Metacognitive therapy for obsessive-compulsive disorder: A case report

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Obsessive-compulsive disorder (OCD) is a common and disabling disorder. The most effective psychological treatment for OCD is currently exposure with response prevention (ERP). Although ERP is an effective therapy, recovery rates are relatively modest, so there is room for improvement. Metacognitive therapy (MCT) for OCD focuses primarily on modifying metacognitive beliefs about obsessions and compulsions, instead of their actual content. Based on a few small preliminary studies, there are some indications for the effectiveness of MCT for OCD. In the present article, the metacognitive model and treatment are discussed, as well as empirical support for its efficacy. Because detailed descriptions of the application of this treatment modality for patients with OCD are scarce, the authors report a case study to illustrate the content of this form of therapy. (Bulletin of the Menninger Clinic, 82[4], 375–389)

Keywords: obsessive-compulsive disorder, metacognitive therapy, exposure and response prevention

Obsessive-compulsive disorder (OCD) is characterized by obsessions and/or compulsions that cause significant interference with daily functioning. The lifetime prevalence of this disorder has been estimated to be 2% (American Psychiatric Association, 2013). Both pharmacological treatment with antidepressant drugs and specific forms of psychological treatment are effective

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forms of treatment for OCD (Blanco et al., 2006). Meta-analytic reviews indicate that the psychological treatment of choice for OCD is exposure and response prevention (ERP; see Rosa-Alcázar, Sánchez-Meca, Gómez-Conesa, & Marín-Martínez, 2008; Öst, Havnen, Hansen, & Kvale, 2015; Skapinakis et al., 2016). In ERP treatment, which is a specific type of cognitive-behavioral therapy (CBT), patients are exposed to anxiety-provoking stimuli (situations, objects, thoughts) that are avoided and/or trigger obsessive thoughts, with the instruction to refrain from engaging in compulsive behavior (Meyer, 1966). This procedure is based on learning theory, in which classical conditioning is considered to be responsible for the development of obsessions, and operant conditioning processes maintain compulsive behaviors (Mowrer, 1951).

Although numerous studies have found statistically significant change and large symptomatic improvements, the majority of patients still experience distressing OCD symptoms after ERP. More specifically, although about 60% of treatment completers achieve recovery, only approximately 25% of patients are asymptomatic following treatment (Fisher & Wells, 2005). In addition, approximately 30% of patients with OCD refuse ERP or withdraw from treatment (Olatunji, Cisler, & Deacon, 2010). So it can be concluded that ERP is efficacious, but that there is room for improvement. One promising novel approach is metacognitive therapy (MCT; Wells, 1997, 2000). In the present article, the metacognitive model and treatment of OCD are discussed, using a case example.

The metacognitive model of OCD

Theoretical model

Metacognition refers to thinking about one's own mental processes, beliefs about thinking, and strategies used to regulate and control thinking processes, such as thought monitoring (Flavell, 1979). The metacognitive model of OCD concerns two subcategories of metacognitive beliefs that are supposed to be fundamental in the maintenance of the disorder: (a) metacognitive beliefs about the significance and consequences of intrusive

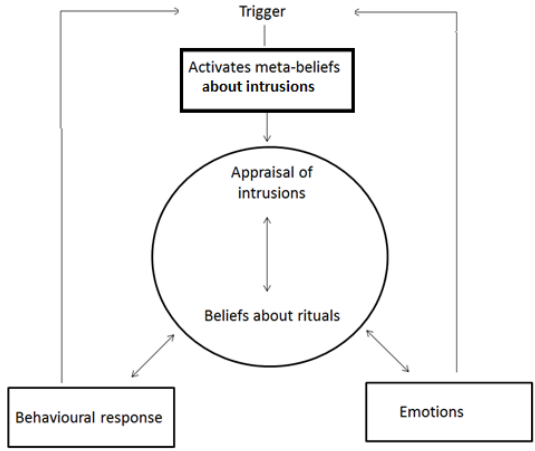

Figure 1. **Metacognitive model of OCD (Wells, 1997).**

thoughts and feelings, the so-called fusion beliefs; and (b) beliefs about the necessity of performing rituals. Three classes of fusion beliefs are specified: (a) thought-action fusion (TAF; Rachman, 1993) refers to the belief that obsessional thoughts can make someone do things he or she doesn't want (e.g., "thinking about jumping off the bridge will make me do it"); (b) thought-event fusion (TEF; Wells, 1997) refers to the belief that obsessional thought can make events happen or mean an event has happened (e.g., "thinking about a car accident means I will be involved in such an accident"); and (c) thought-object fusion (TOF; Wells, 2000) refers to the belief that thoughts or negative feelings can be transferred into objects (e.g., "my feeling of disgust could be passed into objects and from objects to other people"). Once activated by a trigger (intrusive thought or image, an urge or doubt), fusion beliefs give significance to obsessional thoughts, which provokes worrying and anxiety. Consequently, patients with OCD engage in ritual behaviors based on a second class of metacognitive beliefs, beliefs about the necessity of performing rituals in response to obsessive thoughts (e.g., "I must wash my hands, otherwise I will never have peace of mind again"). These rituals are carried out until specific internal rules (instead of external observation) and stop signals are met (e.g., "I must wash

my hands until 'it feels right'"). A key problem with these ritual behaviors is that they prevent patients from learning that their metacognitive beliefs about both intrusions and ritual behaviors are inaccurate and even backfire by increasing the awareness for intrusive experiences, as depicted in Figure 1.

There is a growing body of evidence that both thought fusion beliefs and beliefs about rituals contribute to OCD (see Wells, 2009). For instance, a high correlation has been found between metacognitive beliefs and OCD symptoms (Myers, Fisher, & Wells, 2009), and metacognitive beliefs have a predictive value for OCD symptoms (Wells & Papageorgiou, 1998).

Metacognitive therapy for OCD

Resulting from the metacognitive model, treatment should focus on modifying patients' beliefs about the importance of intrusive thoughts and the necessity of performing rituals (Fisher & Wells, 2008). Typically, metacognitive therapy for OCD consists of 10–15 treatment sessions, divided into four treatment phases as described in Table 1.

Phase 1: Case conceptualization and identification of metacognitive beliefs. In the first sessions, an idiosyncratic metacognitive case formulation is generated to increase patient awareness of metacognitive factors maintaining OCD. Metacognitive beliefs are identified using the OCD case formulation interview (Wells, 2009), in which all components of the model (trigger/intrusion, fusion beliefs, appraisal of the intrusion, beliefs about rituals, emotions and behavioral responses) are discussed based on the recent occurrence of an obsessive thought or image. After the case formulation has been derived, patients are socialized to the model. This can be achieved by explaining that obsessions are normally occurring phenomena, by behavioral experiments to illustrate the counterproductive effect of thought suppression (e.g., the thought suppression experiment in which the patient is asked to suppress the thought of a white rabbit, which is rarely completely successful), or by questioning the consequences of coping behaviors (e.g., "If your ritual behaviors are helping, why do you still have a problem with OCD?"). Also, detached mindfulness (DM) is introduced as an alternative way to engage with obsessions. In DM, patients are asked to observe their in-

Table 1. **Metacognitive treatment manual (van der Heiden et al., 2016; based on Wells, 1997, 2009)**

Phase	Session Topic	Techniques
1	Case conceptualization and identifying metacognitive beliefs	Administration of the Thought Fusion Instrument (TFI) and the Beliefs About Rituals Inventory (BARI)
		Guided questioning to identify metacognitive beliefs
		Experiments to illustrate effect of coping behavior
		Detached mindfulness
2	Modifying metacognitive beliefs about obsessive thoughts	Questioning the evidence of fusion beliefs
		Behavioral experiment to test fusion beliefs (exposure with response commission, exposure with response prevention, or ritual postponement and adaptive checking)
3	Modifying metacognitive beliefs about ritual behaviors	Questioning the evidence of beliefs about rituals
		Advantage-disadvantage analysis of ritual behavior
		Questioning the advantages of ritual behavior
		Ritual-modulating experiments
		Response prevention to test beliefs about rituals
4	Relapse prevention	Relapse prevention
		Development of a new plan for dealing with obsessions

trusive thoughts and notice them as "just mental events in the mind" instead of engaging with them. This can be achieved by using metaphors, such as a passenger train metaphor, in which patients are asked to deal with intrusions in the same way they deal with a train passing through a station as just a bystander (Wells, 2009).

Phase 2: Modifying metacognitive beliefs about obsessive thoughts. In the second treatment phase, fusion beliefs are modified using verbal cognitive restructuring techniques, such

as questioning the evidence and searching for counterevidence, as well as behavioral experiments. In MCT for OCD, three specific behavioral experiments are used to test fusion beliefs. In exposure and response commission (ERC), patients are asked to continue with rituals while holding their intrusions in mind throughout. In this way, patients can obtain distance from their intrusions and discover that they are only unimportant events in their mind instead of subjective realities that must be controlled. Metacognitively delivered exposure and response prevention or ritual postponement experiments are goal-oriented and used as a way of testing fusion beliefs. Finally, adaptive checking can be used to collect data, instead of getting reassurance, in order to modify a fusion belief. For instance, in case of a TAF belief, "Thinking I've killed someone in a car accident means that I did," checking can be used to collect data unambiguously, showing that the event has not occurred and the thought is only an irrelevant event in the mind.

Phase 3: Modifying metacognitive beliefs about ritual behaviors. In the next phase, metacognitive beliefs about rituals are challenged, again by using verbal interventions (e.g., questioning the evidence and making an advantages–disadvantages analysis) and behavioral experiments, such as a ritual modulation experiment. In this experiment, patients are asked to alternate between more and less ritual behavior with the aim of assessing its impact on daily life and to test metacognitive beliefs about the necessity of performing rituals (e.g., "I must perform my rituals or else I will never find peace again").

Phase 4: Relapse prevention. In the fourth and final phase, a new plan for processing in response to intrusive thoughts is developed. This plan consists of attentional strategies and coping behaviors opposite to the strategies and behaviors of the old plan (e.g., applying detached mindfulness instead of worrying about intrusions). In addition, a relapse prevention plan is developed, consisting of a summary of the therapy, the case conceptualization, a list of metacognitive beliefs, and an overview of evidence challenging them.

Gap between current treatment protocols and MCT

The key theoretical insight underpinning MCT is that disordered higher order metacognitive processes such as beliefs about the importance and power of thoughts are responsible for the development and maintenance of OCD. As a result, MCT focuses on the process rather than the content of thinking. Indeed, it focuses exclusively on challenging metacognitive beliefs about obsessions or compulsions and makes no attempt to modify lower order appraisals such as inflated responsibility or perfectionism, as these belief domains are thought to be products of metacognitive beliefs (Gwilliam, Wells, & Cartwright-Hatton, 2004; Myers & Wells, 2005). The goal is to help patients bring thinking under flexible control and discover that it is possible to respond to negative thoughts in more adaptive ways, instead of replacing obsessive thoughts by reality testing, as in CBT. In addition to standard reattribution techniques such as Socratic questioning and behavioral experiments (aimed at metacognitive beliefs!), MCT uses detached mindfulness as a specific technique to enhance flexible control and choice over reactions to intrusions. MCT also differs from CBT, and more specifically from ERP, in that it does not include exposure exercises aimed at habituation. Instead, behavioral experiments are used to modify metacognitive processes. One distinct behavioral experiment is ERC, aimed at enabling patients to shift to a "metacognitive mode" of experiencing thoughts with the goal of illustrating that their intrusions do not hold any special significance or meaning (Fisher, 2009).

Metacognitive treatment for OCD: Case conceptualization

Unique manifestation of OCD symptomatology

Thomas is a 57-year-old man referred by his general practitioner for treatment of his long-lasting fear of contaminating himself or other people with asbestos. His intrusive thoughts and images about asbestos contamination are sometimes triggered by concrete stimuli, such as walking by an old house, but can also come without an obvious trigger. Thomas believes that having

these obsessive thoughts means he actually is contaminated (an example of thought-event fusion), resulting in strong feelings of anxiety. Thomas performs ritual behaviors to remain safe, such as washing his hands a couple of times when coming home, in order to reduce the risk of asbestos contamination. Not performing his rituals seems impossible to Thomas, as he believes he then "will never have peace of mind again" (a metacognitive belief about the necessity of performing rituals). To prevent intrusive thoughts from occurring, Thomas tries to avoid situations that might trigger his obsessions and displays daily routines, such as taking a 1-hour shower every evening. Because he had previously received ERP twice, with only modest and short-term results, MCT was offered as a new and promising treatment to Thomas.

Treatment

Assessment

At pretreatment assessment, Thomas's total score on the Yale–Brown Obsessive-Compulsive Scale (Y-BOCS; Goodman et al., 1995), a clinician-rated semistructured interview for measuring OCD symptoms, was 21, which can be classified as "moderate" in comparison with the scores of other OCD patients. On the Padua-Inventory Revised (Padua-IR; Burns, Keortge, Formea, & Sternberger, 1996), a self-report scale for measuring OCD symptoms, Thomas's pretreatment score was 53, which is "below average" in comparison with the scores of other OCD patients (van Oppen, Emmelkamp, van Balkom, & van Dyck, 1995).

Interventions

Treatment started with the administration of the OCD case formulation interview. A verbatim fragment from this interview is shown below.

> *Therapist: Do you believe your thoughts about being contaminated with asbestos mean something? (identifying fusion beliefs)*

Thomas: Yes, especially when a specific thought keeps coming, I become anxious.
Therapist: What does it mean to you when a thought keeps coming back?
Thomas: When I cannot get rid of a thought, I start to believe that the thought will warn me.
Therapist: Warn you for what?
Thomas: That what I am thinking has actually happened. That I really am contaminated with asbestos. That's what frightens me.
Therapist: How much do you believe that having these thoughts about being contaminated means you actually are contaminated?
Thomas: At the moment of occurrence, 100%.
Therapist: Did you do anything to prevent contamination with asbestos? (identifying behavioral responses)
Thomas: Yes. By washing my hands over and over again.
Therapist: What is the worst that could happen if you shouldn't do those things? (identifying beliefs about rituals)
Thomas: Then I can't relax ever again.
Therapist: How do you know when the contamination is over and you can stop washing? (identifying stop signals)
Thomas: I have no idea; I stop when I feel that it is okay to stop.

The resulting case conceptualization is displayed in Figure 2.

After the case formulation was derived, psychoeducation about the metacognitive model and intrusions was given. The fact that approximately 80% of people experience intrusive thoughts occasionally (Rachman & de Silva, 1978) made Thomas realize that obsessions might not be the main problem, because this percentage is much higher than the actual number of patients suffering from OCD. Next, detached mindfulness was introduced. After 2 weeks of practicing detached mindfulness with the passenger train metaphor every day for at least 15 minutes, Thomas noticed that both the duration and the frequency of his obsessive thoughts had lessened.

The second treatment phase turned out to be the most helpful part of the therapy for Thomas. This seemed mainly due to the behavioral experiments for modifying fusion beliefs, which are described below.

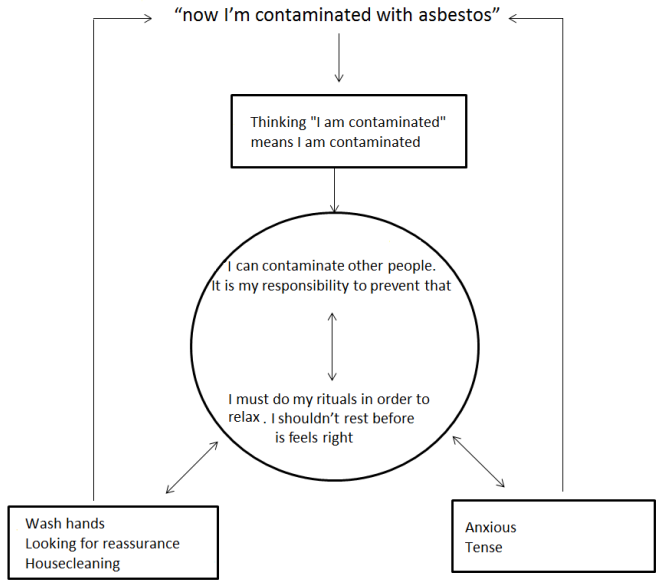

Figure 2. **Case conceptualization of Thomas's fear of asbestos.**

Experiment 1: Adaptive checking experiment. Thomas was asked to go home when he was having intrusive images of his house being on fire to check if his house was actually on fire. The purpose of this experiment was to test his TEF belief, "Thinking my house is on fire means my house is on fire." Because he repeatedly discovered that his house was not on fire, he concluded that these images were only events in his mind without actual meaning or power to cause an event to occur.

Experiment 2: Exposure with response commission experiment. Thomas practiced with washing his hands repeatedly while holding the obsessive thought "I am contaminated" in mind throughout his ritual. After a while, Thomas felt silly doing this and experienced a meta-level of the intrusion as "just a disturbing but meaningless event in my mind."

Experiment 3: Metacognitively delivered exposure with response prevention experiment. Thomas was asked to contaminate water with his own old mercury thermometer and then

spray this "contaminated" water everywhere in the therapist's office without performing any ritual behavior. At first, intrusive thoughts about contamination emerged, meaning that the office actually was contaminated (TEF). However, after a while Thomas realized that there were no actual signs of contamination, which he considered to be evidence for the alternative thought "the problem is only thoughts about contamination, not contamination itself." Again, Thomas concluded that intrusive thoughts about contamination were only meaningless events in his mind.

Although his metacognitive beliefs about rituals were not targeted at this point in treatment, both Thomas's ritual behaviors in reaction to obsessive thoughts and his avoidance behavior were reduced after the second phase of therapy. In the third phase, an advantage–disadvantage analysis of his daily rituals without a clear relation to obsessive thoughts, such as showering for more than 1 hour every day, revealed that the amount of time spent on rituals was most important to Thomas, and outweighed the advantages. When the therapist asked Thomas why he still had problems with OCD if his rituals made him feel comfortable, Thomas realized that his rituals did not help him overcome his OCD. This notion was reinforced by carrying out a ritual modulating experiment, which is described below.

In a ritual modulating experiment, Thomas was asked not to take a shower for one evening (Day 1), whereas he was allowed to perform his ritual the next day (Day 2), in order to test his belief that not performing his rituals will cause him terrible distress and a sleepless night. On both days, he monitored his degree of distress and his ability to sleep. Thomas reported being distressed both nights, the first night because of not being allowed to take a shower and the second night because of the amount of time spent on his ritual behavior. On both nights, Thomas slept through the night, leading him to the conclusion that he does not need his rituals in order to sleep. He further noticed that on Day 1, he spent his free time watching a movie, which made him feel happy, whereas he did not have time for relaxing activities on Day 2 because of his time-consuming rit-

ual. The credibility of his belief, "I need to perform my rituals, otherwise I will never have peace of mind," lowered to zero.

Finally, the therapist and Thomas worked on a relapse prevention plan. The most important element in his old plan for dealing with obsessions was "trying to get rid of the thought," which was driven by his fusion belief: "If I cannot get rid of a thought, then it will happen." Adaptive checking while holding the obsessive thought in mind was the most helpful strategy for Thomas, because this convinced him that obsessive thoughts by themselves had no meaning or power. Other strategies in his new plan were applying detached mindfulness and reading his advantage–disadvantage analysis to remember that performing rituals is not necessary in order to relax.

Treatment outcomes

After treatment, Thomas no longer fulfilled the *DSM-IV* diagnostic criteria for OCD as assessed by the SCID-I. Scores on the OCD self-report measures decreased from 21 (moderate) to 1 (very low) on the Y-BOCS and from 53 (below average) to 20 (very low) on the Padua-IR. In terms of clinically significant change, Thomas was classified as asymptomatic on the Y-BOCS (the most stringent criterion for defining recovery; Jacobson & Truax, 1991) because his posttreatment score on this measure met criteria for reliable change (a minimal reduction of 10 points on the Y-BOCS) and was below the cutoff score of 7, which indicates an absence of OCD symptoms (Fisher & Wells, 2005). Interestingly, scores on two questionnaires measuring OCD-specific types of metacognitions also decreased substantially. On the Thought Fusion Instrument (TFI, Wells, Gwilliam, & Cartwright-Hatton, 2001), a self-report questionnaire measuring fusion beliefs, Thomas's score decreased from 590 at the start of treatment to 130 after treatment. On the Beliefs About Rituals Inventory (BARI; McNicol & Wells, 2012), Thomas's score decreased from 44 to 19. Together, these results suggest that the correction of metacognitive beliefs is the specific vehicle that is responsible for the treatment gains. Treatment gains were maintained at 3-month follow-up.

Conclusions

Results and impact on field

In the case of Thomas, MCT appeared to be an efficacious treatment for OCD. This is in line with preliminary evidence from pilot studies supporting the efficacy of MCT for OCD, showing significant and large decreases on both OCD-specific and general outcome measures, as well as high recovery rates (Fisher & Wells, 2008; Rees & van Koesveld, 2008; van der Heiden, van Rossen, Dekker, Damstra, & Deen, 2016). However, further research comparing MCT to other active treatments for OCD is necessary to study the relative effectiveness of this innovative treatment. Therefore, we recently set up a randomized controlled trial (RCT) with a pretest-posttest 6- to 30-month–follow-up design to compare MCT with ERP, the current gold standard for OCD patients.

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