

# Cognitive-behavioral therapy in obsessive-compulsive disorder

## A terapia cognitivo-comportamental no transtorno obsessivo-compulsivo

Aristides Volpato Cordioli<sup>1,2</sup>

### Abstract

**Objective:** To describe the cognitive-behavioral therapy in the treatment of obsessive-compulsive disorder symptoms. **Method:** Narrative review of specialized textbooks and articles, of the origins, fundamentals, and strategies of cognitive-behavioral therapy in the treatment of obsessive-compulsive disorder symptoms. Through the review of randomized clinical trials and meta-analyses, the effectiveness of cognitive-behavioral therapy in obsessive-compulsive disorder is highlighted. **Results and Conclusions:** Cognitive-behavioral therapy is effective in reducing the symptoms of obsessive-compulsive disorder in approximately 70% of patients who comply with treatment. Future challenges are to clarify the reasons why many patients do not respond to this kind of treatment and develop new strategies to increase its effectiveness.

**Descriptors:** Obsessive-compulsive disorder; Psychotherapy; Cognitive therapy; Behavior therapy; Behavior modification

### Resumo

**Objetivo:** Descrever a terapia cognitivo-comportamental no tratamento dos sintomas do transtorno obsessivo-compulsivo. **Método:** Revisão narrativa de livros-texto e artigos de revistas especializadas, descrever as origens, fundamentos e estratégias da terapia cognitivo-comportamental no tratamento dos sintomas do transtorno obsessivo-compulsivo. Por meio da revisão de ensaios clínicos randomizados e metanálises, apontar as evidências de eficácia dessa modalidade de tratamento. **Resultados e Conclusões:** A terapia cognitivo-comportamental é efetiva na redução dos sintomas do transtorno obsessivo-compulsivo em aproximadamente 70% dos pacientes que aderem ao tratamento. São desafios futuros esclarecer as razões pelas quais muitos portadores não respondem ao tratamento e desenvolver novas estratégias para aumentar sua efetividade.

**Descritores:** Transtorno obsessivo-compulsivo; Psicoterapia; Terapia cognitiva; Terapia comportamental; Terapia comportamental cognitiva

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## Introduction

Obsessive-compulsive disorder (OCD) is a heterogeneous disorder characterized by the presence of obsessions and/or compulsions that consume time or significantly interfere with the subjects' daily routines, work, family or social life, causing marked distress.<sup>1</sup>

OCD affects around 2.5% of the general population. Its course is generally chronic, and the symptoms vary in intensity and, if not treated, may very often continue during lifetime. For several reasons, it is considered a severe mental disorder, as the symptoms start generally in the end of adolescence (many times still in childhood), being rare its onset after 40 years old. In nearly 10% of the cases its symptoms cause impairment and significantly compromise the quality of life of patients as compared to schizophrenic patients.<sup>2</sup> OCD, most times, highly interferes with the life of the family, which is obliged to adapt to its symptoms, alter its routines, restrict the use of spaces and objects, which is a reason for constant conflicts. Until recently, it was considered a difficult-to-treat disorder. This situation has radically changed in the last three decades with the introduction of effective treatment methods: exposure and response prevention (ERP) therapy, or cognitive-behavioral therapy (CBT) and the antiobsessive medications.

Up to the moment, the causes of OCD are not well known. As the symptoms are heterogeneous, it is not clear whether it is a unique disorder or a group of disorders with common characteristics (such as, for example, repetitive behaviors). In practical terms, the clinical presentations, the disease's onset, course, its neuropsychological and cognitive aspects, as well as the response to treatments, highly vary from individual to individual. Some of them present a quick response and within a few therapy sessions or with the use of medications obtain the complete remission of symptoms, while others are refractory to all approaches. There is strong evidence that biological factors and family incidence (genetics) make certain individuals more susceptible to develop the disorder. The appearance of the symptoms during cerebral diseases, the hyperactivity that occurs in certain cerebral regions of patients, alterations in the cerebral neurophysiology related to serotonin, the reduction of symptoms with the use of clomipramine or selective serotonin reuptake inhibitors (SSRI), and the reduction of symptoms with neurosurgery are evidence of the cerebral involvement in OCD.

On the other hand, psychological factors, such as learning (negative reinforcement), distorted beliefs, and catastrophic thoughts are present in most of patients, and seem to play an important role in the appearance and maintenance of symptoms. A significant percentage of patients may also obtain full remission of symptoms using exclusively psychological therapies, such as ERP therapy or CBT, which, jointly with antiobsessive medications, are the first-line treatments for OCD.

We will describe the fundamentals of CBT on OCD, the technique, the response predictors, as well as evidences of its efficacy. We will also mention the open issues and the future perspectives.

## The fundamentals of cognitive-behavioral therapy of OCD

### 1. Empirical bases

Up to the end of the 1960's, Freud's theory that obsessive-compulsive (OC) symptoms were the expression of unconscious conflicts at the anal-sadistic phase of the psychosexual development, prevailed. The proposed treatment was psychoanalysis or analytically-oriented psychotherapy, which in practice were inefficient to eliminate the symptoms. The dissatisfaction with this approach has led authors linked to the behavioral approach to accomplish some experiments, which were crucial for the current

understanding of OCD and for the development of new treatment approaches.

### 2. The habituation phenomenon

English authors, in the beginning of the 1970's, decided to challenge the psychodynamic model, as well as its derived corollaries – such as, for example, that the symptoms, if removed, would be inevitably replaced by others, or that patients could develop a psychotic condition if they were prevented to perform their rituals. They tried to observe in voluntaries, what could occur if they abstained from performing their rituals or were stimulated to make contact with what they were avoiding.

In a first study, Hogdson and Rachman, while observing patients with cleaning obsessions and washing rituals, verified that they showed rapid and accentuated increase of anxiety when they were invited to touch objects they used to avoid, and this anxiety also rapidly decreased when they performed a "satisfactory" washing.<sup>3</sup> In a similar experiment with "checker" patients, they also found an instantaneous increase followed by an accentuated decrease of anxiety after performing a checking ritual. Based on these findings, they suggested that there is a functional relationship between rituals and obsessions: rituals are performed to relieve the anxiety that accompanied obsessions. This was their function and a tactic learned by the patient to get rid of the anxiety which usually accompanies their obsessions. They also noticed that the impulse to perform checking or washing rituals disappeared spontaneously within a 15-180 minute period if patients were requested to refrain from performing the rituals or to remain in contact with the avoided situations or objects. They also found that, at each repetition of the exercises, the intensity of anxiety and the impulse to perform the rituals was lower. In case they repeated the exercises enough times, both the anxiety and the need to do the rituals disappeared completely. This natural phenomenon was then coined habituation and became the basis of ERPT therapy.<sup>3-7</sup>

### 3. Clinical bases of exposure and response prevention

Based on experiments performed with rats, which overcame avoiding behaviors when they were actively pushed to face up with situations they used to avoid due to acquired fears, and at the same time were prevented to adopt escaping behaviors, Meyer,<sup>8</sup> in 1966, treated successfully two OCD patients using a similar method. He exposed them actively to stimuli, which provoked anxiety (**exposure**), while they were overseen by the team in order to not perform rituals (**response prevention**). Both remained asymptomatic up to two years afterwards. Therefore, ERP therapy was the first effective treatment for OCD. Despite that, this treatment model was reassumed only several years afterwards.

In 1974, Meyer et al. treated 15 patients<sup>9</sup> and, in 1975, Marks et al. treated 20 patients using ERP therapy aiming to verify, in a higher number of patients, the efficacy of these techniques to reduce the OC symptoms.<sup>10</sup> Both studies succeeded to eliminate the symptoms in most of the patients in a relatively short period, from 4 to 12 weeks. These patients had been followed-up for up to five years and many of them remained asymptomatic.

### 4. Evidence of efficacy

ERPT behavioral therapy is efficient in more than 70% of the patients who comply with treatment.<sup>10,11</sup> Marks<sup>12</sup> accomplished an extensive revision of a whole decade of studies, and concluded that behavioral therapy is efficient in the treatment of OCD symptoms. A similar or slightly higher efficacy of ERP therapy as compared

to SSRIs was found in several clinical trials,<sup>13,14</sup> and in several meta-analyses,<sup>15-17</sup> having been definitively consolidated as the first choice treatment when rituals prevail and the symptoms have mild to moderate intensity.

## Theoretical fundamentals of OCD

### 1. The behavioral model

ERP behavioral therapy is based on the learning theories. In 1939, Mowrer,<sup>18</sup> based on the behavioral theory, proposed a model to explain the origin of fear and avoiding behaviors in anxiety disorders, which has become known as the two-factor or two-stage model. He proposed that fear would be acquired by **classical conditioning** and maintained by **operant conditioning** (negative reinforcement). Dollard and Miller<sup>19</sup> (*apud* Neziroglu et al., 2005<sup>20</sup>) have adapted Mowrer's model to explain the appearance and maintenance of the OC symptoms. They would result from the learning that had occurred in two stages: 1) by means of classical conditioning, a neutral stimulus (thought, door latches, numbers, colors), which is repeatedly paired with an unconditioned stimulus (fear, nausea, anxiety), acquires the same properties of unconditioned stimulus (begins to elicit such reactions or responses); 2) new responses are learned (avoidance, performance of rituals), reducing anxiety by means of an "operant conditioning" (negative reinforcement), and, for this reason, are maintained.

The behavioral model has not found support for the hypothesis that classical conditioning is in the origin of OC symptoms. This is its major weakness. However, the suggested mechanism for the maintenance of symptoms – the relief patients feel when performing the rituals (negative reinforcement) – seems quite plausible and has an important implications in the treatment strategies, as we will see below.

### 2. The cognitive model

Although ERP therapy has been received with great enthusiasm and expectations, with time it has been verified its little effectiveness in patients who had mainly obsessions without overt compulsions, low motivation or overvalued or very strict convictions, underlying their symptoms. Besides, a significant percentage of patients, between 20 to 30%, did not comply with ERP exercises or dropped out of treatment. The need of overcoming these limitations led cognitive authors to focus on the distorted thoughts and dysfunctional beliefs, which were present in some degree in most OCD patients.<sup>21-26</sup> It was consensually proposed their distribution in six domains: tendency to overestimate the risk and the responsibility; the importance and the power of thoughts and the need of controlling them; the need of certainty; and perfectionism.<sup>27</sup> This proposal led to explanation models about the origin of OC symptoms based on the cognitive theory, to the development of tools to identify and measure the intensity of dysfunctional beliefs in OCD, to verify their association with OC symptoms, and techniques for correcting them. One excellent synthesis of these studies may be found in Frost and Steketee.<sup>26</sup>

### 3. Cognitive theory for OC symptoms

#### 1) The cognitive model about the origin of obsessions

The cognitive model for OCD is based on some assumptions: 1) non-clinical populations experience intrusive thoughts which are similar in content and form to the obsessive thoughts of OCD patients;<sup>28</sup> 2) the erroneous interpretation and the negative meaning assigned to the presence of such intrusive thoughts would be responsible for their increase in intensity and frequency, and

for the transformation of "normal" intrusive thoughts into obsessions.<sup>28</sup> Salkovskis highlighted also the importance of the excess of responsibility in the origin of OC symptoms.<sup>21,22</sup> Patients' beliefs of being responsible for preventing future harm to themselves or to others would be the crucial ingredient to lead them to adopt behaviors aimed at neutralizing these possible risks, such as rituals and avoiding behaviors. The obsessions would persist while the erroneous or distorted interpretations persist and would decrease as these interpretations weaken. Accordingly, the lower the importance patients attribute to their intrusive thoughts, the lower the impulse to perform rituals.<sup>21-25</sup>

#### 2) Cognitive theory for the origin of compulsions

A complement to this theory was proposed by Rachman<sup>29</sup> in order to explain the origin of compulsions. Based on Salkovskis' proposal that the overvalued responsibility would be the central issue in OCD, Rachman proposed an explanative hypothesis for the origin of compulsions. They would be repetitive, stereotyped and intentional acts performed by the patient in order to prevent future disasters. They are a kind of preventive behavior and, in general, are associated with indecision and doubt. The checking rituals would be performed when the person believes he/she has a great and special responsibility for preventing damages, especially regarding other people, is not sure that the risk of possible damages has been effectively reduced or removed, leading him/her to repeated verifications, as a way to eliminate doubt and possible risk.<sup>26</sup>

### 4. Limitations of the cognitive model

Actually, the cognitive model has represented an important contribution for a better understanding of the OC phenomena. However, this model has aroused several criticisms. There is inconclusive evidence that the dysfunctional beliefs of OCD patients are distinct from those that occur in other disorders. Tools such as the *Obsessive Beliefs Questionnaire* have difficulties to separate OCD patients from patients with other anxiety disorders.<sup>30,31</sup> It is even debated if intrusive thoughts in OCD patients are the same which occur in the general population, which is the assumption on which the theory is based. The debate is also fomented by the fact that Rachman's and da Silva's<sup>28</sup> initial study was on college students and thus not representative of the general population, not having been replicated. The cognitive model does not explain the reasons why many people perform rituals that are not preceded by any cognition (obsession). This is usual in individuals who have compulsion to align objects, to perform things in a determined sequence or to do execute certain repetitive behaviors that highly remind tics: snapping of fingers, looking at a side, fidgeting regularly, touching, and scratching.

#### 1) Evidence of the efficacy of cognitive therapy

The identification of dysfunctional beliefs in OCD patients has led some authors to propose and adapt cognitive techniques for the treatment of OC symptoms.<sup>24,25,32,33</sup> In parallel, some clinical trials have proven the effectiveness of using cognitive therapy alone for the treatment of OCD,<sup>34-38</sup> both for patients who have predominantly obsessions,<sup>39</sup> who had been considered refractory to ERP therapy, and for patients with obsessions and compulsions.<sup>40,41</sup> It was also seen a similar efficacy of cognitive and ERP therapies.<sup>36,38,40,41</sup> Some of those studies, however, have undergone criticism: the time period destined to behavioral therapy was shorter than that dedicated to cognitive therapy. It was questioned if therapists did not suggest, even indirectly, home tasks and if it was ethical to request patients to not try to perform exposure or refrain from doing their rituals.

## 2) Advantages and limitations of cognitive therapy

In the clinical practice, cognitive therapy, as an isolated therapy for OCD symptoms, has been less used than ERPT because is more complex and demands some psychological conditions from the patient – such as the capability of thinking psychologically and having some insight about the symptoms, which are not always present. It requests from therapists a longer and deeper training on the cognitive fundamentals and techniques. Up to now, it has not been proven that the addition of cognitive techniques to ERPT therapy increases the treatment's efficacy.<sup>42</sup> However, the clinical impression is that for specific patients and clinical presentations, the use of cognitive techniques is highly useful. This is the case for those having predominantly obsessions or improper thoughts with a sexual, aggressive or blasphemous content, or obsessive ruminations arising from the need of certainty, or having very rigid convictions about their beliefs and who, for this reason, do not comply with the exercises of ERP. In these cases, the use of cognitive techniques could occasionally precede ERP exercises to allow the adherence to treatment. Freeston et al.<sup>33</sup> have found several common characteristics among patients who benefited from cognitive interventions: 1) they give great importance to the presence of their obsessions; 2) they believe that their obsessions are a reflection of their real nature (character); 3) they believe that a determined image, thought or impulse morally equals to practicing it; 4) or that having a determined thought increases the probabilities that it may happen. In the clinical practice, cognitive techniques are increasingly added to ERP therapy, and are not used alone, and the designation of CBT is being gradually adopted. ERP techniques are still considered the crucial ingredients for the elimination of symptoms and the role of cognitive techniques in the treatment of OCD has still to be better clarified.

### Cognitive Behavior Therapy: description of the technique

CBT on OCD follows the steps bellow:

- **Assessment of the patient:** diagnosis of OCD and co-morbidities; presence of medical illnesses; assessment of counter-indications or predictors of non-response and motivation for doing CBT.

- **Initial phase:** psychoeducation about OCD and ERP therapy; identification, listing, assessment of the severity of symptoms and establishment of a hierarchy of discomfort with the exercises; selection of the first ERP exercises and home work; explanation of the cognitive model (dysfunctional beliefs) and introduction of cognitive techniques. Details of these techniques are described in several manuals.<sup>43-47</sup>

- **Intermediate phase:** continuation of ERP and cognitive exercises; monitoring and reinforcement of cognitive and behavioral techniques; monitoring the severity of symptoms.

### - Discharge, relapse prevention and maintenance therapy.

#### 1) Assessment of the patient and indication of CBT

Patients are assessed by means of one or more semi-structured interviews aiming at establishing the diagnosis of OCD, the presence of occasional comorbidities, determining the onset and the course of symptoms, the interference with the patients and their family's life, the existence of symptoms among other family members, successes or failures of previous treatment, the presence of clinical diseases, and the current use of medications. It is important to remind that obsessions and compulsions may be present in numerous other mental diseases, being excluded, in this case, the diagnosis of OCD. The OCD symptoms should be severe enough to provoke a significant degree of discomfort or interfere with the daily routines

and interpersonal relationships of the patient. Besides establishing the diagnosis of OCD, it is important, in the initial assessment, to give special attention to two other issues: presence of comorbidities and counter-indications to CBT.

#### 2) Comorbidities

Obsessions and compulsions, as well as avoiding and repetitive behaviors may occur in other psychiatric disorders besides OCD, such as in anxiety disorders, depression, eating disorders, impulse disorders, alcohol or drug abuse or dependence etc. It is important to investigate them, because if they are present, the therapeutic approach might be different. In the same way, tics disorders or Tourette syndrome, or, else, rheumatic fever, may point to a different subtype of OCD, which may be less responsive to CBT and demand complementary therapies.

#### 3) Counter-indications and predictive factors of non-response to CBT

Many OCD patients show a quick and intense response to CBT, however, others do not respond or drop out of treatment. It is still an open question which are the characteristics of those who benefit and those who do not respond or not adhere to the treatment. Although not always concordant, researches suggest that response may be limited or null in patients who have very severe or impairing OC symptoms, intense anxiety or depression, psychosis, active phase of bipolar mood disorder, schizotypal personality disorder, histrionic or *borderline* personality disorder, alcohol or drug dependence, quasi-delirious or overvalued beliefs about obsessions,<sup>48-50</sup> absence of insight, lack of motivation for the treatment, and non-compliance with home work.<sup>51</sup>

#### 4) Psychoeducation and motivation for treatment

One of the great problems of CBT is non-compliance with exercises and home work due to the increase of anxiety they provoke, though transient, and the dropouts. In order to reduce or eliminate this problem, the first objective of therapists is to motivate patients to accept the treatment. People, as a rule, are not aware of what OCD is, which are its manifestations and the available treatments, why the rituals perpetuate OCD, what CBT is, how it reduces the symptoms and how it is actually performed. It is essential for the patient's compliance to explain these issues before the beginning of CBT.

#### 5) Elaboration of the symptom list and assessment of their severity

If patients accept to undergo CBT, the first task will be elaboration of a detailed and full list of OC symptoms, including frequency, time, places, objects or situations which trigger obsessions and that lead to perform rituals. Patients are also requested to classify their symptoms by the degree of anxiety associated with obsessions or by the degree of anxiety they imagine they would feel if having to touch the objects or to face up with the situations they avoid, or if they would refrain from performing the rituals when compelled to do it. This assessment is useful for the choice of ERP home exercises, as it is recommended to start always by those which provoke less anxiety.

At the end of the first or the second session, it is usual the application of scales which assess the severity of symptoms, such as the Y-BOCS or the *Obsessive-Compulsive Inventory Revised* (OCI-R),<sup>52</sup> that will be used as a reference to assess their reduction along therapy. More details about the patient's assessment, scales, questionnaires, symptom diaries, forms to record home work, and to record dysfunctional thoughts can be found in several manuals.<sup>46,47</sup>



### 1. Starting of therapy: the exposure and response (or ritual) prevention exercises

The therapy starts with ERP exercises, which are consensually chosen by patients and therapists to be performed between sessions. **Exposure** consists of the direct contact, or through the imagination, with objects, places or situations that are avoided due to fear, anxiety or nausea provoked by the contact. **Response (or ritual) prevention** is the abstention, by the patient, from performing rituals, mental compulsions, or other operations aiming to relieve or neutralize the fear or discomfort associated with obsessions. The main effect of exposure and response prevention is the instantaneous increase of anxiety, which may reach high levels in the first exercises, but decreases up to disappearing within a 15-to-180 minutes interval (**habituation**) and especially at each repetition of the exercise, as it has been demonstrated.<sup>3-7</sup> It is often started by choosing from the list, the rituals or avoiding behaviors that the patients have rated as having mild or moderate intensity and they consider the easiest to refrain from performing or facing up with.

### 2. The addition of cognitive techniques

The inclusion of cognitive techniques in the treatment of OC symptoms is more recent. Generally, they are adaptations of those initially described by Beck<sup>53</sup> for the treatment of depression, and by Clark<sup>54</sup> for the treatment of anxiety. They have been described in detail in several articles.<sup>24,25,32,33</sup> They are often introduced in therapy in a second moment, when the patient has already started the ERP exercises. Among these techniques are the identification and recording of automatic thoughts and dysfunctional beliefs, the Socratic Questioning (or examination of evidences), the descending arrow, the examination of advantages and disadvantages (or cost-benefit), the responsibility pie, the examination of the two alternative hypotheses, behavioral experiments, and the use of reminders, among others. In order to use the cognitive techniques, patients need to have some capability of introspection, of thinking psychologically, and curiosity to have a deeper understanding of their symptoms. It is beyond the scope of this article to give a more detailed description of these techniques and their applications in the different clinical presentations of OCD. They can be found in manuals.<sup>46,47</sup>

### 3. How the therapy sessions, the duration of treatment and discharge are

CBT sessions for OCD, as in cognitive therapy, are often structured and focused on problems and symptoms. They involve demonstrations accomplished by the therapist (modeling) and the choice of exercises to be performed at home. They use records, scales, self-monitoring tools and, occasionally, the joint performance of tasks with the therapist. The session starts by the review or checking of symptoms (intensity, frequency) and mood; next, follows the review of the programmed ERP or cognitive exercises, the discussion of difficulties in their accomplishment, cognitive exercises to correct dysfunctional thoughts and beliefs (usually after the third or fourth session), ending with the establishment and discussion of goals and home work for the following week and the patient's evaluation of the session.

The treatment is generally brief – between three and six months, with weekly sessions lasting for nearly one hour, at the beginning. Ten to fifteen sessions suffice for most of the patients, provided they are actively involved in the exercises.<sup>55</sup> As the symptoms decrease, the interval between sessions may be longer.

In each session, the list of symptoms is revised, in order to program the next home exercises. The aim of therapy is the full

elimination of symptoms. When most of the symptoms have been eliminated, a longer interval between sessions may be proposed and, afterwards, discharge. Reinforcement sessions are recommended after the end of treatment. As OCD is a chronic disorder, patients should be reminded of the possibility of relapses, how to prevent them and how to early perceive the signs that a relapse may be occurring. Relapses in patients who had complete remission of symptoms are rare, but they are common when the remission is partial, and in this situation, therapy must be restarted, even for a few sessions. Several studies have shown that a maintenance program for different periods after the end of treatment clearly reduces the rate of relapses.<sup>56,57</sup>

### CBT and medication

More recent studies have confirmed some advantages of CBT as compared to medications.<sup>58,59</sup> One study has verified, for example, that it is more efficacious than sertraline to reduce compulsions, in the intensity by which it reduces symptoms, and in the percentage of patients who achieve the full remission of symptoms.<sup>59</sup> A Brazilian study, with children, has verified that group CBT and sertraline were efficient, but in the long-term patients treated with group CBT had lower symptom levels than those treated with sertraline.<sup>60</sup> The relapses are apparently more frequent and occur later with CBT than with medications.<sup>61</sup>

#### 1. To associate or not to associate medications

Both psychotherapy and medications have limitations and, occasionally, counter-indications. Many studies have not demonstrated advantages in the association of medications and therapy.<sup>62</sup> However, the results of more recent studies reinforce the recommendation of the Expert Consensus for the Treatment of Obsessive-Compulsive Disorder, which suggests, whenever possible, this association.<sup>63</sup> It is interesting that, for example, the observation that CBT seems to be efficient even in patients who do not respond or partially respond to pharmacological treatment.<sup>64-66</sup> A recent study performed with children and adolescents has verified that the combination of CBT and medications presented better results than the use of medications alone.<sup>67</sup> A similar result was found in adult patients.<sup>68</sup>

In some cases, however, one of the two treatment modalities may be the preferred, at least at the beginning of treatment. CBT may be the preferred choice for patients on whom predominate compulsions and avoiding behaviors, whose OC symptoms vary from mild to moderate, who do not tolerate the side effects of medications or do not accept to use them, and who do not have comorbidities demanding the use of medications. It is also the treatment of choice for pregnant women, bipolar mood disorder patients or other patients with counter-indication to the use of anti-obsessive medications. Medications are the choice treatment when OC symptoms are severe or impairing, when are present severe depressive or anxiety symptoms, when there are quasi-delirious convictions regarding the content of obsessions, when there are associated comorbidities demanding pharmacological treatment or the patient refuses or does not comply with CBT exercises.

#### 2. Group CBT

Group CBT takes advantage of group factors and it is thought they may influence the treatment's results. Several studies have proved that the efficacy of group CBT in the treatment of OC symptoms<sup>38,65,69</sup> is similar to that of individual ERP<sup>70,71</sup> or to sertraline.<sup>59</sup> Its effects, apparently, remain within the period of at least one year after

discharge.<sup>72</sup> Its efficacy was also verified on children, having, in the long-term, better results than the use of sertraline.<sup>60</sup> Group CBT has a more favorable cost-benefit, being costs five times lower than those of individual CBT,<sup>73,74</sup> besides enabling the treatment for a higher number of people. The group approach may supposedly enhance treatment compliance, an important limitation of CBT on OCD. It is an interesting approach to be used in institutions with high attention demand.

### Open issues and future perspectives

The behavioral and cognitive model of OCD enabled a better understanding of OC symptoms. It allowed also the proposal of a range of effective techniques and strategies to reduce OC symptoms in most of patients and even the possibility of wholly eliminating them, which totally changed the pessimist perspectives that predominated the psychological treatments of OCD. However, several important issues remain opened. Many patients are refractory, do not adhere to the exercises or drop out of therapy, and reasons are unknown. The predictors of response to OCD are scarcely known. The presence of comorbidities is almost the rule in OCD patients,

and they probably interfere with the results of therapy, but it is not already known which are they and at which degree.

It has not been already fully understood when and in which situations the addition of cognitive techniques could enhance the efficacy of therapy. There are still open questions on whether it effectively contributes to increase the motivation, enhance the insight, reduce overvalued ideas, and decrease dropouts. Further research may hopefully explain such issues and define more precisely which is the most effective method for a specific patient. For example, for patients in who predominate avoiding behaviors, could exposure therapy be most effective? For patients who overestimate their responsibility, the need of certainty, would the cognitive techniques be the preferred ones?<sup>20</sup> It would be more useful to investigate at each point of treatment if it is more interesting to use one or another technique than continuing the debate about the superiority of one or the other of the two models.<sup>20</sup>

Finally, in terms of public health, there are future challenges as to explain the population the manifestations of OCD, the perspectives of treatment, and the early referral for treatment, especially of children and adolescents with the disorder, as well as a greater availability of CBT in public services.

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