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An explorative study on metacognition in obsessive-compulsive disorder and panic disorder

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Abstract

Objective: To test the hypothesis that dysfunctional metacognitions might be a general vulnerability factor for anxiety disorder, metacognitive beliefs among patients with obsessive-compulsive disorder (OCD), patients with panic disorder (PD), and healthy subjects (HS) were studied. Correlations between metacognitive beliefs, OCD, and PD symptoms were also investigated.

Methods: Patients with OCD (n = 114), patients with PD (n = 119), and HS (n = 101) were assessed with the Metacognition Questionnaire (MCQ).

Results: Patients with OCD and those with PD scored significantly higher than HS on the MCQ in 2 dimensions: negative beliefs about worry concerning uncontrollability and danger as well as beliefs about the need to control thoughts dimensions. No difference in MCQ scores was observed between the OCD and PD groups. The former 2 MCQ dimensions were positively correlated with the degree of indecisiveness in patients with OCD, whereas the MCQ negative beliefs about worry positively correlated with the average intensity of anticipatory anxiety in patients with PD.

Conclusions: The presence of dysfunctional metacognitions in both patients with OCD and those with PD suggests that such beliefs can represent not only generic vulnerability factors for anxiety disorders but also elements that contribute to maintaining the disorder, as evidenced by their associations with aspects of OCD and PD symptoms.

1. Introduction

Metacognition is the process of "thinking about thinking," knowing about "what we know" and "what we don't know" [1]. It refers to the psychologic structures, knowledge, events, and processes that are involved in the control, modification, and interpretation of thinking [2].

According to Wells' theory of Self-Regulatory Executive Function (S-REF) [3,4], metacognition is a major factor in the development and progression of psychopathology. The basic assumption of this approach posits that, in psychiatric disorder, beliefs represent the metacognitive component guiding the activity of thinking and coping. Individuals have positive and negative beliefs about thinking that influence appraisals, but also, they have implicit procedural metacognitions that create plans or programs that drive cognition and action. This metacognitive element is thought to be a major factor contributing to maladaptive response styles, which in turn favors the development and persistence of psychopathology. Consistent with the S-REF model, research on metacognition has investigated generalized anxiety disorder [5], posttraumatic stress disorder [6], psychosis [7], and depression [8].

Furthermore, metacognition has been investigated in specific anxiety disorders, for example, obsessive-compulsive disorder (OCD) and panic disorder (PD) [7,9]. Studies using nonclinical samples [10-13], experimental manipulations [14], and patient group comparisons [15] demonstrate relationships between OCD symptoms and metacognitive beliefs.

Several instruments are available to assess the various dimensions of metacognition. One of those is the Penn State Worry Questionnaire [16], a scale that measures individual differences in the tendency "to worry." In addition, there are also specific instruments assessing metacognition in specific anxiety disorders, especially for OCD. One of those instruments is the Obsessive Beliefs Questionnaire–44

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[17], a 44-item self-report scale that measures 3 belief domains (responsibility/threat estimation, perfectionism/certainty, and importance/control of thought) linked to OCD. According to the S-REF theory, the Metacognitions Questionnaire (MCQ) [18] accurately assesses dimensions of metacognition relevant to psychopathology.

Metacognitive functioning in OCD has been widely investigated. Patients with OCD are characterized by marked negative beliefs about worry, which is related to the severity of obsession, and show high need to control thoughts, as noticed by Moritz et al [19]. This latter dimension has also been identified by Solem et al [20] as a critical element enforcing obsessive-compulsive symptoms, thus considered a potential therapeutic target to reduce symptoms. Another aspect of metacognition linked to OCD is cognitive confidence. Both Hermans et al [21] and Wells and Papageorgiou [9] demonstrated that patients with OCD have a lack of confidence in their cognitive functioning (memory, attention, concentration), contributing to the mistrusting of their perceptions, augmenting doubts, and consequently, negative evaluations concerning the efficiency of their memory and attention. Thus, these mechanisms might augment the checking compulsions.

A study conducted by Morrison and Wells [7] highlights the presence of higher levels of dysfunctional metacognition in patients with PD when compared with healthy subjects (HS). The patients with PD show significant higher levels of negative beliefs about uncontrollability and danger of thoughts and greater beliefs about the need to control thoughts. Thus, these studies suggest that metacognition can be considered an important element contributing to the dysfunctional cognition characterizing both OCD and PD symptoms, which should be considered when treating the disorder [2,15].

Several studies investigated the impact of dysfunctional metacognition in OCD. Moritz et al [19] noted that the need to control thoughts and negative beliefs about the malleability of worry are linked to the severity of obsessions. The linkage among the former dysfunctional metacognitive belief and the presence of obsessions might be explained by thought suppression (seen as a strategy to reduce intrusive phenomena, ie, an attempt to control dangerous thoughts), which aggravates symptoms of the disease. Dysfunctional metacognitions might represent critical prerequisites for the phenomena to emerge and elements maintaining the disorder. Exner et al [22] demonstrates the heightened tendency of patients with OCD to focus on their own mental process regardless of thought contents. It seems that this metacognitive characteristic, known as cognitive self-consciousness, affects these subjects, rendering them more vulnerable to obsessions because it makes intrusive thoughts more salient and contributes in disturbing performances on effortful cognitive task (eg, problem solving or episodic memory). Indeed, the Obsessive Compulsive Cognition Working Group has emphasized the importance of thoughts and the control of thoughts as a dimension of dysfunctional metacognition in patients with OCD [23,24].

In PD, dysfunctional metacognitive beliefs are manifested as negative beliefs about worry and the need to control thoughts. These beliefs might contribute to patients focusing on their thoughts, which can lead to an increase of anxiety in terms of their emotional, cognitive, and somatic well-being. In turn, selective attention is strengthened, and the perceived danger feels more certain and real. Clinical observations suggest that metacognitive beliefs in PD validate the hypothesis concerning the idea of an imminent catastrophe, which augments the emotional/cognitive/behavioral vicious cycle of pathologic anxiety.

The main limit affecting the studies investigating metacognition and anxiety disorders pertains to the extendibility and generalizability of results. These designs are often conducted on reduced clinical samples that do not have a control group or are developed on nonclinical populations (ie, students).

In the present study, we focused on a subject population composed of HS, patients with PD, and patients with OCD, using the MCQ. This particular instrument captures metacognitive beliefs of different facets of anxiety, and previous findings of higher metacognitive beliefs were measured in PD and OCD by the MCQ [7,9]. Research data show that the metacognitive dimensions measured with the MCQ results are positively associated with psychopathologic features such as pathologic worry [9], predisposition to auditory hallucinations [9,25,26], and depression [8]. Thus, metacognitions are thought to be generic vulnerability factors not only for psychologic distress but also for disorders marked by disturbances in the regulation of thinking. Therefore, we expected that patients with OCD and PD would score significantly higher than HS on these metacognitive subscales, manifesting a marked metacognitive dysfunction. Furthermore, we wanted to replicate the data previously observed in 2 extended clinical studies, which compared diseased subjects with a large group representing the general population. Finally, we predicted that there would be associations among MCQ dimensions and PD and OCD symptoms, which could suggest that metacognitive dysfunctions play a role in maintaining the disorders and important for treatment.

2. Methods

2.1. Participants

Patients with OCD (n = 114) and those with PD (n = 119) were consecutively recruited from the Department of Clinical Neurosciences, Scientific Institute, and University Vita-Salute San Raffaele in Milan, Italy. All subjects were given an assessment, which took approximately 1 hour and included a diagnostic and anamnestic interview. Then, in the afternoon of the same day, another 1-hour session with the administration of the MCQ and the clinical