

# Psychotherapy of Obsessive-Compulsive Disorder and Spectrum: Established Facts and Advances, 1995–2005

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## Learning theory model

Current psychological approaches to obsessive-compulsive disorder (OCD) are not much different from those of the early 1980s except for the addition of cognitive therapy. Behavior therapy, specifically ERP, dominated treatment and research from the late 1970s to the mid-1990s.

Behavioral treatment has its roots in learning theory. Mowrer [1] described a two-factor model of fear and avoidance behavior in anxiety disorders. He suggested that fear is acquired through classical conditioning and maintained by operant conditioning. Dollard and Miller [2] later applied this theory to the acquisition of OCD. Through classical conditioning a neutral stimulus that is paired with an unconditional stimulus acquires the same properties as the unconditional stimulus and thus elicits anxiety. The second stage consists of negative reinforcement, in which new responses are learned to decrease the anxiety in the presence of the conditioned (neutral) stimulus. These learned responses are termed avoidance or escape responses. They remove anxiety and therefore are negatively reinforcing. A checker may associate an electrical appliance (conditioned stimulus) with death (unconditional stimulus, ie, danger of fire) and thus feel anxiety (unconditional response and conditioned response) in the presence of a stove. The checking behavior is negatively reinforced because it removes anxiety.

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## **Development of exposure and response prevention**

In 1966, Meyer [3] was the first to expose two patients who had OCD to anxiety-evoking stimuli and with constant staff supervision prevented them from engaging in compulsions. One patient had a hand washing/cleaning ritual, and another had an obsession of eternal damnation after performing certain acts such as imagining have intercourse with the Holy Ghost, cleaning a smoking pipe, swearing, eating sausages, and walking straight. Both patients remained improved at the end of 2 years follow-up. These procedures of ERP were derived from animal experiments. Fixated or stereotyped behaviors in animals, which are analogous to human compulsive behaviors, are difficult to remove. Maier [4] found that the guidance technique could be successful. The method consists of preventing a rat from carrying out a fixed response by guiding it manually toward the previously avoided situation. Baum [5], in a similar manner, taught rats avoidance behaviors and then prevented their response. The avoidance behavior was extinguished. When Meyer [3] adapted this technique to humans, ERP became the first effective psychologic treatment model for OCD.

## **Efficacy rates of responders and nonresponders**

Once Meyer [3] developed the early forms of ERP treatment for OCD, many researchers began to test its efficacy. In the 1970s and 1980s a series of investigations proved the efficacy of ERP (for a review of the early literature, see Foa and Kozak [6]). Despite the reported efficacy (75% patients experiencing clinical improvement), those who improve have an average reduction of symptoms of only 48% [7–11]. Because this is a modal response rate, it includes both low and high responders; therefore, it may be assumed that symptom reduction was greater for high responders. Nonetheless, it is not an impressive response rate, and patients are still left with many symptoms. If reports included the individuals who refused treatment or dropped out, the response rate would be even lower. Most studies do not report on intent-to-treat analysis (individuals who entered a study but do not complete it). In addition, most studies accept a 30% reduction in symptoms as improvement [12]. Where does this treatment leave patients in their naturalistic environment and their quality of life? Most patients at the end of a study still met criteria for entrance into another study if the common criterion of a score higher than 16 on the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) is used.

Within the disorders on the obsessive-compulsive spectrum, engaging patients in treatment is the first priority. Most patients are not ready for change, probably because of their higher levels of overvalued ideation (OVI). Because of the small number of studies, the percentage of patients who are treatment refractory cannot be ascertained, and of course it is necessary to study each disorder separately. Although patients do demonstrate

improvement (eg, in body dysmorphic disorder), more studies are needed to determine what percentages of patients improve, recover, or are refractory.

This article reviews what already has been established within cognitive behavior therapy (CBT) and then evaluates the advances, if any, that have been made during the last decade. Some of the questions the authors set out to explore are

Has knowledge increased, and have new and more effective approaches been discovered?

Have rates of treatment resistance and refractory rates been reduced?

Have the limitations of the previous research been addressed?

### **Facts established before 1995**

#### *Exposure versus response prevention*

Combined ERP is the most commonly applied treatment technique for OCD. Typically, exposure and response prevention are implemented concurrently. Previous studies determined the unique contribution of each component. Foa and colleagues [13] assigned patients who had washing rituals to three separate treatment conditions: exposure only, ritual prevention only, and combined ERP. Participants received intensive treatment consisting of 2-hour sessions for 15 days over the course of 3 weeks. Foa and colleagues [13] reported symptom reductions across all treatment groups at posttreatment evaluation and follow-up, but the combined-treatment group was superior to the single-component groups on almost all measures. At posttreatment evaluation, Foa and colleagues [13] reported a 36% reduction of obsessions for the exposure group, a 28% reduction for the response prevention, and a 63% reduction for the combined ERP group. On ratings of ritual severity at posttreatment, Foa and colleagues [13] reported a 50% reduction for the exposure group, a 45% reduction for response prevention, and a 63% reduction for the combined ERP group. Foa and colleagues' [13] finding demonstrated that the combined ERP is the most effective treatment method and also suggested how the different components of the treatment work to reduce symptoms in OCD. They noted that patients who received exposure alone reported lower anxiety when confronted with their fear contaminants than did patients who received response prevention alone. Patients who received response prevention alone reported a greater decrease in the urge to engage in compulsions than did the exposure-alone group.

#### *In vivo versus imaginal exposure*

Overall, there is agreement that the additional of imaginal exposure has added benefits for patients who are obsessive compulsive. Foa and colleagues [14] report that imaginal exposure has important clinical utility,

especially for patients who are obsessive compulsive and whose obsessional fears focus on disastrous consequences. Additionally, imaginal exposure plays an essential role when in vivo exposures are not readily available. Imaginal exposure also may be helpful with patients who have a tendency to engage in extensive mental rituals during in vivo exposures. For instance, during in vivo exposure exercises certain patients may attempt to neutralize or undo the exposure mentally while facing the feared stimuli. Imaginal exposure may minimize cognitive avoidance strategies [14]. Last, imaginal exposure provides additional clinical utility because it frequently can be assigned for homework. In fact, the exposure scenes can be recorded in session, and patients can be asked to listen to the audiotapes between sessions.

### *Frequency of sessions*

Throughout the 1980s many of the published studies of ERP were based on an intensive treatment program with therapist-guided exposures. Exposure sessions were conducted daily, and these intensive treatment programs were efficacious [15]. Today, therapists are faced with increased treatment costs and the demands of managed health care. Consequently, research has turned to other treatment options, such as CBT and psychopharmacology. Additionally, ERP techniques applied in clinics and in the outpatient setting may be more diluted than those initially used in treatment research. For example, sessions are often held once per week, and the patient is largely responsible for self-guided exposure exercises between sessions. Session time has decreased from the recommended session duration of 90 to 120 minutes. The results of the literature review by the Franklin and Foa [15] indicated that these modifications to ERP treatment guidelines have resulted in diminished treatment efficacy.

### *Inpatient versus outpatient treatment*

Throughout the 1970s ERP was applied mostly in hospital settings, although some treated OCD on an outpatient basis [16–18] Yaryura-Tobias and Neziroglu [12,19] recommended that OCD is a disorder best treated in the patient's natural environment or at least in the outpatient setting. At times, hospitalization may be necessary, primarily for severely afflicted patients who do not have adequate support systems and resources. Severe comorbidity also may warrant short-term hospitalization.

### *Overvalued ideation*

OVI frequently is referred to incorrectly as “poor insight.” Although poor insight is one component of OVI, it is not the total essence of OVI. The most recent revision to the *Diagnostic and Statistical Manual of Mental*

*Disorders* [20] has added the identifier “with poor insight” for diagnoses of OCD. This addition is intended to denote persons who have OCD and who view their symptoms as reasonable. In the research literature on OCD, this condition has been termed “overvalued ideation” [21,22]. It is important to distinguish poor insight from overvalued ideas, because the two connote different psychologic phenomena. “Insight” is a term describing a gradation of personal awareness into one’s disorder as giving rise to disorder-specific beliefs. The term “overvalued ideas,” on the other hand, refers more to ideas or beliefs regarding the sensibility of the patient’s pattern of thinking; it is affect driven, and the patient holds on to the belief without fluctuation in conviction. Different positions adopted regarding the relation between overvalued ideas and psychopathology have been stated. For example, Wernicke [23] determined that overvalued ideas were the source of attention disturbance and impaired judgment. Jaspers [24], on the other hand, believed that overvalued ideas were associated with righteousness or behaviors that had societal gain at personal cost. Kozak and Foa [22] more recently suggested overvalued ideas lie on a continuum between rational thoughts and delusions, with fluctuations along this continuum over time.

Preliminary research studies and clinical observations indicate that the presence of high OVI is a poor prognostic indicator. Patients who have OCD and who have high OVIs are less likely to resist compulsions and are more likely to believe in their obsessions. Although OVI have been linked theoretically to poorer treatment outcome [25,26] and has been identified in individual and small-group case analyses [27], assessment tools for quantifying OVI have been few and with undetermined psychometric properties. Most assessments of overvalued ideas have been single-item assessments (as in the Y-BOCS) [28], dichotomous ratings based on clinical criteria but without established psychometric properties [29], and a scale that assesses delusions in a variety of distinct disorders [30]. Either because the scales have not established reliability and validity or because they do not specifically measure OVI, the Overvalued Ideas Scale (OVIS) was developed [31].

The OVIS measures strength of belief, reasonableness of belief, lowest and highest strength of belief in the past week, accuracy of belief, extent of adherence by others, attribution of differing views by others, effectiveness of compulsions, insight, and strength of resistance. The OVIS has been shown to have acceptable test-retest and inter-rater reliability and acceptable convergent validity with measures of OCD and psychotic experiences. Research by Neziroglu and colleagues [32] found that the OVIS has better predictive validity than a single-item assessment of OVI (item 11 from the Y-BOCS) in a sample of patients diagnosed as having OCD. In addition, Neziroglu and colleagues [32] found that patients who have OCD and who have a high level of OVI do not do as well with behavioral therapy as patients who have a low level of OVI.

### *Depression*

OCD significantly impairs an individual's quality of life. OCD is a disorder that truly affects all spheres of life, including personal relationships, home, work, and school. Approximately one third of patients who have OCD have a comorbid diagnosis of depression [33]. In addition, many patients experience secondary depressive symptoms because of the severe and intense feelings of frustration resulting from the inability to control symptoms that dominate the patient's life. For patients whose depression is severe and is interfering with treatment for the OCD symptoms, psychological treatment to address the depressive symptoms is often recommended. Depression affects a patient's compliance with and motivation for treatment. More specifically, when Ricciardi and McNally [34] compared patients who were obsessive compulsive and who had a mood disorder with patients who were obsessive compulsive but who did not experience a mood disorder, they found that depressive symptoms lead to an increase in the severity of obsessions but not to more severe compulsive symptoms. It is believed that depression impedes ERP treatment.

### *When to use pharmacotherapy combined with cognitive behavior therapy*

There are several full reviews of combined treatment for OCD patients and controlled comparisons of ERP with medication [35–38]. In general, strong or selective serotonin reuptake inhibitors are used to treat OCD. The clinical efficacy of clomipramine, a strong serotonin reuptake inhibitor, led to the hypothesis of a faulty serotonin metabolism and subsequent measurements of serotonin levels in patients who have OCD [39,40]. Later more select serotonin reuptake blockers, such as fluoxetine, fluvoxamine, paroxetine, sertraline, and the strong inhibitor clomipramine, were developed. In general, best practices suggest that for mild forms of OCD in adult patients, ERP should be the first line of treatment attempted. If the patient's symptoms do not improve with ERP alone, or for patients who have more severe forms of OCD, the combined treatment of selective serotonin reuptake inhibitors and ERP is the recommended course of treatment [41]. Although additional controlled studies are warranted, it seems logical that, because comorbid disorders such as depression and anxiety respond well to medication, pretreating these disorders might improve ERP outcomes. In addition, Simpson and Liebowitz [37] report that combined treatments may also increase compliance with ERP. When Foa and colleagues [42] compared ERP with clomipramine, alone and in combination, however, they noted that intensive ERP may be superior to clomipramine alone and thus by implication superior to other serotonin reuptake inhibitors.

### *Preventing relapse*

To maintain treatment gains, patients seem to benefit from a psychoeducational session toward the end of a treatment program. These sessions

should teach patients to expect setbacks and to devise a plan to engage in ERP techniques when they experience a minor worsening of symptoms. A contract of expectations between the patient and therapist is also helpful to secure treatment gains. Hiss and colleagues [43] examined the value of relapse prevention. In a study comparing a relapse-prevention group with a control group, Hiss and colleagues [43] found that at 6-month follow-up 87% of the relapse-prevention patients and only 50% of the control patients had maintained improvements. In addition, McKay and colleagues [44] proposed a preliminary maintenance program. Their findings suggested that at the 6-month follow-up patients continued to improve and remained stable for obsessive-compulsive symptoms; however, patients continued to suffer from depression. Similarly, Breytman [45] reported that after an initial course of CBT and 3 weeks of baseline assessment, patients who received 20 sessions of maintenance intervention retained their treatment gains. Her maintenance program consisted of behavioral exercises, cognitive therapy, and discussion of issues related to relapse. In a final thought on the importance of relapse prevention, Marlatt and Gordon [46] suggested that when patients encounter minor setbacks and regain control of their symptoms, treatment gains are solidified by the increase in self-efficacy.

### *Cognitive therapy*

In a series of studies starting in the late 1970s, Emmelkamp [47] began testing the efficacy of cognitive therapy. A study comparing the efficacy of adding self-instructional training as a form of cognitive therapy to ERP led to the conclusion that self-instructional training did not enhance ERP. In a head-to-head comparison, cognitive therapy and ERP were found to be equally effective [48]. In addition, both treatments led to a reduction of social anxiety; however, the cognitive-therapy group also had significant changes in depression. Similarly, another study noted no differences between cognitive therapy and ERP nor between cognitive therapy administered before ERP and ERP alone [49]. In a study by Neziroglu and Neuman [50], rational emotive therapy, ERP, and thought stopping were compared in a purely obsessional population. ERP and rational emotive therapy were equally effective, but thought stopping was ineffective in decreasing obsessions. Although these studies tested the efficacy of cognitive therapy, it was Salkovskis [51] who put forth the cognitive model for OCD. Cognitive models were developed to deal with the high rate of patients who refused treatment and dropouts within ERP treatment. Despite its effectiveness, Riggs and Foa [52] report that 10% of persons who complete ERP therapy fail to respond and that 20% of patients relapse after treatment. Additionally, Salkovskis [53] reported that the theoretical conceptualization of behavioral theory limited its ability to differentiate OCD from other anxiety disorders.

The foundation for cognitive models of OCD stemmed largely from the work of Rachman and De Silva [54] who found that intrusive thoughts were reported by almost 90% of a nonclinical population. In their content, these intrusive thoughts were indistinguishable from obsessional thoughts. Because intrusive thoughts occur in a high percentage of individuals, researchers began to investigate which features distinguish obsessions from regularly occurring intrusive thoughts and the factors that lead to the development and maintenance of OCD in some individuals and not others.

The cognitive models assume that obsessions originate from normal intrusive thoughts, thus making an individual's interpretation of these thoughts the distinguishing factor that separates obsessions from normal intrusive thoughts. Salkovskis [51] referred to the interpretation or meaning that individuals who have OCD attach to an intrusive belief as "responsibility." According to Salkovskis [53], the notion of responsibility affects OCD in several ways. First it leads to increased discomfort, anxiety, and depression. Second, it allows greater access to the original thoughts and other related thoughts. Last, it leads to behavioral responses with the intent to neutralize or escape anxiety. These factors, singly and in combination, are believed to lead to the maintenance and worsening of anxiety along with intrusive thoughts.

The notion of responsibility differentiates the thought patterns of patients who have OCD from those of individuals in the general population and also can separate OCD from other psychiatric disorders. The cognitive approach proposed by Salkovskis [51] was similar to other models in anxiety disorders; however, it considered the specific consequences attached to the specific belief. The notion of responsibility differentiates obsessional thinking in depression and other anxiety disorders from OCD. As stated by Salkovskis [53]:

Appraisal of responsibility and consequent neutralizing can arise from a sensitivity to responsibility arising from a failure to control thoughts, from an increase in the level of perceived personal responsibility, and from an increased perception of the awfulness of being responsible for harm

The notion of responsibility is important in the maintenance of OCD because it accounts for both distress and the neutralizing behaviors. If the individual did not somehow feel a personal sense of harm to themselves or others, and only distress was present, the outcome would more likely be associated with depression or anxiety. Therefore, it is not the idea of danger and threat that is unique to OCD, but rather the motivation to carry out compulsions to neutralize or undo the perceived sense of harm.

Similarly, Rachman [55] proposed that obsessions are caused by catastrophic misinterpretations of the significance of one's thoughts, images, and impulses. Rachman [55] proposed that obsessions persist as long as these misinterpretations continue. Furthermore, it is believed that obsessions will

diminish when the misinterpretations are weakened. Therefore, Rachman [55] also concluded that by decreasing the importance that patients attach to their obsessions, their compulsive behaviors also decrease.

In researching OCD primarily in patients who did not have overt compulsions, Freeston and colleagues [56] found several common features among this population. First, individuals interpret the presence of their obsessions as meaningfully important. Second, these individuals believe that their obsessions must reflect their true nature. Often these individuals possess a sense of moral thought–action fusion. In other words, having a particular image, thought, or impulse is the equivalent to acting upon it, thus making the patient a morally bad person. Last, some patients have likelihood thought–action fusion: the patient believes that the more one thinks about a particular thought, the greater is the likelihood that it actually will occur.

Cognitive therapy can be particularly useful clinically in several areas that are relevant in the maintenance of OCD. These areas were outlined originally by the Obsessive Compulsive Cognitions Working Group [57] and include an inflated sense of personal responsibility; attaching undue importance to thoughts; a need to control thoughts; an overestimation of threat; an intolerance of uncertainty; and perfectionism [58]. These areas can be targeted through cognitive therapy alone or within the context of behavioral experiments and ERP.

To support further the efficacy of cognitive therapy, van Oppen and colleagues [59] completed a controlled study comparing cognitive therapy with ERP. The cognitive therapy treatment focused on themes of danger and overestimation of personal responsibility. The ERP group consisted of self-controlled in vivo ERP. The findings of this study were pivotal in the treatment of OCD because it was the first randomized, controlled study using cognitive therapy. The researchers reported that cognitive therapy and ERP equally led to statistically significant improvements, with cognitive therapy showing more changes in faulty belief measurements. Franklin and Foa [15] emphasized that the ERP treatment used in the study by van Oppen and colleagues [59] was inadequate compared with the recommended treatment protocol for ERP. The ERP treatment group received one 45-minute session per week. Additionally, Franklin and Foa [15] pointed out that van Oppen and colleagues [59] were unclear about how much homework patients were asked to complete between sessions and that discussion of negative consequences was not permitted during the first six ERP sessions. Last, patients did not benefit from therapist-guided exposure exercises. Methodologic weaknesses in the ERP arm may weaken van Oppen colleagues' [59] findings that cognitive therapy is effective as ERP for the treatment of OCD.

Within the obsessive-compulsive literature, researchers still debate whether cognitive therapy is as effective as ERP and the additive benefits of adding cognitive therapy to an ERP treatment program. Results from Abramowitz and colleagues [60] concluded that, for the average patient

who is obsessive compulsive, cognitive interventions either alone or combined with ERP are no more effective than ERP alone. Abramowitz and colleagues [60] suggest that the primary advantage of cognitive interventions is that they reduce the patient dropout rate. It is hoped that future research will focus on the type of treatment method that works best for certain subtypes of patients who have OCD. For example, some researchers are finding that patients who have hoarding compulsions may be more responsive to cognitive therapy [61]. In addition, cognitive therapy may emerge as a preferred form of treatment for patients who have high OVI and comorbid depression. Franklin and Foa [15] suggest that future research should focus on identifying the point in a treatment program at which it is more beneficial to use cognitive therapy than ERP rather than continuing the debate as to which model of treatment is superior overall. For instance, are avoidance behaviors better addressed through ERP, and is an individual's overestimation of personal responsibility better addressed through cognitive therapy? Randomized, controlled studies in this area are likely to provide more clinical utility.

### **Advances between 1995 and 2005**

To search PsychINFO for CBT studies published between 1995 and 2005, the authors used the keywords "obsessive compulsive disorder" and "cognitive behavior therapy." They were interested in investigating whether (1) any new information regarding CBT, behavior therapy, or cognitive therapy was reported and (2) whether the reported studies were generalizable to clinical practice. All information on CBT versus pharmacotherapy was excluded in the analyses. Eighteen articles were found that dealt with treatment outcome and were not single-case studies or meta-analyses.

In each article, the authors analyzed the following variables:

1. How many individuals participated
2. Whether the population studied was adults, children, or a group
3. How individuals were diagnosed
4. If the numbers screened, entered, dropped out, and completed were reported
5. If Axis I or II comorbidities were reported
6. If the specific therapy (eg, cognitive alone, ERP, behavior therapy, medication) was indicated
7. If recovery or improvement rate was reported
8. If effect size was presented
9. How improvement was assessed
10. Whether self- and interview ratings were used
11. Whether medication usage was mentioned
12. Whether there was a comparison group
13. Whether there was follow-up

Some of these factors are reported in [Table 1](#).

Four of 18 studies were on a pediatric population [64,67,73,78]. Eight of the 18 studies (44%) reported on the number of individuals screened, but only a few indicated why individuals were not included in the study (eg, did not meet inclusion criteria, became homebound before treatment). Many studies (67%) indicated dropout rates; seven studies (39%) did not specify the reason for dropout, and five (28%) provided a reason. Thus it is still uncertain how many patients at screening may actually meet inclusion criteria but choose not to enter. Why do people not enter treatment? At least studies now seem to report dropout rates, but because the reasons for dropout are not systematically studied, it is unclear whether patients are truthful about why they drop out (Table 1). Could it be that unmotivated patients, patients not ready for treatment, and patients who have personality disorders or OVI provide environmental reasons for dropping out? In other words, would other patients with the same set of life circumstances have continued?

Twelve of the 18 studies (67%) reported Axis I comorbidities. Most comorbid conditions included phobias, anxiety, and major depressive disorder (MDD). Patients who had comorbid posttraumatic stress disorder (PTSD) and MDD did not do as well as those who were free of those comorbidities. Eight studies (44%) reported the presence of concomitant Axis II disorders, and three studies indicated the type of comorbidity. One study noted that personality disorders did not interfere with treatment [69].

Most studies reported on ERP variations, and others reported on the use of cognitive therapy and ERP. When CBT was specified, it usually meant cognitive therapy combined with ERP. All studies used the child or adult version of the Y-BOCS as the main indicator of improvement. Five of the studies (32%) reported effect size. Thirteen of the studies (72%) reported on the percentage of patients who improved at posttreatment evaluation, whereas others reported on statistical significance. (The term "recovery" referred to symptom reduction of 30% to 50%.) Fifteen of the studies (83%) indicated that medications were used but did not specify which medications, dosage levels, duration, or other details. Only three studies reported that medicated patients did equally well as nonmedicated patients [65,67,79]. Although some studies specified that medication was kept stable during the treatment, many did not indicate whether medication dosages were changed. For the most part, it is difficult to evaluate from these studies the role medication plays in treatment outcome. Also, it is unclear why some patients were receiving medication and others were not, the selection process was not explained.

Comparison groups were cognitive versus behavior therapy, wait-list control group, patients who did or did not have PTSD or depression, and intensive therapy versus weekly sessions. Results indicated that ERP and cognitive therapy were equally effective; that patients who had PTSD and MDD did not fare as well; and that patients who lack insight, have high OVI, are more severely ill, and are more impaired in functioning do better

Table 1  
Cognitive behavioral treatment outcome studies published between 1995–2005

| Author (date)                          | Screened                      | Entered | Dropped Out   | Completed | Axis I                          | Axis II            | Therapy Type | Improvement (% patients)                             | Medication                                | F/U    |
|--|-------------------------------|---------|---|-----------|---------------------------------|--------------------|--------------|--|---|--------|
| Abramowitz et al (2003) [62]           | N/A                           | 40      | 8 reason not specified                                | 32        | MDD, GAD, panic, ADD, Tourettes | schizotypal OCPD   | ERP          | 85 with intensive therapy 55 in twice weekly therapy | SSRI (45%)                                | 3 mo   |
| Abramowitz et al (2000) [63]           | N/A                           | 48      | 15 at follow-up; reason not specified                 | 48        | MDD                             | yes; not specified | ERP          | 80 w/o MDD, 73 w/ MDD                                | SSRI                                      | 4–6 mo |
| Benazon et al (2002) <sup>a</sup> [64] | N/A                           | 16      | 0   | 16        | anxiety disorders               | N/A                | ERP          | 81   | none                                      | N/A    |
| Cordioli et al (2003) [65]             | 65; 18 met exclusion criteria | 47      | 2 because of anxiety and failure to attend evaluation | 45        | none                            | N/A                | CBGT         | treatment group: 69.6 control group: 4.2             | none up to 3 months before treatment      | 3 mo   |
| Cottraux et al (2001) [66]             | 85; 20 met exclusion criteria | 65      | 37 reason not specified                               | 28        | none                            | N/A                | CT + BT      | CT: 19 patients BT: 20 patients                      | irregular use of anti-depressants by some | 52 wk  |
| Franklin et al (2000) [9]              | N/A                           | 110     | 10 reason not specified                               | 100       | MDD, bipolar, psychotic         | yes; not specified | CBT + ERP    | statistical significance                             | N/A                                       | N/A    |

|   |                                |           |   |    |  |                    |           |                                   |  |      |
|---|--------------------------------|-----------|---|----|--|--------------------|-----------|-----------------------------------|--|------|
| Franklin et al (1998) <sup>a</sup> [67] | N/A                            | 14        | 0   | 14 | motor tics, trichotillomania                   | N/A                | ERP       | 86                                | CMI fluoxetine clonazepam                                    | 9 mo |
| Freeston et al (1997) <sup>b</sup> [68] | 199                            | 28        | 6 4 refused ERP 2 backed out  | 22 | depression                                     | N/A                | CBT + ERP | 67                                | anxiolytics, clomipramine, fluvoxamine, fluoxetine           | 6 mo |
| Fricke et al (2005) <sup>b</sup> [69]   | 70; 8 not primarily OCD; 7 N/A | 55        | 0   | 55 | MDD  | many listed        | ERP + CT  | statistical significance provided | 73% anti-depressants during CBT, 64% at follow-up            | 6 mo |
| Gershuny et al (2002) [70]              | N/A                            | 15        | 0   | 15 | MDD, PTSD, BDD, social phobia eating disorders | borderline         | ERP       | statistical significance provided | SSRIs benzodiazepines  | N/A  |
| Jones et al (1998) [71]                 | 29 met criteria                | 23 agreed | 2- reason not specified   | 21 | N/A  | N/A                | CT + DIRT |                                   | fluoxetine, sertraline, other OCD meds for symptom reduction | 3 mo |
| McLean et al (2001) [72]                | 93                             | 76        | 17 2 changed medication 1 social/impulse problems 1 refused treatment | 63 | MDD, GAD, social phobias                       | yes; not specified | CBT + ERP | CBT: 16 ERP: 38                   | 48% psychotropics  | 3 mo |

(continued on next page)

Table 1 (continued)

| Author (date)                             | Screened  | Entered | Dropped Out  | Completed | Axis I   | Axis II            | Therapy Type              | Improvement (% patients)                 | Medication         | F/U   |
|---|---|---------|--|-----------|--|--------------------|---------------------------|--|--------------------|-------|
| Piacentini et al (2002) <sup>a</sup> [73] | 44  | 42      | 0  | 42        | N/A  | N/A                | CBT + ERP                 | mean decrease of 45 on NIMH Global Score | 52% SSRIs          | N/A   |
| Rosquist et al (2001) [74]                | N/A   | 11      | 3: 1 pregnant 1 MD 1 diabetes                                  | 8         | Tourettes, MDD, hoarding                               | yes; not specified | ERP (“home-based”)        | 36                                       | yes; not specified | N/A   |
| Thienemann et al (2001) <sup>a</sup> [75] | N/A   | 18      | 1 counted in the final analysis, however; reason not specified | 17        | depression, social phobia, eating disorders, Tourettes | no                 | CBT                       | 50                                       | yes; not specified | N/A   |
| Vogel et al (2004) [76]                   | 54; 39 met inclusion material but 4 refused treatment | 35      | 8 reason not specified   | 27        | yes; not specified                                     | yes; not specified | ERP + relaxation ERP + CT | ERP + relaxation: 53 ERP + CT: 56        | SSRIs              | 12 mo |

|                                 |     |    |   |    |      |     |                                   |  |   |        |
|---------------------------------|-----|----|---|----|------|-----|-----------------------------------|--|---|--------|
| Wetzel<br>et al<br>(1999) [77]  | N/A | 85 | 0   | 85 | none | N/A | high-density<br>exposure<br>+ ERP | 68.5   | 20% using<br>anti-<br>depressants<br>4.9%<br>using<br>tranquilizers | 1 year |
| Wilhelm<br>et al<br>(2005) [78] | N/A | 15 | 21 improved<br>OC<br>symptoms<br>1 moved<br>to another<br>state | 13 | none | N/A | ERP +<br>CT                       | patients<br>naive<br>to ERP<br>all<br>improved | SSRIs   | N/A    |

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*Abbreviations:* ADD, attention deficit disorder; BDD, body dysphoric disorder; BT, behavioral therapy; CBGT, cognitive behavior group therapy; CBT, cognitive behavioral therapy; CMI, clomipramine; DIRT, danger ideation reduction therapy; ERP, exposure and response prevention; F/U, follow-up; GAD, generalized anxiety disorder; OCD, obsessive-compulsive disorder; OCPD, obsessive-compulsive personality disorder; MDD, major depressive disorder; N/A, not available; NIMH, National Institutes of Mental Health; PTSD, posttraumatic stress disorder; SSRI, selective serotonin reuptake inhibitor.

<sup>a</sup> Pediatric study.

<sup>b</sup> Adult study.

with more intensive treatment. Eleven studies (61%) reported on follow-up ranging from 3 months to 1 year.

The search led the authors to conclude that the newer studies have not addressed some of the limitations of older studies properly although there have been improvements in including patients who have comorbid conditions and in reporting on follow-up. Problems identified in the literature before 2000 were [36]

1. Poor reporting of screening and inclusion/exclusion criteria, which limit knowledge about generalizability
2. High exclusion rates, particularly for patients who have comorbid psychopathology
3. Exclusive focus in reviews on indices such as effect size and not on the percentage of patients whose symptoms actually remit with treatment
4. Limited data on long-term maintenance of treatment gains

Some of the previous problems have been addressed. There is less reliance on effect size, and generalizability to clinical practice has increased to some extent because comorbid Axis I disorders are included more systematically [80]. Axis II disorders, which usually provide the most difficult challenge to clinicians, are still not reported, however. Follow-up is limited to several months and is not really long term. More has been written about cognitive therapy, but when, where, and how cognitive therapy might enhance treatment results has not actually been tested. For example, it could be useful to test whether cognitive therapy might contribute to increasing motivation, decreasing poor insight and OVI (an area totally ignored in the literature), reducing dropout rates, or dealing with personality disorders before ERP, among other possible benefits. Most importantly, new methods to increase treatment efficacy have not been developed.

## Summary

Dropout rates and refractory cases persist, for reasons that remain unexplained. There are few predictor variables and few innovative approaches to deal with them. New treatment approaches must be developed to improve treatment response even for the responders. Studies show that symptoms are reduced minimally (30%–50%). No new ways of dealing with treatment-refractory cases have been developed. Studies now include more comorbid cases, however, and their inclusion may account for some of the lack of progress in improvement rates. It needs to be seen whether patients who have one or more comorbid conditions do as well as patients who do not have comorbidity and whether the number or type of comorbid disorders accounts for treatment response. Perhaps better results would be seen with pure OCD cases. Certainly results now are more generalizable to clinical practice. Now it is important to look for alternative treatment

approaches and to apply cognitive therapy to more specific problems. Cognitive therapy seems to be helpful with the disorders of the obsessive-compulsive spectrum. The attrition rate is lower when cognitive therapy is used in the treatment of hypochondriasis, and cognitive therapy also is helpful in reducing OVI, which is more severe in body dysmorphic disorder and hypochondriasis. The role of cognitive therapy in OVI needs further exploration.

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