Activitas Nervosa Superior Rediviva Volume 57 No. 4 2015

ORIGINAL ARTICLE

Correlates of insight among patients with obsessive compulsive disorder

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Submitted: 2015-01-02 Accepted: 2015-04-02 Published online: 2015-12-15

Key words: **obsessive compulsive disorder; insight; personality features; comorbidity; clinical response**

Act Nerv Super Rediviva 2015; **57**(4): 98–104 ANSR570415A01

Abstract

INTRODUCTION: Obsessive-compulsive disorder (OCD) patients have been traditionally described as patients with real insight. However, in fact, the insight exists on a continuum, ranging from a good understanding of nonsensicality the obsessions and compulsions to lack of insight with considering them to be rational and appropriate.
METHOD: A computerized search of the literature published from 1966 to July 2013 was conducted on Medline and Web of Science using words "obsessive compulsive disorder" and "insight". No language constraints were used. Lists of references of the articles identified by this computer database search were examined manually to find other studies.
RESULTS: Poor insight has been linked to a greater symptom severity, an increased risk of comorbid symptoms, worse adaptive functioning, and worse treatment outcomes for OCD. Reduced insight is related to longer duration of illness, early onset of symptoms, chronic course, and increased family history of OCD. Poor insight is also linked to comorbid diagnoses.
CONCLUSION: Impaired insight is prevalent in OCD and may contribute to both medical presentation and treatment outcome.

Introduction

Traditionally, obsessive-compulsive disorder (OCD) is described as a disorder in which subjects have quite good insight into their symptoms. Insight is a multidimensional concept (Eisen *et al* 1998; Kendler *et al* 1983; Kozak & Foa 1994), which includes components such as understanding that the belief has a psychological/psychiatric reason, and readiness to consider that the belief may be wrong (Eisen *et al* 1998; Kendler *et al* 1983). Numbers of investigators have proposed that there is a range of insight in OCD (Robinson *et al* 1976; Solyom *et al* 1985; Insel & Akiskal 1986; Lelliot *et al* 1988; Kozak & Foa 1994). Studies published poor insight in between 15% and 36% of patients with OCD (Eisen *et al* 2001; Tolin *et al* 2001; Marazziti *et al* 2002; Matsunaga *et al* 2002). Insel and Akiskal (1986) postulated that the insight in OCD exists on a continuum, ranging from a full understanding of the irrationality of obsessions and compulsions to viewing them as rational and appropriate.

Insight used to be defined as an understanding of the drive behind one's thoughts or behaviors, as recognition of one's emotional or psychological problems

or may even suggest an immediate understanding of a problem-based on various organizational strategies. Insight, however, is a somewhat vague defined, seems to be multi-dimensional and influenced by many internal and external factors (Neziroglu & Stevens 2002). Insight is, however, assessed more complexly by asking patients whether they believe they are ill, what possibly caused illness and whether they think that the treatment is needed. Insight into the occurrence of symptoms is just one aspect of a broader concept of insight (Cherian *et al* 2012). There is no clear definition what should be the object of insight in OCD, whether it should be symptoms, need for treatment or general understanding of illness (Markova *et al* 2009).

Insight is crucial not only for psychotic syndromes (Lincoln *et al* 2007; Kaplan *et al* 2006) but also in affective disorders (Keller *et al* 2007; Latalova 2012) and eating disorders (Steinglass *et al* 2007; Konstantakopoulos *et al* 2011), as well as OCD (Eisen *et al* 2001; Kozak & Foa 1994; Prasko *et al* 2009) and related disorders like body dysmorphic disorder (BDD). The term "insight" in a psychiatric context was perhaps first defined in 1934 as "a correct attitude to a morbid change in oneself" (Lewis 1934). More recent conceptualizations of insight have been expanded to include the presumed effects of disease awareness on the patient's attitudes and behaviors in everyday life (such as medication adherence), as well as the ability to identify or "relabel" unusual mental events (Davis 1990). Furthermore, it has been realized that the previously used dichotomous conceptualization ("poor insight" or "good insight") was insufficient to capture the nuanced variations observed in clinical practice. Lack of insight is one of the problems of integrated self-experience (Hoffman & McGlashan 2003).

In DSM-5, a wider "insight specifier" is prepared for inclusion in the diagnostic criteria for OCD (Phillips *et al* 2010; Leckman *et al* 2010; Mataix-Cols *et al* 2010).

METHOD

An electronic search of the works published from 1966 to July 2013 was conducted on Medline and Web of Science using words "obsessive compulsive disorder" and "insight". No language constraints were used. Lists of references of the articles identified by this computer database search were examined manually to find other studies. In addition, we used other documents cited in these studies.

RESULTS

Although current diagnostic criteria for OCD require patient understanding that the obsessions and compulsions are disproportionate and unreasonable (APA 2000), specialists have noted that lack of insight into the curiousness or excessive nature of obsessive thoughts and compulsive behaviors in common in OCD patients. (Carmin *et al* 2008; Foa *et al* 1995; Kozak & Foa 1994). Studies have categorized 5% to 45% of patients with OCD as having poor insight (Foa *et al* 1995; Eisen *et al* 2001; Marazziti *et al* 2002; Matsunaga *et al* 2002; Kishore *et al* 2004; Storch *et al* 2008; Alonso *et al* 2008; Catapano *et al* 2010; Jakubovski *et al* 2011).

Among obsessive-compulsive and related disorders, "insight" – also often referred to as a degree of "delusional" – usually means a person´s belief that his/her disorder-relevant belief is right (Phillips *et al* 2012). Amongst adults with OCD, poor insight has been linked to a greater symptom severity, an increased risk of comorbid symptoms, lower adaptive functioning, and worse treatment outcomes.

The extent to which a patient possesses insight into the unreasonable character of the obsessional beliefs and compulsions may contribute to both clinical appearance and treatment outcome (Kozak & Foa 1994; Catapano *et al* 2001; Vogel *et al* 2006).

Insight and severity of the disorder

Poor insight into OCD has been associated with a severe form of illness (O'Dwyer & Marks 2000; Solyom *et al* 1985; Turksoy *et al* 2002; Bellino *et al* 2005; Catapano *et al* 2001; Ravi Kishore *et al* 2004; Jakubovski *et al* 2011), greater symptoms of depression and anxiety, higher probability of comorbid depressive disorder and lower resistance to obsessive and compulsive symptoms (Turksoy *et al* 2002; Alonso *et al* 2008), specific OCD indicators (washing and checking compulsions) (Matsunaga *et al* 2002) and chronic course of disorder (Bellino *et al* 2005). Explanation may be that the lack of insight might be directly associated with a lower number of attempts to resist obsessions and compulsions.

Eisen *et al* (2004), however, did not find significant correlates of OCD insight and severity. Other studies examining the relationship between insight and OCD symptom severity have yielded mixed results (Poyurovsky *et al* 2007; Alonso *et al* 2008; Catapano *et al* 2010; Shimshoni *et al* 2011). Reasons for these discrepant findings remain unclear.

Children with little insight had higher levels of symptom and more repeating compulsions (Storch *et al* 2008b). Parents valued children with little insight as having other internalizing symptoms and described higher levels of family accommodation compared to parents of youth with good insight.

Lewin *et al* (2010) examined relations between insight and various factors – cognitive, developmental, clinical, demographic features, and comorbidity in a treatment-seeking sample of 71 youth with OCD. Youth with poor insight was more likely to have lower levels of cognitive functioning and global functioning compared to youth with high insight. In addition, low-insight youngsters were more likely to present with higher levels of depression and poorer levels of perceived control compared to their equals with high insight. In this particular research, insight was not correlated with

any other demographic or clinical feature including symptom severity, OCD age of onset, illness duration, family history of OCD, parental OCD, the presence of Anxiety/Tic/ADHD disorders, or gender. Nevertheless, there were identified two possible cognitive factors that predispose youth with OCD to poor insight. Youngsters with poor insight demonstrated lesser levels of cognitive functioning. It could be that children who have less verbal and more concrete thinking are more likely to believe that the "danger" factual or rational, and in turn, more likely to adhere rigidly to the OC beliefs. Youth with poor insight reported lower levels of perceived control over their surroundings. It could be the case that the less a child can control symptoms, the most prone he or she may continue to consider them as real. Thus decreased of cognitive functioning, increased rigidity in thought, and decreased perceptions of environmental control, might play a role in poor insight

Despite being classified as a single disorder, OCD is a clinically heterogeneous disorder, both in relations to symptom content (Bloch *et al* 2008) and insight into symptoms (Fontenelle *et al* 2010).

While various obsessions have not been previously associated with poor insight, hoarding has been related to poor insight compared to other OCD symptoms (Black *et al* 1998; Frost & Gross 1993; Christensen & Greist 2001; Matsunaga *et al* 2002; De Berardis *et al* 2005; Samuels *et al* 2007; Jakubovski *et al* 2011). There are some data to suggesting that need for symmetry also could be associated with poor insight (Elvish *et al* 2010; Jakubovski *et al* 2011).

Jakubovski *et al* (2011) made a comprehensive clinical assessment in 824 outpatients with OCD. Increased severity of present and worst-ever hoarding symptoms and a higher rate of joblessness were associated with limited insight in OCD after calculating for current severity of OCD, age, and gender. Reduced insight was also related to bigger scores in further symptom dimensions (contamination/washing and symmetry/ordering/counting) but these associations lost significance when overall symptom severity was adjusted

Phillips *et al* (2012) using BABS (Brown assessment of beliefs scale), examined insight/delusionality of OCD – or body dysmorphic disorder – associated with attitudes in 211 subjects with primary OCD versus 68 subjects with body dysmorphic disorder (BDD). In both disorders, levels of insight vaulted the full range, from good to absent. Nevertheless, the distribution of BABS scores across insight categories differed considerably by the disorder, with the majority of OCD patients presenting excellent or good insight and the greater part of BDD patients showing limited or absent insight. BABS score was significantly associated with the severity of BDD and OCD, but in regressions it counted for only 21% of the variation in OCD and 28% in BDD.

However, there are conflicting data on the relation between contamination/washing symptoms and insight. Fear of contamination/washing has been associated with both good (Alonso *et al* 2008) and poor insight (Jakubovski *et al* 2011).

Cherian *et al* (2012) studied 545 consecutive patients with a primary diagnosis of DSM-IV OCD. They had been evaluated by Y-BOCS and the item 11 for insight, the MINI (Mini International Neuropsychiatric Interview) and the CGI (Clinical Global Impression scale). The sample had 498 (91%) patients with good insight (score≤2) and 47 (9%) patients with decreased insight (score>2) as per the Y-BOCS item 11. Poor insight subgroup had a significantly higher score on the Y-BOCS compulsions and total score, the CGI-Severity and a greater rate of contamination fears and washed compulsions. Good insight group had a significantly higher occurrence of aggressive obsessions. In linear regression, contamination dimension and Y-BOCS total score predicted poorer insight and presence of forbidden thoughts predicted better insight.

Early onset OCD

Early-onset OCD (i.e., prepubertal onset) has certain characteristics that differentiate it from late-onset OCD, including male preponderance, a distinct pattern of comorbidity, an increased familial loading for OCD, and frequent lack of insight (Geller *et al* 1998). Diminished insight is associated with early onset of symptoms and longer duration of the disorder (Kishore *et al* 2004).

Youth with poor insight had inferior intellectual functioning and reported decreased perception of control over surroundings (Lewin *et al* 2010). In addition, patients in poor insight group were younger, reported higher levels of depression, and lower levels of adaptive functioning.

Complete insight into OCD symptoms is not essential for the diagnosis of OCD in children (APA 2000); however, adolescents can be diagnosed with the qualifier, "with poor insight" if needed. However, the development of insight across different age groups is not documented to date. It is reasonable that the insight progresses with age with the development of the higher cognitive processes such as abstract thinking (Indelder & Piaget 1958). While clinical observation indicates that most children and adolescents have a realistic level of cognizance that the symptoms are unusual and excessive, there are subsets of youth with OCD who deny that symptoms are problematic or unreasonable (Geller 2006; Lewin *et al* 2006,). This youth often experiences problems with CBT (Storch *et al* 2008a, 2008b).

Insight and comorbidity

Poor insight has been associated with psychiatric comorbidity (Bellino *et al* 2005; Kishore *et al* 2004). Matsunaga *et al* (2002) pointed out that improvement in depressive status in patients with OCD after successful treatment is accompanied by improved insight, suggesting that affective status may influence insight in OCD. Bulter and Mathews (1983) have even hypothesized that severe depression may contribute to the

transformation of obsessions into delusional beliefs. The results of Alonso *et al* (2008) support the idea that emotional disturbances may interfere with the person's ability to deal with obsessions, reducing the perception of the absurdity and nonsense of the obsessive phenomena.

Poor insight has been found to be associated with comorbid depression (Catapano *et al* 2001; Foa 1979; Kishore *et al* 2004), body dysmorphic disorder and with a family history of schizophrenia (Eisen *et al* 2004; Catapano *et al* 2001; Catapano *et al* 2010), OCD, and anxiety disorders (Bellino *et al* 2005).

There may also be a connection between comorbid personality disorders and insight in OCD. Poor insight OCD has been associated with schizotypal (Jenike *et al* 1986; Fear *et al* 2000; Matsunaga *et al* 2002) and obsessive-compulsive personality disorders (OCPDs) (Rodrigues-Torres *et al* 1995). However, a recent Italian study failed to find any correlation between degrees of insight and clinical aspects, apart from for an adverse trend in the occurrence of somatic obsessions (Marazziti *et al* 2002).

Insight and treatment outcome

There is little data related to the correlation between a treatment response and insight and findings are conflicting.

Several studies did not discover any relationship between baseline insight and response to drug (Eisen *et al* 2001; Matsunaga *et al* 2002; Ferrao *et al* 2006; Alonso *et al* 2008) but other studies found reduced drug response (Hantouche *et al* 2000; Catapano *et al* 2001; Erzegovesi *et al* 2001; Catapano *et al* 2010; Kishore *et al* 2004; Shetti *et al* 2005) and response to behavioral therapy (Solyom *et al* 1985; Foa 1979; Foa *et al* 1999; Hantouche *et al* 2000; Mataix-Cols *et al* 2002; Himle *et al* 2006; Prasko *et al* 2009) in those with poor insight. Another studies, however, reported that poor insight OCD patients responded as well to behavior therapy as those with good insight (Lelliott *et al* 1988, Ito *et al* 1995). Consequently, it remains unclear whether insight is a predictor of reduced treatment response or whether this association is due to other confounding clinical factors. Steketee and Shapiro (1995) reported inconsistent findings with regard to the relation between insight and treatment outcome, and they suggested that such inconsistencies may be partially due to limitations with regard to standard measures of insight and the instability of the construct. Since their review, a standardized measure of insight has been developed, namely the Brown Assessment of Beliefs Scale (Eisen *et al* 1998). The explanation of association between insight and treatment response may be that those patients who exhibit difficulty in recognizing that their obsessive and compulsive symptoms are excessive and unreasonable may require additional cognitive interventions and behavioral experiments aimed at reducing the patients' fixity of beliefs (Keeley *et al* 2008).

Insight is linked with other clinical variables that are also markers of decreased treatment response. These variable are severity of OCD (in some but not all studies – Solyom *et al* 1985; Turksoy *et al* 2002; Kishore *et al* 2004; Catapano *et al* 2010), comorbid illnesses (especially depression, personality disorders, and other anxiety disorders – Turksoy *et al* 2002; Kishore *et al* 2004; Bellino *et al* 2005; Alonso *et al* 2008; Catapano *et al* 2010), and symptom subtype (Bellino *et al* 2005; Samuels *et al* 2007; Saxena 2007).

There seems to be also connection between compulsion and treatment response. Short-term trials determine worse responses in OCD patients with hoarding symptoms when treated with either cognitive–behavioral therapy or pharmacotherapy (Abramowitz 1997; Mataix-Cols *et al* 1999; Mataix-Cols *et al* 2002; Rufer *et al* 2006; Saxena 2007; Stein *et al* 2007).

Patients with poor insight may be less able to involve in cognitive therapies (e.g., challenging irrational thoughts) and consequently have poorer prognoses (O'Dwyer & Marks 2000; Storch *et al* 2008). Others propose that patients with poor insight may have increased trouble incorporating information that is inconsistent with their obsessive beliefs (Foa *et al* 1999; Tolin *et al* 2001). Other experts suggest that reduced insight may increase anxiety and consequently impede habituation, potentially indicating SRI augmentation (Abel 1993; Foa *et al* 1999).

Role of psychotropic drugs and insight remains unclear. Shimshoni *et al* (2011) in their study found out, that OCD patients who were presently taking psychotropic medication had better insight on the BABS than those who were not medicated. It is uncertain whether better insight in treated subjects reflects the greater readiness of patients with better insight to search for and participate in mental health treatment, improvement in insight into treatment, neither or both. Treatment by SRI improves insight in OCD after treatment with serotonin reuptake inhibitors (Alonso *et al* 2008; Eisen *et al* 2001).The association of poor insight with SRI treatment non-response reported by some authors (Erzegovesi *et al* 2001; Shetti *et al* 2005) underlies the hypothesis that poor insight OCD constitutes a distinct subtype of the disorder with underlying biologic differences involving neurotransmission pathways other than the serotonergic one, mainly a dopaminergic dysregulation (Sobin *et al* 2000). This neurobiological hypothesis is supported by recent observations reporting that obsessive patients with poor insight show significantly more magnetic resonance imaging abnormalities than subjects with good insight (Aigner *et al* 2005). While it has not been proved that the adding of antipsychotics to SSRI improves the treatment response of poor insight patients with OCD (Bloch *et al* 2006) is a pharmacologic strategy that is often used by clinicians. OCD patients who do not respond to selective serotonin reuptake inhibitor but show a significant improvement with the addition of an atypical antipsychotic have recently been

reported to exhibit a significantly lower N-acetyl aspartate concentration in the anterior cingulate (Sumitani *et al* 2007).

CONCLUSIONS

Studying clinical correlates of insight has important clinical implications. Poor insight is widespread in OCD patients and may contribute to both clinical picture and treatment outcome. Clinicians must be aware that insight may be weak or even entirely absent in OCD in order not to misdiagnose obsessive patients of psychotic disorders with the consequent adverse therapeutic effects. Improving insight may be useful for improving therapeutic efficacy. Insight should not be considered a static phenomenon but a rather dynamic one because the treatment that helps to reduce obsessive symptoms appears to lead to significant improvement in insight. This process is also influenced by clinical conditions such as personality or affective status. However, the relation between specific symptom dimensions and insight is rather inconsistent. Further research is required to explain the relationship between insight and controversial clinical issues such as a response to pharmacologic and behavioral treatment or symptom dimensions. Such studies are also needed to increase understanding of the relationship between obsessions and delusions and to refine treatment strategies for patients who have poor insight.

REFERENCES

1 Abel JL (1993). Exposure with response prevention and serotonergic antidepressants in the treatment of obsessive compulsive disorder: a review and implications for interdisciplinary treatment. *Behav Res Ther.* **31**: 463–478.
2 Abdel-Ahad P & Kazour F (2013). Non-Antidepressant Pharmacological Treatment of Obsessive Compulsive Disorder: A Comprehensive Review. *Curr Clin Pharmacol*. **4**. [Epub ahead of print].
3 Abramowitz JS, Franklin ME, Foa EB (2002). Empirical status of cognitive-behavioral therapy for obsessive–compulsive disorder: A meta-analytic review. *Romanian Journal of Cognitive & Behavioral Psychotherapies.* **2**: 89–104.
4 Abramowitz JS, Whiteside SP, Deacon BJ (2005). The effectiveness of treatment for pediatric obsessive–compulsive disorder: A meta-analysis. *Behavior Therapy.* **36**: 55–63.
5 Abramowitz JS (1997). Effectiveness of psychological and pharmacological treatments for obsessive–compulsive disorder: a quantitative review. *J Consult Clin Psychol*. **65**: 44–52.
6 Aigner M, Zitterl W, Prayer D, Demal U, Bach M, Prayer L, *et al* (2005). Magnetic resonance imaging in patients with obsessive-compulsive disorder with good versus poor insight. *Psychiatry Res Neuroimaging.* **140**: 173–179.
7 Alonso P, Menchon JM, Segalas C, Jaurrieta N, Jimenez-Murcia S, Cardoner N (2008). Clinical implications of insight assessment in obsessive-compulsive disorder. *Compr Psychiatry.* **49**: 305–312.
8 American Psychiatric Association (2000). Diagnostic and statistical manual of mental disorders (DSM-IVTR). 4th Text Revision ed. Washington, D.C.: American Psychiatric Association.
9 American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders. 4th ed.Washington, DC: APA.
10 Bellino S, Patria L, Ziero S, Bogetto F (2005). Clinical picture of obsessive-compulsive disorder with poor insight: a regression model. *Psychiatry Res*. **136**: 223–231.
11 Black DW, Monahan P, Gable J, Blum N, Clancy G, Baker P (1998). Hoarding and treatment response in 38 non-depressed subjects with obsessive–compulsive disorder. *J Clin Psychiatry.* **59**: 420–425.
12 Bloch MH, Landeros-Weisenberger A, Kelmendi B, Coric V, Bracken MB, Leckman JF (2006). A systematic review: antipsychotic augmentation with treatment refractory obsessive-compulsive disorder. *Mol Psychiatry*. **11**: 622–632.
13 Bloch MH, Landeros-Weisenberger A, Rosario MC, Pittenger C, Leckman JF (2008). Metaanalysis of the symptom structure of obsessive–compulsive disorder. *Am J Psychiatry.* **165**: 1532–1542.
14 Bulter G & Mathews A (1983). Cognitive process in anxiety. *Adv Behav Res Ther.* **5**: 51–62.
15 Carmin C, Wiegartz PS, Wu K (2008). Obsessive-compulsive disorder with poor insight. In: Abramowitz JS, McKay D, Taylor S, editors .Clinical handbook of obsessive-compulsive disorder and related problems. Baltimore, MD: The Johns Hopkins University Press; p. 109–125.
16 Catapano F, Perris F, Fabrazzo M, Cioffi V, Giacco D, De Santis V, *et al* (2010). Obsessive compulsive disorder with poor insight: a three-year prospective study. *Prog Neuropsychopharmacol Biol Psychiatry*. **34**: 323–330.
17 Catapano F, Sperandeo R, Perris F, Lanzaro M, Maj M (2001). Insight and resistance in patients with obsessive-compulsive disorder. *Psychopathology.* **34**: 62–68.
18 Cherian AV, Narayanaswamy JC, Srinivasaraju R, Viswanath B, Math SB, Kandavel T, *et al* (2012). Does insight have specific correlation with symptom dimensions in OCD? *J Affect Disord.* **138**: 352–359.
19 Christensen DD & Greist JH (2001). The challenge of obsessive–compulsive disorder hoarding. *Primary Psychiatry.* **8**: 79–86.
20 David AS (1990). Insight and psychosis. *Br J Psychiatry.***156**: 798–808.
21 De Berardis D, Campanella D, Gambi F, Sepede G, Salini G, Carano A, *et al* (2005). Insight and alexithymia in adult outpatients with obsessivecompulsive disorder. *Eur Arch Psychiatry Clin Neurosci.* **255:** 350–358.
22 Eddy KT, Dutra L, Bradley R, Westen D (2004). A multidimensional meta-analysis of psychotherapy and pharmacotherapy for obsessive-compulsive disorder. *Clin Psychol Rev.* **24**(8): 1011–1030.
23 Eisen JL, Phillips KA, Baer L, Beer DA, Atala KD, Rasmussen SA (1998). The Brown Assessment of Beliefs Scale: Reliability and validity. *Am J Psychiatry.* **155**: 102–108.
24 Eisen JL, Phillips KA, Coles ME, Rasmussen SA (2004). Insight in obsessive compulsive disorder and body dysmorphic disorder. *Compr Psychiatry*. **45**: 10–15.
25 Eisen JL, Rasmussen SA, Phillips KA, Price LH, Davidson J, Lydiard RB, *et al* (2001). Insight and treatment outcome in obsessive-compulsive disorder. *Compr Psychiatry.* **42**: 494–497.
26 Elvish J, Simpson J, Ball LJ (2010). Which clinical and demographic factors predict poor insight in individuals with obsessions and/or compulsions? *J Anxiety Disord.* **24**: 231–237.
27 Erzegovesi S, Cavallini MC, Cavedini P, Diaferia G, Locatelli M, Bellodi L (2001). Clinical predictors of drug response in obsessive-compulsive disorder. *J Clin Psychopharmacol.* **21**: 48–492.
28 Fear C, Sharp H, Healy D (2000). Obsessive–compulsive disorder with delusions. *Psychopathology*. **33**: 55–61.
29 Ferrao YA, Shavitt RG, Bedin NR, de Mathis ME, Carlos Lopes A, Fontenelle LF, *et al* (2006). Clinical features associated to refractory obsessive–compulsive disorder. *J Affect Disord.* **94**: 199–209.
30 Foa EB, Abramowitz JS, Franklin ME, Kozak MJ (1999). Feared consequences, fixity of belief, and treatment outcome in patients with obsessive-compulsive disorder. *Behavior Therapy*. **30**: 717–724.
31 Foa EB, Grayson JB, Steketee GS, Doppelt HG, Turner RM, Latimer PR (1983). Success and failure in the behavioral treatment of obsessive-compulsives. *J Consult Clin Psychol.* **51**: 287–297.
32 Foa EB, Kozak MJ, Goodman WK, Hollander E, Jenike MA, Rasmussen SA (1995). DSM-IV field trial: obsessive-compulsive disorder. *Am J Psychiatry*. **152**: 90–96.

33 Foa EB (1979). Failure in treating obsessive-compulsives. *Behav Res Ther.* **17**: 169–176.
34 Fontenelle JM, Santana Lda S, Lessa Lda R, Victoria MS, Mendlowicz MV, Fontenelle LF (2010). The concept of insight in patients with obsessive-compulsive disorder. *Rev Bras Psiquiatr.* **32**: 77–82.
35 Frost RO & Gross RC (1993). The hoarding of possessions. *Behav Res Ther.* **31**: 367–381.
36 Geller D, Biederman J, Jones J, Park K, Schwartz S, Shapiro SM, *et al* (1998). Is juvenile obsessive–compulsive disorder a developmental subtype of the disorder? A review of the pediatric literature. *J Am Acad Child Adolesc Psychiatry.* **37**: 420–427.
37 Geller DA (2006). Obsessive-compulsive and spectrum disorders in children and adolescents. *Psychiatr Clin North Am.* **29**: 353–370.
38 Hantouche EG, Bouhassira M, Lancrenon S (2000). Prospective follow-up over a 12-month period of a cohort of 155 patients with obsessive-compulsive disorder: phase III National DRT-TOC Study. *Encephale*. **26**: 73–83.
39 Himle JA, Van Etten ML, Janeck AS, Fischer DJ (2006). Insight as a predictor of treatment outcome in behavioral group treatment for obsessive–compulsive disorder. *Cogn Ther Res.* **30**: 661–666.
40 Hoffman RE & McGlashan TH (2003). Alterations of Speech, Thought, Perception, and Self-Experience. In: Tasman A, Kay J, Lieberman JA, editors. Psychiatry. Chichester, Wiley, p. 597–606.
41 Inelder B & Piaget J (1958). The growth of logical thinking: From childhood to adolescence. New York: Basic Books.
42 Insel TR & Akiskal HS (1983). Obsessive–compulsive disorder with psychotic features: a phenomenological analysis. *Am J Psychiatry.* **143**: 1527–1633.
43 Ito LM, de Araujo LA, Hemsley D, Marks IM (1995). Belief and resistance in obsessive-compulsive disorder: observation from a controlled study. *J Anxiety Disord.* **167**: 71–75.
44 Jakubowski E, Pittenger C, Torres AR, Fontenelle LF, do Rosario MC, Ferrão YA, *et al* (2011). Dimensional correlates of poor insight in obsessive-compulsive disorder. *Prog Neuropsychopharmacol Biol Psychiatry*. **35**: 1677–1681.
45 Jenike MA, Baer L, Minichiello WE, Schwartz CE, Carey Jr RJ (1986). Concomitant obsessive–compulsive disorder and schizotypal personality disorder. *Am J Psychiatry.* **143**: 530–532.
46 Kaplan GB, Phillips KA, Vaccaro A, Eisen JL, Posternak MA, MacAskill HS (2006). Assessment of insight into delusional beliefs in schizophrenia using the Brown Assessment of Beliefs Scale. *Schizophr Res.* **82**: 279–281.
47 Keeley ML, Storch EA, Merlo LJ, Geffken GR (2008). Clinical predictors of response to cognitive-behavioral therapy for obsessive–compulsive disorder. *Clin Psychol Rev.* **28**: 118–130.
48 Keller J, Schatzberg AF, Maj M (2007). Current issues in the classification of psychotic major depression. *Schizophr Bull.* **33**: 877–885.
49 Kendler KS, Glazer WM, Morgenstern H (1983). Dimensions of delusional experience. *Am J Psychiatry.* **140**: 466–469.
50 Kishore VR, Samar R, Janardhan Reddy YC, Chandrasekhar CR, Thennarasu K (2004). Clinical characteristics and treatment response in poor and good insight obsessive-compulsive disorder. *Eur Psychiatry*. **19**: 202–208.
51 Konstantakopoulos G, Tchanturia K, Surguladze SA, David AS (2011). Insight in eating disorders: clinical and cognitive correlates. *Psychol Med.* **41**: 1951–1961.
52 Kozak MJ & Foa EB (1994). Obsessions, overvalued ideas, and delusions in obsessive compulsive disorder. *Beh Res Ther.* **32**: 343–353.
53 Latalova K (2012). Insight in bipolar disorder. *Psychiatr Quarterly.* **83**: 293–310.
54 Leckman JF, Denys D, Simpson HB, Mataix-Cols D, Hollander E, Saxena S, *et al* (2010). Obsessive-compulsive disorder: a review of the diagnostic criteria and possible subtypes and dimensional specifiers for DSM-V. *Depress Anxiety.* **27**: 507–527.
55 Lelliot PT, Noshirvani HF, Basoglu M, Marks IM, Monteiro WDL (1988). Obsessive–compulsive beliefs and treatment outcome. *Psychol Med.* **18**: 697–702.
56 Lewin AB, Bergman RL, Peris TS, Chang S, McCracken JT, Piacentini J (2010). Correlates of insight among youth with obsessive-compulsive disorder. *J Child Psychol Psychiatry.* **51**(5): 603–611.
57 Lewin AB, Storch EA, Merlo LJ, Adkins JW, Murphy TK, Geffken GR (2006). Intensive cognitive behavioral therapy for pediatric obsessive compulsive disorder: A treatment protocol for mental health providers. *Psychological Services*. **2**: 91–104.
58 Lewis A (1934). The psychopathology of insight. *J Med Psychol.* **14**: 332–348.
59 Lincoln TM, Lullmann E, Rief W (2007). Correlates and long-term consequences of poor insight in patients with schizophrenia. A systematic review. *Schizophr Bull.* **33**: 1324–1342.
60 Marazziti D, Dell'Osso L, Di Nasso E, Pfanner C, Presta S, Munugai F, *et al* (2002). Insight in obsessive–compulsive disorder: a study of an Italian sample. *Eur Psychiatry.* **17**: 407–410.
61 Markova IS, Berrios GE (1995). Insight in clinical psychiatry revisited. *Comprehensive Psychiatry.* **36**:367–376.
62 Markova IS, Jaafari N, Berrios GE (2009). Insight and obsessive–compulsive disorder: a conceptual analysis. *Psychopathology.* **42**: 277–282.
63 Mataix-Cols D, Frost RO, Pertusa A, Clark LA, Saxena S, Leckman JF, *et al* (2010). Hoarding disorder: a new diagnosis for DSM-V? *Depress Anxiety*. **27**: 556–572.
64 Mataix-Cols D, Marks IM, Greist JH, Kobak KA, Baer L (2002). Obsessive–compulsive symptom dimensions as predictors of compliance with and response to behaviour therapy: results from a controlled trial. *Psychother Psychosom.* **71**: 255–262.
65 Mataix-Cols D, Rauch SL, Manzo PA, Jenike MA, Baer L (1999). Use of factor-analyzed symptom dimensions to predict outcome with serotonin reuptake inhibitors and placebo in the treatment of obsessive–compulsive disorder. *Am J Psychiatry* **156**: 1409–1416.
66 Matsunaga H, Kiriike N, Matsui T, Oya K, Iwasaki Y, Koshimune K, *et al* (2002). Obsessive compulsive disorder with poor insight. *Compr Psychiatry*. **43**: 150–157.
67 Neziroglu F & Stevens KP (2002). Insight: its conceptualization and assessment. In: Frost RO, Steketee G, editors. Cognitive Approaches to Obsessions and Compulsions: Theory, Assessment, and Treatment. Elsevier Science Ltd., Oxford, UK, p. 183–193.
68 O'Dwyer AM & Marks I (2000). Obsessive-compulsive disorder and delusions revisited. *Br J Psychiatry.* **176**: 281–284.
69 Phillips KA, Pinto A, Hart AS, Coles ME, Eisen JL, Menard JW, *et al* (2012). A comparison of insight in body dysmorphic disorder and obsessive-compulsive disorder. *J Psychiatr Res.* **46**: 1293–1299.
70 Phillips KA, Stein DJ, Rauch SL, Hollander E, Fallon BA, Barsky A, *et al* (2010). Should an obsessive-compulsive spectrum grouping of disorders is included in DSM-V? *Depress Anxiety*. **27**: 528–555.
71 Poyurovsky M, Faragian S, Kleinman-Balush V, Pashinian A, Kurs R, Fuchs C (2007). Awareness of illness and insight into obsessive-compulsive symptoms in schizophrenia patients with obsessive-compulsive disorder. *J Nerv Ment Dis.* **195**: 765–768.
72 Prasko J, Raszka M, Adamcova K, Grambal A, Koprivova J, Kudrnovska H, *et al* (2009). Predicting the therapeutic response to cognitive behavioural therapy in patients with pharmacoresistant obsessive-compulsive disorder. *Neuro Endocrinol Lett.* **30**(5): 615–623.
73 Robinson S, Winnik HZ, Weiss AA (1976). Obsessional psychosis, justification for a separate clinical entity. *Israel Ann Psychiatry.* **14**: 39–48.
74 Rodrigues-Torres A & Del Porto JA (1995). Comorbidity of obsessive–compulsive disorder and personality disorders: a Brazilian study. *Psychopathology.* **28**: 322–329.
75 Rufer M, Fricke S, Moritz S, Kloss M, Hand I (2006). Symptom dimensions in obsessive compulsive disorder: prediction of cognitive-behavior therapy outcome. *Acta Psychiatr Scand.* **113**: 440–446.
76 Samuels JF, Bienvenu III OJ, Pinto A, Fyer AJ, McCracken JT, Rauch SL, *et al* (2007). Hoarding in obsessive-compulsive disorder: results from the OCD Collaborative Genetics Study. *Behav Res Ther.* **45**: 673–686.

77 Saxena S (2007). Is compulsive hoarding a genetically and neurobiologically discrete syndrome? Implications for diagnostic classification. *Am J Psychiatry.* **164**: 380–384.
78 Shetti CN, Reddy YC, Kandavel T, Kashyap K, Singisetti S, Hiremath AS, *et al* (2005). Clinical predictors of drug nonresponse in obsessive-compulsive disorder. *J Clin Psychiatry* **66**: 1517–1523.
79 Shimshoni Y, Reuven O, Dar R, Hermesh H (2011). Insight in obsessive-compulsive disorder: a comparative study of insight measures in an Israeli clinical sample. *J Behav Ther Exp Psychiatry.* **42**: 389–396.
80 Sobin C, Blundell ML, Weiller F, Gavigan C, Haiman C, Karayiorgou M (2000). Evidence of a schizotypy subtype in OCD. *J Psychiatry Res.* **34**: 15–24.
81 Solyom L, DiNicola VF, Phil M, Sookman D, Luchins D (1985). Is there an obsessional psychosis? Aetiological and prognostic factors of an atypical form of obsessive–compulsive neurosis. *Can J Psychiatry*. **30**: 372–380.
82 Stein DJ, Andersen EW, Overo KF (2007). Response of symptom dimensions in obsessive-compulsive disorder to treatment with citalopram or placebo. *Rev Bras Psiquiatr.* **29**: 303–307.
83 Steinglass JE, Eisen JL, Attia E, Mayer L, Walsh BT (2007). Is anorexia nervosa a delusional disorder? An assessment of eating beliefs in anorexia nervosa. *J Psychiatr Pract.* **13**: 65–71.
84 Steketee G & Shapiro LJ (1995). Predicting behavioral treatment outcome for agoraphobia and obsessive compulsive disorder. *Clin Psychol Rev*. **15**: 317–346.
85 Storch EA, Merlo LJ, Larson MJ, Geffken GR, Lehmkuhl HD, Jacob ML, *et al* (2008a). Impact of comorbidity on cognitive-behavioral therapy response in pediatric obsessive compulsive disorder. *J Am Acad Child Adolesc Psychiatry*. **47**: 583–592.
86 Storch EA, Milsom VA, Merlo LJ, Larson M, Geffken GR, Jacob ML, *et al* (2008b). Insight in pediatric obsessive-compulsive disorder: associations with clinical presentation. *Psychiatry Res.* **160**: 212–220.
87 Sumitani S, Harada M, Kubo H, Ohmori T (2007). Proton magnetic resonance spectroscopy reveals an abnormality in the anterior cingulate of a subgroup of obsessive-compulsive patients. *Psychiatry Res Neuroimaging.* **154**: 85–92.
88 Tolin DF, Abramowitz JS, Kozak MJ, Foa EB (2001). Fixity of belief, perceptual aberration, and magical ideation in obsessive-compulsive disorder. *J Anxiety Disord.* **15**: 501–510.
89 Tolin DF, Maltby N, Diefenbach GJ, Hannan SE, Worhunsky P (2004). Cognitive-behavioral therapy for medication nonresponders with obsessive–compulsive disorder: A wait-list-controlled open trial. *J Clin Psychiatry*. **65**: 922–931.
90 Turksoy N, Tukel R, Ozdemir O, Karali A (2002). Comparison of clinical characteristics in good and poor insight obsessive-compulsive disorder. *J Anxiety Disord*. **16**: 413–423.
91 Vogel PA, Hansen B, Stiles TC, Gotestam KG (2006). Treatment motivation, treatment expectancy, and helping alliance as predictors of outcome in cognitive behavioral treatment of OCD. *J Behav Ther Exp Psychiatry.* **37**: 247–255.