Dimensional correlates of poor insight in obsessive-compulsive disorder

Ewgeni Jakubovski a, Christopher Pittenger b, Albina Rodrigues Torres d, Leonardo Franklin Fontenelle e, Maria Conceicao do Rosario f, Ygor Arzeno Ferrão g, Maria Alice de Mathis h, Euripedes Constantino Miguel h, Michael H. Bloch b,c,*

a Department of Psychology, University of Heidelberg, Germany
b Department of Psychiatry, Yale University School of Medicine, New Haven, CT, United States
c Department of Psychiatry, Yale University School of Medicine, New Haven, CT, United States
d Departamento de Neurologia, Psicologia e Psiquiatria, Unv Estadual Paulista (UNESP), Brazil
e Institute of Psychiatry, Universidade Federal do Rio de Janeiro, Brazil
f Departamento de Psiquiatria Universidade Federal de São Paulo, Brazil
g Department of Psychiatry, Universidade Federal de Ciências da Saúde Porto Alegre, Brazil
h Department of Psychiatry, Faculdade de Medicina da Universidade de São Paulo, Brazil

A R T I C L E   I N F O

Article history:
Received 28 February 2011
Received in revised form 30 April 2011
Accepted 20 May 2011
Available online 27 May 2011

Keywords:
Hoarding
Insight
Obsessive–compulsive disorder
Symptom dimension

A B S T R A C T

Background: Cross-sectional studies have associated poor insight in patients with obsessive-compulsive disorder (OCD) with increased OCD symptom severity, earlier age of onset, comorbid depression, and treatment response. The goal of this current study was to examine the relationship between dimensions of OCD symptomatology and insight in a large clinical cohort of Brazilian patients with OCD. We hypothesized that poor insight would be associated with total symptom severity as well as with hoarding symptoms severity, specifically.

Methods: 824 outpatients underwent a detailed clinical assessment for OCD, including the Yale–Brown Obsessive–Compulsive Scale (Y-BOCS), the Dimensional Yale–Brown Obsessive–Compulsive Scale (DY-BOCS), the Brown Assessment of Beliefs Scale (BABS), a socio-demographic questionnaire, and the Structured Clinical Interview for axis I DSM-IV disorders (SCID-P). Tobit regression models were used to examine the association between level of insight and clinical variables of interest.

Results: Increased severity of current and worst-ever hoarding symptoms and higher rate of unemployment were associated with poor insight in OCD after controlling for current OCD severity, age and gender. Poor insight was also correlated with increased severity of current OCD symptoms.

Conclusion: Hoarding and overall OCD severity were significantly but weakly associated with level of insight in OCD patients. Further studies should examine insight as a moderator and mediator of treatment response in OCD in both behavioral therapy and pharmacological trials. Behavioral techniques aimed at enhancing insight may be potentially beneficial in OCD, especially among patients with hoarding.

© 2011 Published by Elsevier Inc.

1. Introduction

Obsessive–compulsive disorder (OCD) is characterized by recurring, intrusive, anxiety-provoking thoughts or images (obsessions) associated with repetitive, physical or mental rituals (compulsions) aimed at relieving the anxiety. Despite being classified as a single disorder, OCD is a clinically heterogeneous condition, both in terms of symptom content

(Bloch et al., 2008) and insight into OCD symptoms (Fontenelle et al., 2010). Since the diagnostic qualifier “with poor insight” was included in the DSM-IV in 1994, between 5% and 45% of patients with OCD have been found to have poor insight (Catapano et al., 2010; Eisen et al., 2001; Foa et al., 1995; Kishore et al., 2004; Marazziti et al., 2002; Matsunaga et al., 2002; Storch et al., 2008).

Poor insight has been associated with more severe symptoms (Bellino et al., 2005; Catapano et al., 2010; Kishore et al., 2004; Solyom et al., 1985), earlier age of onset, and longer duration of illness (Catapano et al., 2010; Kishore et al., 2004; Matsunaga et al., 2002). Poor insight has also been found to be associated with comorbid diagnoses such as depression (Catapano et al., 2001; Foa, 1979; Kishore et al., 2004) and body dysmorphic disorder (Eisen et al., 2004) and with a family history of schizophrenia (Catapano et al., 2001, 2010), OCD, and other anxiety disorders (Bellino et al., 2005). Several studies have shown that patients with poor insight are less responsive to behavioral therapy (Foa, 1979;
Eight hundred twenty-four adult OCD outpatients were recruited from seven sites located in six different Brazilian cities. Subjects were interviewed between August 2003 and August 2008. Subjects were included if they fulfilled DSM-IV diagnostic criteria for OCD, were between 18 and 65 years old and had a current Y-BOCS total score of greater than sixteen. Subjects were excluded if they were diagnosed with schizophrenia or any other condition that could compromise their understanding of the protocol questions. Informed consents were obtained from all participants. The study was approved by the Ethics Committees from all participating sites (Miguel et al., 2008).

2. Method

2.1. Subjects

A more detailed description of the assessment methodology used for this study can be found elsewhere (Miguel et al., 2008). In brief, all interviews were performed by clinical psychologists or psychiatrists with expertise in OCD. Socio-demographic and clinical data were collected using a questionnaire developed by the researchers. The interviews were typically conducted over 2 to 5 h. A number of standardized instruments were used in the clinical interview. The Structured Clinical Interview for Diagnosis of Axis I (SCID-I) (First et al., 1997) was administered to confirm the diagnosis of OCD and to assess the presence of comorbid axis I disorders. The Yale–Brown Obsessive–Compulsive Scale (Y-BOCS) (Goodman et al., 1989) was used to determine global symptom severity. The Dimensional Yale–Brown Obsessive–Compulsive Scale (DY-BOCS) (Rosario-Campos et al., 2006) was administered to assess global severity of OCD as well as severity in each of the six OCD symptom dimensions, which include some obsessions and related compulsions (aggressive, sexual/religious, symmetry/ordering/counting, contamination/cleaning, hoarding, and miscellaneous). The score for each dimension has a range of 0 (no symptoms) to 15 (symptoms are extremely troublesome). The overall DY-BOCS score has a range of 0 to 30.

The Brown Assessment of Beliefs Scale (BABS) (Eisen et al., 1998) was used to rate the level of each subject’s insight into their OCD symptoms. The BABS is a 7-item scale originally designed to measure degree of insight in OCD patients. The BABS consists of the items measuring conviction, perception of others’ views of beliefs, explanation of differing views, fixity of ideas, attempt to disprove beliefs, insight, and ideas/delusions of reference. Each item ranges from 0 (non-delusional, or least pathological) to 4 (delusional, or most pathological) which leads to a total score with a range of 0 to 24. The BABS was translated into Portuguese by investigators with long-standing experience in OCD and fluency in both English and Portuguese. The Portuguese-language version of the BABS has not been validated or published upon previously.

2.3. Data analysis

Exploratory analysis of the relationship between clinical variables and insight was performed using PASW Statistics 18.0 (Inc., 2009). Patients were divided into 4 subgroups based on BABS insight score: a “perfect” insight group with a score of 0, a “good” insight group with a score of 1 to 11, a “poor” insight group with a score of 12 to 18, and a “delusional” group with a score of 19 to 24. The thresholds for dividing these groups were specified a priori and based on methodology for prior studies (Catapano et al., 2010; Eisen et al., 1998). We compared these 4 groups of patients on several demographic variables, using ANOVA for continuous variables and the Kruskal–Wallis H test for dichotomous variables. A total of 26 clinical comparisons were performed. Because these analyses were exploratory and intended for hypothesis generation, we set the threshold for statistical significance at $p = 0.05$. All significant findings were then entered into an additional ANOVA model with Y-BOCS total score as a covariate to adjust for potential confounding by overall symptom severity.

Further statistical analyses were performed with STATA 11 (StataCorp., 2009). Our primary goal was to determine whether dimensional OCD symptom current and worst-ever severity scores on the DY-BOCS were associated with insight after adjusting for overall OCD symptom severity. We used Tobit regression rather than linear regression because BABS score were not normally distributed in our sample; BABS scores were left-censored with a large number of zero values. First, we conducted a Tobit regression in order to describe the association of OCD symptom severity with level of insight, with BABS score as the dependent variable, Y-BOCS score was the independent variable and age and gender as covariates which were forced in the model.

Then, we investigated the association of DY-BOCS symptom dimensions with insight and performed a backward stepwise Tobit regression, with the total BABS score as dependent variable, forcing in age, gender and total Y-BOCS score as covariates. We entered the five
DY-BOCS symptom dimensions scores – aggressive, sexual/religious, symmetry/ordering/counting, contamination/counting/cleaning and hoarding – into separate models for current and worst-ever symptoms. The ‘miscellaneous’ dimension was not included in these analyses because this category constitute a hodge-podge of OCD symptoms that do not correlate together with other symptoms in factor analysis. At each step we eliminated the least significant predictor until all remaining DY-BOCS symptom dimension were significant at an alpha level of .05.

3. Results

3.1. Subjects

Eight hundred twenty-four patients were included in the study (329 men (40%)); the mean age at participation was 35.3 (SD=11.8) years. Six hundred eighty-two (83%) were married or were living together with a partner. The mean age at the onset of OCD symptoms was 12.8 years (SD=7.5; range 3–59) and the mean duration of illness prior to study evaluation was 22.8 years (SD=12.4). The mean BABS total score was 7.15 (SD=5.49, range 0–24) and the median BABS score was 6.00.

3.2. Clinical characteristics based on level of insight

Table 1 compares the clinical characteristics of subjects based on their level of insight into their OCD symptoms. Subjects who were classified as ‘poor insight’ (BABS score 12–18) or ‘delusional’ (BABS score 19–24) had higher rates of unemployment, higher Y-BOCS score, and significantly higher scores on several DY-BOCS (symmetry/ordering/counting, contamination/counting/cleaning and hoarding), though not on others (aggressive and sexual/religious) in the univariate analysis. After controlling for OCD severity in the multivariate analysis, only the associations of level of insight with DY-BOCS hoarding (F(3, 819)=2.794, p=.036) remained significant. The groups did not differ significantly by gender (F(3, 819)=0.835, p=.475), age (F(3, 819)=1.854, p=.136), marital status (F(3, 819)=0.583, p=.626), age at onset of OCD (F(3, 791)=0.583, p=.626), duration of illness (F(3, 791)=2.276, p=.078); DY-BOCS total score (F(3, 819)=2.388, p=.068), suicidal thoughts (F(3, 786)=1.511, p=.210) or acts (F(3, 7)=0.846, p=.469) and pattern of comorbidities.

Within the individual items of the Y-BOCS, level of insight was significantly associated with time (r=.10, p=.004) interference (r=.13, p=.000), suffering (r=.09, p=.008) resistance (r=.20, p=.000) and degree of control (r=.17, p=.000) of the compulsions subscale and with interference (r=.10, p=.000), suffering (r=.07, p=.049), resistance (r=.29, p=.000) and degree of control (r=.16, p=.000) on the obsessions subscale and was not associated with time (r=.057, p=.100) on the obsession scale. The most notable difference of both scales is that the Y-BOCS takes into account resistance to obsessions and compulsions and degree of control while the DY-BOCS does not.

3.3. Relationship between OCD symptom severity and insight

We found a strong association between level of insight and current level of OCD symptom severity as measured by Y-BOCS when we adjusted for age and gender (Parameter estimate (PE)=.276, SE=.045, p<.001).

3.4. Relationship between current severity in OCD symptom dimensions and insight

In Tobit regression analysis, after controlling for age, Y-BOCS total score and gender, only symptom severity in the hoarding dimension was associated with level of insight. Increased hoarding symptoms were associated with poor insight (PE=.120, SE=.052, p=.021).

3.5. Relationship between worst-ever severity in OCD symptom dimensions and insight

A Tobit regression analysis similar to the one mentioned above was carried out using worst-ever instead of current symptom severity. Only symptom severity in the hoarding dimension was associated with level of insight after controlling for age. Y-BOCS total score and gender. Increased hoarding symptoms were associated with poor insight (PE=.117, SE=.046, p=.011).

<table>
<thead>
<tr>
<th>Table 1 Clinical and socio-demographic characteristics of OCD patients with different levels of insight.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect insight</td>
</tr>
<tr>
<td>N (%)</td>
</tr>
<tr>
<td>Sex, male, n, (%)</td>
</tr>
<tr>
<td>Age, mean ± SD</td>
</tr>
<tr>
<td>Marital status, relationship</td>
</tr>
<tr>
<td>Work status, employed, n, %</td>
</tr>
<tr>
<td>Age at onset, years, mean ± SD</td>
</tr>
<tr>
<td>Length of illness, years, mean ± SD</td>
</tr>
<tr>
<td>Y-BOCS total score, mean ± SD</td>
</tr>
<tr>
<td>DY-BOCS hoarding, mean ± SD</td>
</tr>
<tr>
<td>DY-BOCS contamination, mean ± SD</td>
</tr>
<tr>
<td>DY-BOCS symmetry, mean ± SD</td>
</tr>
<tr>
<td>DY-BOCS sexual/religious, mean ± SD</td>
</tr>
<tr>
<td>DY-BOCS aggressive, mean ± SD</td>
</tr>
<tr>
<td>DY-BOCS miscellaneous, mean ± SD</td>
</tr>
<tr>
<td>DY-BOCS total, mean ± SD</td>
</tr>
<tr>
<td>Hypochondriasis, n, %</td>
</tr>
<tr>
<td>Body dysmorphic disorder, n, %</td>
</tr>
<tr>
<td>Depression, n, %</td>
</tr>
<tr>
<td>Agoraphobia, n, %</td>
</tr>
<tr>
<td>Agoraphobia with panic, n, %</td>
</tr>
<tr>
<td>Panic, n, %</td>
</tr>
<tr>
<td>Lifetime suicidal thoughts, n, %</td>
</tr>
<tr>
<td>Lifetime suicide attempts, n, %</td>
</tr>
</tbody>
</table>

Bolded factors remained significant after covarying for overall symptom severity, as measured by the Y-BOCS total score. Y-BOCS = Yale–Brown Obsessive–Compulsive Scale; DY-BOCS = Dimensional Yale–Brown Obsessive–Compulsive Scale.
4. Discussion

Previous studies have characterized 5% to 45% of patients with OCD as having poor insight (Catapano et al., 2010; Eisen et al., 2001; Foa et al., 1995; Kishore et al., 2004; Marazziti et al., 2002; Matsunaga et al., 2002; Storch et al., 2008). We found a similar result: 22% of adult OCD patients in this cohort from Brazil were classified as having poor insight, using a threshold score of 12 on the BABS. We found that OCD insight was significantly associated with the overall symptom severity. Moreover, the severity of current and worst-ever hoarding symptoms and the rate of unemployment were also significantly associated with insight, after controlling for overall OCD severity, age, and gender. Poor insight was also associated with increased scores in other symptom dimensions (contamination/washing, and symmetry/ordering/counting); but all of these associations lost significance when overall symptom severity was adjusted for in the analysis. These results extend a previous study in pediatric OCD that associated hoarding symptoms with poor insight (Storch et al., 2007).

Patients categorized in the poor insight and delusional subgroups seem to be psychiatrically more severe. They have higher average scores of overall OCD symptomology and significantly worse scores in the symmetry/ordering/counting, contamination/cleaning, hoarding, and miscellaneous DY-BOCS dimensions, a higher rate of unemployment and a trend to higher comorbidity with depression. The lack of insight might be directly related to a lower number of attempts to resist the obsessions and compulsions.

Our findings are in line with the idea that compulsive hoarding might represent a distinct clinical entity from the other types of OCD. However, it is not possible to make inferences about a hoarding subtype judging from the results of our study because the DY-BOCS cannot distinguish whether hoarding symptoms are primary phenomena or in any way associated with obsessive thoughts. Experts have suggested that the hoarding OC symptom dimension should be used as a specifier in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (Leckman and Bloch, 2008). Indeed, a strong case can be made that compulsive hoarding in the absence of other OCD symptoms should be listed as an entirely separate diagnostic entity (Leckman and Bloch, 2008; Pertusa et al., 2010; Saxena, 2007). Recently, genetic (Samuels et al., 2007a), functional neuroimaging (Mataix-Cols et al., 2004; Saxena et al., 2004) and anatomical imaging studies have added support to this hypothesis (Gilbert et al., 2008). Hoarding symptoms also have been associated with poor treatment responses. Short-term trials demonstrate poorer responses in OCD patients with primary hoarding symptoms when treated with either cognitive-behavioral therapy or pharmacotherapy (Abramowitz, 1997; Mataix-Cols et al., 1999, 2002; Rufer et al., 2006; Saxena, 2007; Saxena et al., 1998; Stein et al., 2007). Additionally, longitudinal outcome studies have associated hoarding symptoms with poor adult outcome in pediatric-onset OCD (Bloch et al., 2009).

Despite the statistical significance of the association between hoarding symptoms and insight, hoarding had only relatively little influence on insight among these patients which was indicated by a low parameter estimate of .120. The parameter estimate in a Tobit regression model can be interpreted similarly to the regression coefficient in a linear regression. In other words, if the DY-BOCS hoarding score of a patient was to increase by 10 points, the BABS total score would only increase by 1.2 points. No other measured clinical variables (comorbid illness, age of onset, duration of illness etc.) were significantly associated with worse insight, once overall Y-BOCS severity was adjusted for in the analysis. Poor insight was also associated with an increased rate of unemployment among OCD patients. Therefore, unemployment may be an indirect indicator of the negative impact of OCD on occupational activities, particularly when the level of insight is not good. Previous research has suggested that poor insight is associated with poor treatment outcome in both behavior therapy (Foa, 1979; Foa et al., 1999; Himmel et al., 2006; Solyom et al., 1985) and to pharmacotherapy (Catapano et al., 2001, 2010; Erzigjesjé et al., 2001; Kishore et al., 2004). Our results suggest that these findings are unlikely to be due to confounding of insight with other clinical variables correlated with outcome, because in our data set insight appears only marginally correlated with variables other than illness severity. This suggests that insight represents a distinct characteristic entity associated with worse illness severity and probably worse treatment outcome.

The association between increased OCD severity as measured by the Y-BOCS and insight appears to be related to the level of resistance and degree of control items of the Y-BOCS based on data from this study. This relationship makes intuitive sense because a patient with poor insight in the irrationality of his/her symptoms would be less motivated to resist and control them. As both poor insight and worse severity of OCD symptoms seem to go together, their influences on treatment outcome might be confounded. Further studies are needed to disentangle both effects. Probably, insight in OCD could serve as moderator and/or mediator of treatment effects in OCD, especially behavioral therapy. Patients showing poor insight in the irrationality of their symptoms might have a higher rate of non-compliance with medication or a lower motivation and involvement in exposure and prevention techniques.

Our study represents an advance over many previous studies examining insight in OCD in that both insight and dimension symptoms in OCD were examined using well-validated continuous rating scales. In many previous studies, both insight and symptom types have been treated as categorical entities (i.e. subjects either had good insight or poor insight and either had or didn’t have cleaning obsessions and compulsions). Current thinking about both insight and OCD symptom dimensions suggests that these are not all-or-none phenomenon, and so continuous measures such as those used here may better capture the underlying structure of the condition than artificially discrete categories. Strength of our study is a large sample size, which gives us greater power to detect small associations with OCD.

It is important to note that clinical assessments were made only once for each patient; all analyses are therefore based correlational. It is not clear if persistently increased symptom severity can contribute to a worsening of insight, or if impaired insight might be a characteristic of chronic, deteriorating OCD. It remains possible that both insight and symptom severity are influenced by other factors, although such factor was not found in the current analysis. Another limitation of our study is that also the BABS is well validating in its original English version (Eisen et al., 1998), however, there is no study yet that validated the Portuguese version. The translation was performed by researchers with a long experience in OCD clinical evaluation. The reason we used the BABS even without a proper validation is the lack of validated alternatives.

Further studies should examine insight as a moderator and mediator of treatment response in OCD in both behavioral therapy and pharmacological trials. Behavioral techniques aimed at enhancing insight and/or motivation may be potentially beneficial in OCD. A recent study demonstrated that cognitive behavioral group therapy was more effective if preceded by two individual sessions of motivational interviewing and thought mapping. The symptom reduction was still maintained at a 3-months follow up (Meyer et al., 2010).

5. Conclusion

In sum, we found that poor insight in OCD was correlated with increased OCD severity, higher rate of unemployment and increased hoarding symptomatology. Hoarding and unemployment also remained significantly associated with poor insight, after OCD symptom severity was controlled for. Traditional clinical variables such as OCD severity, symptom dimension scores and comorbidities were at times weakly but significantly associated with insight in OCD.

Acknowledgments

The authors would like to thank the C-TOC leaders (Aristides Cordioli, Katia Petribin, Christina Gonzales, Roseli Gedanke Shavitt), and
all the mental health professionals that conducted the patients’ clinical assessments. The authors acknowledge the National Institute of Mental Health support of the Yale Child Study Center Research Training Program (MHB), the National Institutes of Health 1K23MH091240-01 (MHB), the AACAP/Eli Lilly Junior Investigator Award (MHB), the Trichotillomania Learning Center (MHB), NARSAD (MHB), NIH K08 MH081190 (CP), the Doris Duke Charitable Foundation Clinical Scientist Development Award (CP), and UL1 RR024139 from the National Center for Research Resources, a component of the National Institutes of Health, and NIH roadmap for Medical Research (MHB and CP). Maria Alice de Mathis received support from FAPESP 08/5759.

References


Alonso P, Menchon JM, Segalas C, Jaurrieta N, Jimenez-Murcia S, Cardoner N, et al. Development Award (CP), and UL1 RR024139 from the National Center for Research Resources, a component of the National Institutes of Health, and NIH roadmap for Medical Research (MHB and CP). Maria Alice de Mathis received support from FAPESP 08/5759.


