed to non-serotonergic medications or a placebo. However, more direct tests of the serotonin hypothesis, such as biological challenge studies, have been inconclusive (Barr, Goodman, & Price, 1993; Barr, Goodman, Price, McDougle, & Charney, 1992). Neuroimaging and neurosurgical evidence suggests that OCD is associated with hyperactivity in frontal-striatal circuits of the brain, which includes the orbitofrontal cortex, anterior cingulate cortex (ACC), caudate nucleus, and thalamus (Baxter, 1992; Breiter et al., 1996; Saxena & Rauch, 2000). The biological models of OCD are not wholly separate from cognitive-behavioral models. Neurotransmitter activity, regional metabolic activity, behavioral reinforcement, maladaptive beliefs, and information-processing biases may be conceptualized as different ways of understanding OCD symptoms. Similarly, each of these systems might be thought to influence the others, rather than rely on a singular direction of causality (e.g., biological irregularities cause dysfunctional behaviors). As an example of these complex interrelationships, both SRI medications and behavior therapy appear to produce comparable changes in brain metabolic activity (Schwartz, Stoessel, Baxter, Martin, & Phelps, 1996).

**Assessment of OCD**

Steketee and Neziroglu in this volume discuss assessment strategies for OCD. In our clinic, assessment of OCD includes a comprehensive evaluation of current and past OCD symptoms, associated functional impairments, the patient’s degree of insight into the senselessness of OCD symptoms, and structured interviews for comorbid Axis I and Axis II psychopathology. In addition, we examine the patient’s understanding of OCD and its treatment, and we provide education as needed. The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) (Goodman, Price, Rasmussen, Maze, Delgado, et al.,
1989; Goodman, Price, Rasmussen, Mazure, Fleischmann, et al., 1989) is considered the “gold standard” of OCD assessment. This semi-structured interview contains a symptom checklist and a severity scale. The symptom checklist includes a list of obsessions and compulsions, categorized according to content. The severity scale of the Y-BOCS assesses symptom severity using five questions for obsessions and five for compulsions. A variation of the Y-BOCS, the Child Yale-Brown Obsessive-Compulsive Scale (CY-BOCS; Scahill et al., 1997), is used for children and adolescents.

A number of standardized self-report measures have been developed for the assessment of OCD. Because of their ease of use and relatively quick completion time, these measures may provide greater utility in monitoring treatment progress than do structured interviews. A number of sources (e.g., Antony, Orsillo, & Roemer, 2001) provide detailed examination of individual measures, but a brief listing of the most commonly used inventories includes a self-report version of the Y-BOCS (Warren, Zgourides, & Monto, 1993); the Obsessive Compulsive Inventory (Foa et al., 1998; a recently published, abbreviated version of which appears in Foa et al., in press); the Maudsley Obsessional Compulsive Inventory (Hodgson & Rachman, 1977); and the Padua Inventory (Sanavio, 1988). In addition to these diagnostic measures, several other measures have been published that assess cognitive features thought to underlie OCD; we routinely include these measures as part of a comprehensive OCD assessment. These measures include the Obsessive Beliefs Questionnaire (Obsessive Compulsive Cognitions Working Group, 2001), the Thought-Action Fusion Scale (Shafran, Thordarson, & Rachman, 1996), and the Thought Control Questionnaire (Wells & Davies, 1994).

Behavioral assessment of OCD symptoms is not commonly reported in the literature, but it can be very useful for evaluating the severity of fear, for facilitating treatment planning, for monitoring progress, and for measuring treatment outcome (Mavissakalian & Barlow, 1981). Behavioral-avoidance tests (BATs) represent one form of behavioral assessment that can be tailored to the patient’s symptom profile. For example, patients with contamination concerns may be asked to touch “dirty” objects like doorknobs, garbage cans, or toilets; checkers may be asked to leave doors unlocked, to drive over potholes, or to leave objects in a manner that might cause someone harm (e.g., placing sticks on a pathway); hoarders can bring objects into the office to be discarded; and patients with ordering compulsions can be asked to misarrange objects in their house or car. Because of the idiosyncratic nature of many compulsions, behavioral assessment often requires creativity and the willingness to travel with the patient. As will be discussed later, such BATs tie in nicely with exposure and ritual-prevention exercises that are used to reduce the patient’s fear of these activities.

Treatment of OCD

Exposure and Ritual Prevention

Exposure and ritual prevention (ERP), also called exposure and response prevention, consists of gradual, prolonged exposure to fear-eliciting stimuli or situations, combined with strict abstinence from compulsive behavior. In practice, this treatment would mean that a patient with contamination concerns, for example, would be encouraged to touch progressively “germier” objects while simultaneously refraining from washing or cleaning. Similarly, a patient with obsessive concerns about harming other people while driving might be encouraged to drive in increasingly congested areas without looking in the rearview mirror. The purpose of these exercises is to allow patients to experience
a reduction of their fear response, to recognize that these situations are not excessively dangerous, and to accept their fear will not last forever. Thus, although ERP is a “behavioral” intervention, its mechanism of action may well be cognitive (Foa & Kozak, 1986).

One of the more difficult aspects of ERP is that patients must eventually be willing to perform exposures to their highest fears—and these exposures often feel very risky to the patient. For instance, the highest exposure for the contamination patient just mentioned might be touching a toilet in a public restroom. To help patients make judgments about the appropriateness of an exposure, we often use the principle of acceptable risk in defining the range of possible exposures with the patient. No exposure is risk free; however, the risk of the exposure may be similar to risks commonly taken every day and thus be acceptable. For instance, the patient who balks at touching a toilet without hand washing may be asked to compare the risk of this exposure to that of a camping trip where cleanliness is often delayed for days or weeks. We also find it helpful to encourage patients to assume that a situation is safe unless there is clear evidence to the contrary; typically, OCD patients tend to assume a situation is dangerous unless they can find clear evidence of safety (which is often difficult to obtain). Therapists can influence the patient’s willingness to engage in more difficult exposures by preparing the patient for these at an early stage, by maintaining an expectation that they will be doing so, and by collaboratively engaging in exposures along with the patient. With this in mind, it is also important to pace the level of anxiety elicited during exposures. Exposures should elicit anxiety, but not so much that the patient feels overwhelmed. Regular subjective units of distress (SUDS) ratings can help gauge levels of anxiety. As can be seen, ERP demands flexibility of the patient and clinician. Therapists must be able to design creative exposures that address the patient’s OCD symptoms, and they must be willing to leave the office because many exposures can only be done in the patient’s home or at another fear-relevant location.

Numerous studies attest to the efficacy of ERP in adult outpatients with OCD (e.g., Cottraux, Mollard, Bouvard, & Marks, 1993; Fals-Stewart, Marks, & Schafer, 1993; Kozak, Liebowitz, & Foa, 2000; Lindsay, Crino, & Andrews, 1997; van Balkom et al., 1998). Approximately 75% of patients treated with ERP improve significantly, usually defined as 30 to 50% improvement, and they remain so at follow-up (Franklin & Foa, 1998). Despite this fact, ERP is not widely used by mental health practitioners, as shown by a recent survey of nine Boston-area hospitals and clinics, many of which are known for their expertise in treating anxiety disorders (Goisman et al., 1993). One possible explanation for this discrepancy is that while ERP is efficacious, it may not be cost effective. ERP is time consuming and expensive; thus, many patients and third-party payers are unable or unwilling to pay for treatment. Approximately 25% of OCD patients also refuse ERP (Franklin & Foa, 1998), presumably because of apprehension about the difficulty and intensity of the treatment. To address this obstacle, we (Maltby, Tolin, & Diefenbach, 2002) have developed a brief, four-session readiness intervention consisting of psychoeducation, a videotape example of an ERP session, motivational interviewing techniques, and a phone conversation with a former ERP patient. Initial results are encouraging: to date, 60% of patients receiving the readiness intervention chose to begin ERP, whereas only 20% of patients in a wait-list condition entered ERP.

**Cognitive Therapy**

We believe that the distinction between “behavioral” and “cognitive” therapy is somewhat arbitrary. During ERP, we routinely assist patients in changing inaccurate beliefs about
feared situations, such as pointing out that feared consequences did not occur or that the patient’s fear did not remain forever. Similarly, cognitive therapy (CT) often involves direct behavioral suggestions to reduce avoidant behavior. In OCD, the specific goal of CT is to teach patients to identify and correct their dysfunctional beliefs about feared situations (e.g., Freeston et al., 1997). Wilhelm (this issue) elaborates on the use of CT, so we will describe it here only briefly. To date, CT strategies have emphasized the top-down (beliefs and appraisals), rather than the bottom-up (information processing), cognitive models of OCD. In most cases, this strategy has involved either rational-emotive therapy (RET), in which irrational thoughts are identified and targeted via rational debate, or CT along the lines of Beck and colleagues (1985), in which Socratic questioning and behavioral experiments are used to challenge the validity of distorted thoughts. In either case, the patients are asked to elaborate on their “automatic” appraisals of feared situations, and they are then taught to identify the inaccuracies or logical inconsistencies in those thoughts. For example, a patient with contamination concerns may identify the belief that all germs are dangerous. The therapist helps the patient to identify and label the irrational features of this belief (e.g., “overgeneralization”). The patients are then instructed to monitor the occurrence of this thought in their daily life, and they are given specific instructions for challenging the thought. In this case, the patient might be instructed either to recall that many germs are benign or even beneficial or to acknowledge that deaths from germs are more rare than would be expected if this thought were true. The patient may be encouraged to conduct behavioral experiments, in which they come into contact with certain germs in order to see that they are not harmed. The overlap of these strategies with ERP should be clear; we suggest that the difference is largely one of emphasis.

The specific efficacy of CT for OCD has not been firmly established. In two studies, RET was found to yield results that did not differ from those of ERP (Emmelkamp, Visser, & Hoekstra, 1988), and the addition of RET to ERP did not appear to enhance treatment results (Emmelkamp & Beens, 1991). In comparative efficacy studies of adults with OCD, Beck-style CT produced moderately strong results that did not differ significantly from those of ERP (Cottraux et al., 2001; van Balkom et al., 1998; van Oppen et al., 1995); in a comparison study of group treatment, CT yielded moderate results that were not as strong as those obtained using group ERP (McLean et al., 2001). It should be noted, however, that in each of these CT comparison studies, ERP sessions were briefer and more widely spaced than were those used in ERP studies (Kozak et al., 2000), and they did not emphasize intense, therapist-assisted exposures. Our preference, based on these data, is to use ERP whenever possible. However, cognitive therapy may play a useful, adjunctive role when ERP has not produced optimal results. In an open trial with five adult OCD patients who had failed to respond to pharmacotherapy and ERP, an intensive CT program was associated with decreases in self-reported OCD symptoms (Krochmalik, Jones, & Menzies, 2001).

Anxiety Management Training

Some clinicians have argued for the use of anxiety management training (AMT) in the treatment of patients with OCD, particularly with children (March & Mulle, 1998). AMT strategies include training in slow, diaphragmatic breathing; progressive muscle relaxation; and coping imagery. AMT strategies such as relaxation have not been shown to be an effective component of treatment for OCD (Marks, 1987). Because AMT strategies are designed to reduce exposure to anxiety, they may interfere with the core process of ERP—that is, evoking anxiety to allow
for habituation and cognitive change to occur. In general, patients are able to tolerate the distress of ERP and they therefore do not require AMT (Franklin, Tolin, March, & Foa, 2001). However, some patients may be so anxious at baseline that they are unable to tolerate even mild exposure; thus, AMT may be a useful adjunct to ERP in such cases.

**Pharmacotherapy**

Serotonin reuptake inhibitors (SRIs) are the first-line pharmacological treatment of choice for OCD (Rasmussen & Eisen, 1997). These are also reviewed by Pato and colleagues in this issue. SRIs commonly used in OCD treatment include the selective SRIs (SSRIs) fluoxetine, sertraline, fluvoxamine, paroxetine, and citalopram; the serotonin-norepinephrine reuptake inhibitor (SNRI) venlafaxine; and the tricyclic antidepressant clomipramine. Although 30–60% of patients respond to treatment utilizing SRIs, relapse rates are high (65–90%) when acute treatment is discontinued. Longer-term pharmacotherapy may therefore be required. Most researchers recommend at least one year of continued treatment following successful treatment (March, Frances, Carpenter, & Kahn, 1997); however, few studies of maintenance treatment have been conducted. In one discontinuation study (Koran, Hackett, Rubin, Wolkow, & Robinson, 2002), patients randomly assigned to receive placebo following one year of sertraline were more likely to experience an acute exacerbation in their OCD symptoms as measured by the Y-BOCS and CGI than were patients who continued to receive sertraline. In a discontinuation study of CBT versus clomipramine (O’Sullivan, Noshirvani, Marks, Monteiro, & Lelliott, 1991), patients who received CBT fared better at 6-year follow-up than did clomipramine patients, who did not differ from patients who had received placebo.

Meta-analytic studies suggest that clomipramine yields higher rates of responding than do SSRIs but that no SSRI is superior to any other (Greist, Jefferson, Kobak, Katzelnick, & Serlin, 1995; Stein, Spadaccini, & Hollander, 1995). However, clomipramine’s side-effect profile prevents it from being widely accepted as a first-line intervention; prescribers typically prefer to begin pharmacotherapy with the more easily tolerated SSRIs. In a large randomized controlled trial, clomipramine was superior to placebo. However, ERP was superior to clomipramine (85% responder rate vs. 50%, respectively). Interestingly, and contrary to common clinical practice, the combination of clomipramine and ERP yielded a 71% responder rate, which was superior to clomipramine alone but not to ERP alone (Kozak et al., 2000). Another randomized controlled trial found that fluvoxamine yielded similar treatment outcomes as ERP and CT did, and all were superior to placebo (van Balkom et al., 1998).

**Predictors of Treatment Response**

No reliable markers of treatment response have been identified for cognitive-behavioral or pharmacological treatments. Some studies have found that higher initial severity of OCD symptoms was associated with poorer outcomes (de Haan et al., 1997; Keijsers, Hoogduin, & Schaap, 1994) while others have not (Cottraux, Messy, Marks, Mollard, & Bouvard, 1993; Steketee & Shapiro, 1995). Research on the effects of comorbid personality disorders is similarly mixed, with some studies that found attenuated treatment response and with other studies that did not (Fals-Stewart & Lucente, 1993; Fals-Stewart & Schafer, 1993; Mavissakalian, Hamann, & Jones, 1990; Steketee, 1990). Type of OCD may also be related to outcome. Hoarding in particular has been associated with poor response to ERP (Abramowitz, Franklin, Schwartz, & Furr, 2002; Black et al., 1998; Mataix-Cols, Marks, Greist, Kobak, & Baer, 2002), SRI medications
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Treatment Augmentations

Partial or nonresponse is common among cognitive-behavioral and pharmacological interventions for OCD. In general, the recommendation is to augment or change to an alternative treatment when a patient reports an insufficient response to a treatment of adequate dose and duration (March et al., 1997; McDonough & Kennedy, 2002). Thus, an inadequate response to an SRI could be followed by CBT with a different SRI, or it could be augmented with a different class of medications. Inadequate responses to CBT may be addressed by using an alternate form of CBT or by adding SRI augmentation. Medications typically used to augment SRI treatment include clonazepam, buspirone, l-tryptophan, lithium, olanzapine, and risperidone (McDonough & Kennedy, 2002). Empirical studies of these recommendations, however, have been lacking. A recent study indicated that seven of nine patients who had failed to respond to fluoxetine showed at least a 25% Y-BOCS reduction when treated with weekly ERP. We are currently examining the efficacy of ERP for patients who have failed to respond to multiple SRI trials; preliminary results suggest that OCD symptoms decrease with ERP augmentation, but to a lesser extent than has been found with treatment-naive patients (Tolin, Diefenbach, Maltby, Woodhams, & Worhunsky, 2002). Similarly, a highly focused cognitive therapy has been associated with significant improvements for some patients who had previously failed ERP or multiple trials of SRI medications (Jones & Menzies, 1997; Krochmalik et al., 2001).

Because of OCD’s substantial impact on family functioning as well as the risk of family members’ accommodating (and inadvertently rein-
forcing) patients’ compulsions (Amir et al., 2000; Calvocoressi et al., 1995), family intervention may also be indicated as a supplement to traditional CBT and pharmacological interventions. In individual and group settings, inclusion of family members resulted in superior outcomes than did CBT alone (Grunes, Neziroglu, & McKay, 2001; Van Noppen, Steketee, McCorkle, & Pato, 1997). Family intervention is particularly helpful in the treatment of children with OCD, by training parents to utilize ERP methods (Knox, Albano, & Barlow, 1996). In some cases, family intervention alone may be sufficient to elicit reductions in compulsive behaviors, such as instructing parents not to respond to excessive reassurance-seeking (Francis, 1988; Tolin, 2001).

For patients with severe, intractable, and debilitating OCD that has failed to respond to CBT and pharmacological interventions, neurosurgery may be an option. Current neurosurgical approaches include subcaudate tractotomy (Bridges et al., 1994), anterior cingulotomy (Baer et al., 1995; Dougherty et al., 2002), anterior capsulotomy (Mindus & Nyman, 1991), and combined orbitomedial/cingulate lesions (Hay et al., 1993). To date, no controlled studies of these procedures have been conducted; however, the available evidence suggest that 20–40% of patients receive significant benefits from these procedures, though many patients require more than one operation (Baer et al., 1995; Bridges et al., 1994; Dougherty et al., 2002; Hay et al., 1993; Rauch et al., 2001). Newer techniques that minimize or avoid destruction of brain tissue such as transcranial magnetic stimulation and deep brain stimulation are being developed but their efficacy has yet to be established (Greenberg et al., 2000; Malhi & Sachdev, 2002; Nuttin, Cosyns, Demeulemeester, Gybels, & Meyerson, 1999; Sachdev et al., 2001).

**Future Directions**

Given that OCD is heterogeneous and that many OCD subtypes and OCSDs may respond differentially to existing behavioral and pharmacological treatments, one potential goal of future research is to construct treatment algorithms based on predictors of outcome. As described previously, this line of research is in its infancy. However, early research has indicated that unique variations of CBT can be developed for OCD and OCSD subtypes such as hoarding (Hartl & Frost, 1999), contamination fears (Krochmalik et al., 2001), trichotillomania (Lerner, Franklin, Meadows, Hembree, & Foa, 1998; Ninan, Rothbaum, Marsteller, Knight, & Eccard, 2000; Tolin, Franklin, Diefenbach, & Gross, 2002), hypochondriasis (Clark et al., 1998; Visscher & Bouman, 2001; Warwick, Clark, Cobb, & Salkovskis, 1996), and body dysmorphic disorder (McKay et al., 1997; Wilhelm, Otto, Lohr, & Deckersbach, 1999).

Nonetheless, the lack of a comprehensive biopsychosocial model of OCD and OCSDs likely impedes progress in understanding and treating these conditions. In other disorders (such as panic disorder), the development of such models has led to significant advances in conceptualization and treatment (e.g., Clark, 1986). Indeed, Foa and Kozak (1997) suggest that behavior therapy in general may have reached an “efficacy ceiling” that will only be broken by improved models based on psychopathology research. In addition to potentially advancing the treatment of OCD, biopsychosocial models may provide testable hypotheses that help resolve the current controversies in OCD research, such as the heterogeneity problem and the relative placement of spectrum disorders. We suggest that a comprehensive biopsychosocial model must explain and predict not only obsessions and compulsions, but also the attributional and information-processing biases.
noted in OCD, findings from neuroimaging studies, and genetic and familial factors. Also, since the expense and time commitment of CBT have been identified as barriers to treatment, there is a need to develop alternative treatment algorithms that are acceptable to patients, that contain costs, and that deliver the most effective treatment components. Group therapy represents one promising area of treatment development; preliminary results indicate that CBT can be delivered effectively in a brief group format, with good results (Himle et al., 2001; McLean et al., 2001; Van Noppen, Pato, Marsland, & Rasmussen, 1998). Other researchers have explored the use of self-help manuals (Fritzler, Hecker, & Losee, 1997) and computer-assisted therapy (Baer & Greist, 1997; Baer, Minichiello, Jenike, & Holland, 1988; Nakagawa et al., 2000) as ways of reducing health care costs. The utility of these approaches, however, is limited by the inability to self-correct by providing patients with their optimal level of treatment and no more. A preferable approach might be the use of stepped-care algorithms, in which patients initially receive the least expensive, intrusive, and difficult treatment (e.g., self-help) and then step up through more intensive treatment modalities if previous steps fail or yield only a partial response. We have been piloting stepped-care models of delivering ERP for OCD, though it is still too early to determine if this model of delivering treatment adequately addresses the cost, effectiveness, and patient acceptance concerns for which it was developed.

References


presented at the Association for Advancement of Behavior Therapy, Reno, NV.


