

Research Article

Insight in Obsessive-Compulsive Disorder: Relationship With Sociodemographic and Clinical Characteristics

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Insight is considered a multidimensional concept and, in the context of obsessive-compulsive disorder (OCD), impairment in insight has been widely reported to be associated with severity and other clinical and sociodemographic variables. However, the studies concerning insight in OCD have produced heterogeneous data as a result of the scales used to measure insight. To overcome this heterogeneity, the study presented here used 4 different widely used and validated insight scales. The objective was to evaluate various aspects of insight using these scales to identify the relationships between different aspects of insight and clinical and sociodemographic variables to assess which scale or scales might possess greater efficiency in clinical practice. For this purpose, a descriptive, observational, and cross-sectional study of 81 patients in treatment in a mental health center was conducted. Patients were evaluated using the Brown Assessment of Beliefs Scale, the Overvalued Ideas Scale, the Scale of Unawareness of Mental Disorders, the Yale-Brown Obsessive Compulsive Scale, the Clinical Global Impressions Scale, the Global Assessment of Functioning Scale, and the Rey-Osterrieth Complex Figure Test. The results reported significant relationships between insight and scores on the Yale-Brown Obsessive Compulsive Scale (Thoughts, Compulsions, and Total scales), Clinical Global Impressions Scale, and the Global Assessment of Functioning Scale, and significant differences with regard to sex, level of education, working status, and course of the disorder. A correlation analysis was conducted to assess the relationships among the 4 insight scales. The results of this analysis suggest that the scales that measure insight in a multidimensional way (Brown Assessment of Beliefs Scale and Overvalued Ideas Scale) provide more information about the severity of the disorder in patients with OCD.

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KEY WORDS: obsessive-compulsive disorder (OCD), insight, severity, insight scales

Epidemiological studies of obsessive-compulsive disorder (OCD) indicate a lifetime prevalence rate of 1% to 3% and a point prevalence of 2%.^{1–3} Researchers have reported that the mean age of onset of OCD is 20 years of age and that the mean duration of the period in which the disorder is untreated after the start of the symptoms is 9 years.⁴ A report from the World Health Organization listed OCD as the 10th most frequent

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debilitating disease globally.⁵ If no treatment is received, OCD generally evolves into a chronic disorder with fluctuating symptomatology, although a minority of patients experience a deteriorating course of the disorder.⁶

Historically, OCD has been widely linked to the concept of insight. Insight represents a continuum that ranges from a lack of awareness to being fully aware of the absurdity of the obsessions and compulsions.⁷ Insight is generally considered to be a multidimensional concept that encompasses different components, such as the capacity to recognize symptoms, the acknowledgment of one's own disorder, the capacity to identify and label unusual mental events as pathologic, the specific attribution of symptoms, the consequences of the disorder, and treatment adherence.⁸ In clinical practice, insight refers to a patient's comprehension of his or her symptoms and/or disorder. There is no general consensus on what the object of insight should be: symptom awareness or general awareness of the disorder. Insight can be evaluated from a unidimensional and multidimensional perspective. The conceptualization of insight has implications for research and it also has practical clinical applications.

Until the publication of the field trial conducted for the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) by Foa et al⁹ in 1995, it was believed that those who suffered from OCD had good insight. However, that study revealed that a quarter of the patients with OCD were unsure whether their symptoms were reasonable or excessive.⁹ Consequently, the specification "with poor insight" was added to DSM-IV to describe a presentation in which, for most of time during the current episode, the individual could not recognize the obsessions or compulsions as excessive or irrational. The latest edition of the manual, *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5), provides 3 specifiers for level of insight: with good or fair insight, with poor insight, and with absent insight/delusional beliefs.¹⁰ It is estimated that poor insight affects 21% to 36% of patients with OCD,^{9,11-13} while 4% or fewer of patients with OCD have absent insight or delusional beliefs. Poor insight is a common reason many people with mental illness do not seek proper treatment.

Poor insight is associated with several clinical features of OCD: greater symptom severity,^{11,13} early age of onset,¹⁴ longer duration of illness,¹¹⁻¹³ a worse

prognosis,¹⁰ higher rates of comorbid depression,^{11,13} and insufficient response to behavioral¹⁵⁻¹⁷ and pharmacological^{11,13,18,19} therapy. The relationship between OCD and neuropsychological functioning has been widely studied in recent years. Impairment in visuospatial memory or nonverbal episodic memory is one of the most consistent neuropsychological findings in patients with OCD.²⁰⁻²⁵ However, only a few studies have assessed the relationship of neuropsychological findings and insight in patients with OCD.^{26,27} Kashyap et al²⁶ compared a control group with a group with OCD. They found that the clinical group showed poorer performance on several neuropsychological tests relative to the control group. They found that poor insight was associated with poorer conflict resolution/response inhibition, verbal fluency, and delayed verbal memory. This study used the Rey-Osterrieth Complex Figure Test (RCOFT) to assess visual memory in the individuals with OCD but found no correlation with the level of insight.²⁶ Tumkaya et al²⁷ compared patients with schizophrenia, patients with OCD and schizophrenia, patients with OCD with good insight, and patients with OCD with poor insight. They found that patients with OCD and poor insight did not differ significantly in visual memory performance from the other clinical groups. However, as Kashyap et al²⁶ reported, visual memory is a commonly reported deficit in OCD, and most studies of OCD have not examined data on insight. Even though these 2 earlier studies did not find a correlation between insight and visual memory, it has been widely reported that OCD has a heterogeneous nature. Given that very few studies have examined this issue, we decided to further examine the relationship between insight and visual-spatial memory using various scales to see if any correlation was found. If such a relationship were found, this could help in the design of more specific interventions for patients with OCD.

Studies that have examined the relationship of insight in OCD and clinical and sociodemographic variables have reported inconsistent and heterogeneous findings. This inconsistency could be due to the methodology used, specifically the use of instruments that conceptualize insight in different ways, with most of the studies evaluating the relationship between insight and clinical and sociodemographic variables in OCD using just a single measurement of insight. The main instruments used to measure insight in clinical practice are: item 11 of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS-11),

which evaluates veracity awareness and absurdity of obsessions and compulsions²⁸; the Brown Assessment of Beliefs Scale (BABS)²⁹ and the Overvalued Ideas Scale (OVIS),³⁰ which evaluate obsessive thoughts from a multidimensional perspective³¹; and the Scale to Assess Unawareness of Mental Disorder (SUMD)³² which evaluates the awareness of having a disorder, the effects of medication, and the social consequences of having the disorder. To our knowledge, only one study (Shimshoni et al³¹) has broadly assessed insight using several instruments, all of them specific to OCD. The authors of that study used several measures of insight to assess whether the diversity of results could be due to the scale used. Following this line of study, the goal of our study was to evaluate: (1) insight associated with unidimensional obsessive symptoms (Y-BOCS-11) and insight associated with multidimensional obsessive beliefs (BABS, OVIS), while also introducing evaluation of (2) general insight into the disorder (SUMD), which has not been evaluated in other studies. The objective was to evaluate various aspects of insight using these scales to identify the relationships between different aspects of insight and clinical and socio-demographic variables to assess which scale or scales might be more efficient in clinical practice.

METHODS

Study Design

A cross-sectional study that included adult patients diagnosed with OCD who were in active treatment in a mental health center in Vic (Catalonia, Spain) was conducted between June 2014 and March 2016. The diagnosis of OCD was made by a senior psychiatrist and confirmed by an independent psychiatrist using the criteria in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR). Patients were excluded if they declined to participate, presented language barriers, were diagnosed with a neurological disorder, or met the DSM-IV-TR criteria for dementia or mental retardation.

Study Variables

Relevant information was collected using a questionnaire that asked about sociodemographic variables, including age, sex, marital status, employment

status and level of education, and clinical data, including age of onset, age at first diagnosis, age at first treatment, and course of the disorder. The classification of the course of the disorder was based on the findings in the study by Perugi et al,³³ which identified 2 groups of patients based on the evolution of the disorder as episodic or chronic. In addition, we were able to subsequently differentiate between those patients who remained stable and those who deteriorated in the chronic group, resulting in 3 different categories: episodic, chronic, and deteriorating.³⁴ In clinical practice, this classification into 3 groups seems to better fit the reality of how the disorder may present.

We measured insight using 4 different instruments:

- (1) **BABS**: The BABS is a semistructured, 7-item scale designed to assess the degree of insight of patients in relation to their beliefs, based on the premise that insight occurs on a continuum with various dimensions: conviction, perception of others' views of beliefs, explanation of differing views, fixity of ideas, attempts to refute beliefs, insight and referential thinking. Each item is scored on a scale ranging from 0 (nondelusional or nonpathologic) to 4 (delusional or pathologic), with the total score, which is based on the first 6 items, ranging from 0 to 24, with lower scores indicating better insight.³⁴ Eisen et al²⁹ reported Cronbach α (measure of internal reliability) of 0.87 for the BABS.
- (2) **OVIS**: This scale consists of 11 items scored on a Likert scale ranging from 0 to 10, with higher scores indicating more overvalued ideas. The total score, which ranges from 0 to 10, is based on the mean rating of the first 10 items; item 11 evaluates the duration of the belief. The clinician assesses different aspects of the main belief or beliefs over the previous week, including bizarreness, belief accuracy, fixity, reasonableness, effectiveness of compulsions, pervasiveness of belief, reasons others do not share the belief, and stability of the belief.³⁰ For the Spanish version of the OVIS used in this study, Roncero Sanchis³⁵ reported Cronbach α of 0.88 in her doctoral thesis.
- (3) **SUMD**: This scale was designed to assess insight in psychotic patients, but its use has been extended to other disorders.³² It consists of 3 general items, all used in this study:

awareness of the disorder, awareness of the effects of medication, and awareness of the social repercussions of the disorder; and 17 specific items that are only evaluated if present. Each item is scored on a scale ranging from 1 (awareness) to 5 (nonawareness).^{32,36} The intraclass correlation coefficients for the 3 items in the Spanish adaptation of the scale were 0.85, 0.87, and 0.93, respectively.³⁶ Total scores range from 0 to 15 (the SUMD includes a score of 0 if an item is not applicable).

- (4) *Y-BOCS-11*²⁸: This item evaluates the ability of the individual, in the moment of the interview, to recognize his or her symptoms as absurd or irrational and to evaluate the consequences of not executing the compulsions. Possible scores on this item range from 0 (excellent insight, rational) to 4 (no insight).

The following clinical variables were also recorded:

- (1) The severity of the OCD symptoms was measured with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), a 10-item clinician-administered instrument that evaluates the severity of obsessive-compulsive symptoms over the previous week.²⁸ Items on this scale assess distress, frequency, interference, resistance, and symptom control of obsessions and compulsions on 2 scales with 20 possible points each [a subscale of obsessions (Y-BOCS-O) and a subscale of compulsions (Y-BOCS-C)], for a total score of 40 possible points (Y-BOCS-T). Higher scores indicate more severe symptoms. The Y-BOCS has strong psychometric properties and adequate internal consistency/reliability, with Cronbach α of 0.88; it is considered the standard measure for assessing symptom severity in OCD.^{28,37}
- (2) The severity of illness was assessed with the Clinical Global Impressions Scale (CGI), a 7-item clinical classification measure with scores ranging from 0 "no illness" to 6 "extremely severe." The CGI provides a clinical summary that takes into consideration the patient's history, psychosocial circumstances, behavior, symptoms, and their impact on patient functioning.³⁸
- (3) General functioning was measured with the Spanish translation of the Global Assessment of Functioning Scale (GAF), which is included in the DSM-IV-TR.³⁹ This scale evaluates psychological,

occupational, and social functioning on a health-illness continuum. Scores range from 100 (superior functioning, life's problems never seem to get out of hand, is sought out by others because of his/her positive qualities) to 1 (persistent danger of severely hurting self or others) in the present moment, with a score of 0 used to indicate inadequate information.⁴⁰

- (4) Visuospatial and memory construction was measured with the Rey-Osterrieth Complex Figure Test (ROCF), which collects information about immediate and delayed recall and about organizational strategies during the process of copying.^{41,42} In addition to assessment of memory recall, several systems have been proposed for assessing the organizational component of the ROCFT. As we did not consider these systems to be relevant to this study, we did not take them into account in our analysis. The ROCFT uses a 0-point to 36-point scoring system, assigning a score (specified in the manual) based on the accuracy and placement of the different structures of the figure. A higher score indicates greater visuospatial memory.

Statistical Analysis

A descriptive analysis was conducted, with frequencies and percentages reported for qualitative variables and means and SDs reported for quantitative variables. To identify the variables associated with the different instruments for assessing insight, a bivariate analysis was performed, using the Student *t* test or analysis of variance for qualitative variables and the Pearson correlation coefficient for quantitative variables. Multiple linear regression was performed using the significant variables from the univariate models. Statistical significance was set at *P*-value <0.05. The Statistical Package for the Social Sciences (SPSS), version 21.0. (SPSS Inc., Chicago, IL) was used for the analyses.

Ethical Aspects

The study protocol was approved by the hospital's Research Ethics Committee. All participants or their guardians received an information booklet about the study and provided signed informed consent. Participation was voluntary, and no type of financial compensation was provided.

RESULTS

Of the initial 96 patients who originally met the inclusion criteria, 4 declined to participate, and 11 could not be contacted. Thus, the final sample consisted of 81 participants (participation rate of 84%), of whom 41 (50.6%) were women. The mean age of the patients was 44.6 ± 11.5 years. Table 1 summarizes the sociodemographic and clinical characteristics of the sample. When ratings of insight measured with different scales were examined in terms of sociodemographic and clinical variables (Table 2), statistically significant differences and correlations were found, with some discrepancies according to the instrument used to measure insight. Women presented with better insight than men on the basis of Y-BOCS-11. Patients who were working or were able to work presented with better insight on the basis of the Y-BOCS-11, BABS, and OVIS, and patients with an episodic course presented with better insight on all 4 scales. With regard to the age at the first diagnosis, a correlation with the BABS ($r = 0.225$) was found so that the older the person was when first diagnosed, the worse the level of insight. The age of the participants was correlated with the BABS ($r = 0.266$) and the OVIS ($r = 0.249$).

With regard to the relationship between insight and the various clinical variables we evaluated, correlations were found between the BABS and the Y-BOCS-T ($r = 0.435$), Y-BOCS-O ($r = 0.445$), and Y-BOCS-C ($r = 0.342$); between the OVIS and the Y-BOCS-T ($r = 0.596$), Y-BOCS-O ($r = 0.511$), and Y-BOCS-C ($r = 0.535$); between the SUMD and the Y-BOCS-T ($r = 0.245$) and Y-BOCS-O ($r = 0.243$); between the Y-BOCS-11 and the Y-BOCS-T ($r = 0.259$) and Y-BOCS-O ($r = 0.314$). A significant correlation was also found between the BABS and the CGI ($r = 0.446$) and GAF ($r = -0.514$) scales. The OVIS was correlated with the CGI ($r = 0.580$) and GAF ($r = -0.617$) scales, while the Y-BOCS-11 was also correlated with the CGI ($r = 0.401$) and GAF ($r = -0.466$) scales. The SUMD was correlated with the CGI ($r = 0.261$) and the GAF ($r = -0.305$); and the ROCFT was correlated with the BABS ($r = -0.288$), the SUMD ($r = -0.263$), and the Y-BOCS-11 ($r = -0.288$) (Table 3).

Multivariate models of all of the insight scales (BABS, OVIS, SUMD, Y-BOCS-11) were conducted and adjusted for all of the sociodemographic, clinical, and psychometric variables that had

previously been found significant in the corresponding bivariate models (Table 4). The results showed that insight measured with the BABS was associated with age at first diagnosis, the Y-BOCS-O, and the GAF. Insight measured with the OVIS was associated with the Y-BOCS-C and the CGI. The multiple linear regression of insight measured with the SUMD scale was significantly associated with the course of the disorder and the ROCFT, while insight measured with the Y-BOCS-11 was significantly associated with the GAF scale.

Finally, a correlation among the different instruments used to measure insight was conducted to evaluate their functioning. Each insight scale was correlated with the other 3 scales (Table 5).

DISCUSSION

Summary of the Main Results

The objective of this paper was to evaluate the relationship between different aspects of insight and sociodemographic and clinical variables in patients with OCD. The results obtained varied depending on the scale used and its conceptualization of insight. Since different aspects of insight are measured by the different scales, the results obtained from the various scales do not correlate with the same variables.

In terms of sociodemographic variables, significant differences were found with regard to sex with the Y-BOCS-11; with regard to working status with the BABS, OVIS, and Y-BOCS-11; and with regard to educational level with the OVIS. In terms of clinical variables, correlations were found with the course of the disorder and with the Y-BOCS-O, Y-BOCS-T, CGI, and GAF with all 4 insight scales. Significant correlations were also found with the Y-BOCS-C with the BABS and OVIS and with the age of first diagnosis with the BABS.

In terms of the characteristics of the patient sample, the percentages of men and women were similar and no significant differences were found in relation to sex. The mean age of the patients in the sample was higher than reported in other similar studies.^{2,3,26,43} Conversely, the percentage of single individuals was lower than reported in other samples,^{2,44,45} and the educational level of our sample, with two third of the participants having completed secondary education, was higher than in many studies, where this level of

TABLE 1. Sociodemographic and Clinical Characteristics (N = 81)

	<i>n</i> (%)
Sociodemographic characteristics	
Age (mean ± SD) (y)	44.6 ± 11.5
Sex (female)	
Female	41 (50.6)
Male	40 (49.4)
Marital status	
Never married	30 (37.0)
Divorced/widowed	9 (11.1)
Married	42 (51.9)
Educational level	
Elementary school	10 (12.3)
Middle school completed	18 (22.2)
High school	25 (30.9)
Bachelor's degree	28 (34.6)
Working status	
Working or able to	40 (49.4)
Disabled	41 (50.6)
Clinical characteristics	
Previous CBT	
Yes	64 (79.0)
No	17 (21.0)
Course of the disorder	
Continuous	48 (59.3)
Deteriorating	12 (14.8)
Episodic	21 (25.9)
Age at first diagnosis (mean ± SD) (y)	32.7 ± 13.1
Age of first symptoms (mean ± SD) (y)	21.5 ± 11.6
Age of first treatment (mean ± SD) (y)	32.9 ± 12.9
Clinical scales (mean ± SD)	
CGI	3.6 ± 0.9
GAF	65.9 ± 12.1
ROCFT	13.9 ± 7.4
Y-BOCS (mean ± SD)	
Total	17.9 ± 9.1
Obsessions	10.7 ± 4.1
Compulsions	7.1 ± 6.2
Insight scales (mean ± SD)	
BABS	12.7 ± 5.6
OVIS	5.0 ± 1.4
SUMD	6.8 ± 3.3
Y-BOCS-11	1.6 ± 1.4

BABS indicates Brown Assessment of Beliefs Scale (range of total score: 0 to 24, lower scores indicating better insight); CBT, cognitive-behavioral therapy; CGI, Clinical Global Impressions Scale (range: 0 to 6, with higher scores indicating more severe illness); GAF, Global Assessment of Functioning Scale (range: 1 to 100, with higher scores indicating better functioning); OVIS, Overvalued Ideas Scale (range of total score: 0 to 10, with higher scores indicating more overvalued ideas); ROCFT, Rey-Osterrieth Complex Figure Test (total score ranging 0 to 36, with higher scores indicating better visuospatial memory); SUMD, Scale to Assess Unawareness of Mental Disorder (range of total score: 3 to 15, with higher scores indicating less awareness); Y-BOCS, Yale-Brown Obsessive Compulsive Scale (range of total score: 0 to 40, with higher scores indicating more severe symptoms); Y-BOCS-11, item 11 on the Yale-Brown Obsessive Compulsive Scale (range: 0 to 4, with higher scores indicating poorer insight).

education was only attained by approximately one third of participants.⁴⁵ Consistent with findings in other studies (eg, Catapano et al¹¹), only half of our sample was employed or capable of working.

In our study, we evaluated insight with different scales, and, as in previous studies, we evaluated insight as a continuous variable.^{29,46} Insight, considered as a continuous and dimensional variable, seems to better capture the level of impairment and deterioration in the functionality of a patient with OCD.⁷ For that reason, we used this approach to compare insight with the various variables studied to better explain the heterogeneity of the results found in previous studies of insight in OCD, in which insight was described simply as a categorical variable (ie, with good or poor insight).

When comparing the characteristics of the different insight scales, it can be observed that while the SUMD scale evaluates an individual's general awareness of suffering from a mental disorder, the other 3 scales evaluate the awareness of symptoms: obsessions (and beliefs) and compulsions. The BABS and OVIS evaluate obsessions or beliefs from a multidimensional perspective, while the Y-BOCS-11 evaluates obsessions and compulsions from a unidimensional perspective. Our study included 3 of the 5 scales (OVIS, BABS, and Y-BOCS-11) used in the 2011 study by Shimshoni et al,³¹ which was the other study we identified that also evaluated insight in OCD using a variety of instruments; however, Shimshoni and colleagues did not use the SUMD. Those researchers found important correlations between the different instruments measuring insight: BABS, OVIS, the DSM-IV insight criterion, and Y-BOCS-11. They also studied the correlation of insight measured with those 4 scales in relation to sociodemographic and clinical variables and found that the 4 scales were correlated with pharmacological treatment, that the BABS was correlated with age of onset, that there were significant differences on the basis of sex in terms of insight measured with the DSM-IV insight criterion, and that there were correlations with the BABS and the DSM-IV insight criterion and comorbidity, specifically with comorbid anxiety.³¹

When we compared ratings of insight with sociodemographic variables, the results showed that level of insight was correlated with age, but as this was a weak correlation, we did not take it into

TABLE 2. Insight Values According to Sociodemographic and Clinical Variables									
	<i>N</i>	<i>BABS</i>		<i>OVIS</i>		<i>SUMD</i>		<i>Y-BOCS-11</i>	
		<i>Mean ± SD</i>	<i>P</i>	<i>Mean ± SD</i>	<i>P</i>	<i>Mean ± SD</i>	<i>P</i>	<i>Mean ± SD</i>	<i>P</i>
Sex									
Male	40	13.63 ± 5.5	0.154	5.20 ± 1.3	0.307	7.33 ± 3.3	0.171	1.95 ± 1.5	0.050
Female	41	11.85 ± 5.5		4.87 ± 1.5		6.32 ± 3.2		1.34 ± 1.2	
Marital status									
Never married	30	13.30 ± 5.9	0.562	5.01 ± 1.5	0.739	7.00 ± 3.4	0.857	1.93 ± 1.5	0.353
Divorced, widowed	9	13.78 ± 4.9		5.38 ± 1.3		7.11 ± 2.6		1.56 ± 1.3	
Married	42	12.10 ± 5.5		4.97 ± 1.4		6.62 ± 3.4		1.45 ± 1.3	
Educational level									
Elementary school	10	14.50 ± 6.2	0.066	5.80 ± 1.1	0.003	7.20 ± 3.4	0.856	2.40 ± 1.5	0.075
Middle school completed	18	15.17 ± 5.2		5.79 ± 1.5		7.22 ± 3.1		2.00 ± 1.5	
High school	25	12.04 ± 5.9		4.79 ± 1.5		6.80 ± 3.7		1.56 ± 1.4	
Bachelor's degree	28	11.14 ± 4.8		4.48 ± 1.1		6.43 ± 3.2		1.21 ± 1.1	
Working status									
Working or able to work	40	10.58 ± 5.2	0.000	4.37 ± 1.2	0.000	6.20 ± 3.2	0.098	1.28 ± 1.2	0.019
Disabled	41	14.83 ± 5.2		5.68 ± 1.3		7.41 ± 3.3		2.00 ± 1.5	
Previous CBT									
No	17	13.82 ± 6.3	0.366	5.36 ± 1.3	0.286	7.76 ± 3.1	0.183	2.06 ± 1.5	0.168
Yes	64	12.44 ± 5.4		4.95 ± 1.4		6.56 ± 3.3		1.53 ± 1.4	
Course									
Continuous	48	12.31 ± 5.7	0.000	5.03 ± 1.2	0.000	6.58 ± 3.3	0.048	1.63 ± 1.4	0.007
Deteriorating	12	18.17 ± 5.3		6.61 ± 1.2		8.92 ± 3.1		2.67 ± 1.4	
Episodic	21	10.57 ± 4.5		4.13 ± 1.1		6.14 ± 3.0		1.10 ± 1.2	
		<i>BABS</i>		<i>OVIS</i>		<i>SUMD</i>		<i>Y-BOCS-11</i>	
	<i>N</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
Correlation coefficients: Insight values according to sociodemographic and clinical variables									
Age	81	0.266	0.017	0.249	0.026	0.032	0.776	0.130	0.252
Years of evolution	81	0.004	0.974	0.075	0.506	0.035	0.759	0.010	0.936
Age at first diagnosis	81	0.225	0.044	0.159	0.156	0.003	0.979	0.105	0.351
Age at first symptoms	81	0.149	0.185	0.110	0.289	0.003	0.978	0.140	0.213
Age at first treatment	81	0.207	0.063	0.142	0.205	0.006	0.961	0.096	0.395
<i>P</i> values in bold indicate statistically significant results.									
BABS indicates the Brown Assessment of Beliefs Scale; CBT, cognitive-behavioral therapy; OVIS, Overvalued Ideas Scale; SUMD, Scale to Assess Unawareness of Mental Disorder; Y-BOCS-11, item 11 on the Yale-Brown Obsessive Compulsive Scale; <i>r</i> , Pearson correlation coefficient.									

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TABLE 3. Correlation Coefficients: Insight Values in Relation to Other Clinical Instruments

<i>Other Clinical Instruments</i>	<i>Insight Scales</i>							
	<i>BABS</i>		<i>OVIS</i>		<i>SUMD</i>		<i>Y-BOCS-11</i>	
	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
Y-BOCS-T	0.435	0.000	0.596	0.000	0.245	0.028	0.259	0.020
Y-BOCS-O	0.445	0.000	0.511	0.000	0.243	0.029	0.314	0.004
Y-BOCS-C	0.342	0.002	0.535	0.000	0.197	0.077	0.171	0.126
CGI	0.446	0.000	0.580	0.000	0.261	0.018	0.401	0.000
GAF	-0.514	0.000	-0.617	0.000	-0.305	0.006	-0.466	0.000
ROCFT	-0.288	0.009	-0.195	0.081	-0.263	0.018	-0.288	0.009

P values in bold indicate statistically significant results.

BABS indicates Brown Assessment of Beliefs Scale; CGI, Clinical Global Impressions Scale; GAF, Global Assessment of Functioning Scale; OVIS, Overvalued Ideas Scale; ROCFT, Rey-Osterrieth Complex Figure Test; *r*, Pearson correlation coefficient; SUMD, Scale to Assess Unawareness of Mental Disorder; Y-BOCS, Yale-Brown Obsessive Compulsive Scale (O = Obsessions; C = Compulsions; T = Total); Y-BOCS-11, item 11 on the Y-BOCS.

account. Nor were any significant differences in insight in relation to age found in previous studies^{2,13,18,44,46–48} that also used the BABS, OVIS, or the Y-BOCS-11 to assess insight. Regarding sex, a significantly better level of insight was found in women when compared with men when the patients were assessed with the Y-BOCS-11. These results need to be interpreted with caution because this finding was not reported in other studies.^{13,43} Cherian et al⁴³ evaluated a larger sample also using

the Y-BOCS-11 but did not find significant results for sex. Thus, our results related to sex could be due to our particular sample and thus need further replication. No significant differences in insight were found in relation to marital status, which was consistent with the findings reported by Cherian et al.⁴³ Concerning the relationship between insight and employment status, results from the 3 symptom-specific scales—OVIS, BABS, and Y-BOCS-11—indicated that working patients or

TABLE 4. Multivariate Analysis: Significant Results of the Multiple Linear Regression

<i>Variables</i>	<i>β (95% CI)</i>	<i>P</i>	<i>Insight Measurement Tool</i>
Deteriorating course of the disorder	2.279 (0.332; 4.227)	0.022	SUMD
Age at first diagnosis	0.106 (0.029; 0.184)	0.008	BABS
Y-BOCS-O	0.346 (0.049; 0.644)	0.023	BABS
Y-BOCS-C	0.056 (0.012; 0.100)	0.014	OVIS
CGI	0.490 (0.211; 0.768)	0.001	OVIS
GAF	-0.163 (-0.264; -0.060)	0.02	BABS
GAF	-0.048 (-0.072; -0.025)	< 0.001	Y-BOCS-11
ROCFT	-0.108 (-0.202; -0.014)	0.025	SUMD

P values in bold indicate statistically significant results.

BABS indicates Brown Assessment of Beliefs Scale; CGI, Clinical Global Impressions Scale; CI, confidence interval; GAF, Global Assessment of Functioning Scale; OVIS, Overvalued Ideas Scale; ROCFT, Rey-Osterrieth Complex Figure Test; SUMD, Scale to Assess Unawareness of Mental Disorder; Y-BOCS, Yale-Brown Obsessive Compulsive Scale (O = Obsessions; C = Compulsions; T = Total); Y-BOCS-11, item 11 on the Yale-Brown Obsessive Compulsive Scale.

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TABLE 5. Correlations Between Insight Instruments

<i>Other Clinical Instruments</i>	<i>Insight Scales</i>							
	<i>BABS</i>		<i>OVIS</i>		<i>SUMD</i>		<i>Y-BOCS-11</i>	
	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
BABS	1	1	0.745	0.000	0.560	0.000	0.698	0.000
OVIS			1	1	0.426	0.000	0.649	0.000
SUMD					1	1	0.622	0.000
Y-BOCS-11							1	1

P values in bold indicate statistically significant results.

BABS indicates Brown Assessment of Beliefs Scale; OVIS, Overvalued Ideas Scale; SUMD, Scale to Assess Unawareness of Mental Disorder; Y-BOCS-11, item 11 on the Yale-Brown Obsessive Compulsive Scale.

patients able to work had better insight than those who were not able to work. These results agree with those reported in a study by Jakubovski et al,⁴⁷ in which poor insight as measured by the BABS was associated with higher unemployment rates. This result leads us to believe that insight is related to severity in OCD: working patients have better insight and are likely to present with less severe symptoms and thus are more likely to be able to work and maintain employment. Unlike the results reported by Ravi Kishore et al,¹³ assessment of insight with the OVIS in our study found significant differences related to educational levels, with those patients with higher levels of education having better insight. Since this result was obtained through a symptom-specific insight scale, it might reflect that a patient who had achieved a higher academic level might be able to better understand his or her disorder. This finding could also be related to the severity of the disorder or the age of onset—that is, the younger the patient when symptoms began and the more severe the disorder, the less probability there might have been of attaining a higher educational level.

When comparing insight with clinical variables, we found a significant but weak correlation ($P = 0.044$) between age at first diagnosis and level of insight as measured with the BABS. However, we did not find any studies that had assessed these variables with which we could compare our findings. No significant correlation was found with age at onset. However, significant differences were found between the level of insight measured with all 4 scales and the course of

the disease, with patients with an episodic course found to have better insight. Similar findings were also reported by Bellino et al⁴⁴ in a study that used the OVIS to assess insight. With regard to severity as measured with the Y-BOCS, significant differences were found for the total score and the obsessions subscale score and insight measured with the BABS and the OVIS, but significant differences were only found for correlations with the compulsions subscale and the OVIS. These results are similar to those reported in previous studies that indicated that the worse the insight, the greater the severity on all 3 subscales of the Y-BOCS (Y-BOCS-O, C, and T).^{12,13,26,43,44,46–49} However, those studies used just one scale to assess insight: for example, Bellino et al⁴⁴ used the OVIS, De Berardis et al⁴⁶ used the Y-BOCS-11, and Ravi Kishore et al¹³ used the BABS.

The associations discussed above between insight (as measured with different scales) and severity of OCD symptoms, although not homogeneous in either our dataset or others, could suggest a correlation between the level of insight and severity of OCD, with worse insight associated with greater severity of OCD. Although some studies did not find this association,^{29,45} a larger number of studies supports a positive correlation between insight and severity.^{10,11,13} Consistent with the results in previous studies,^{26,43,49} the correlations we found between results on the CGI and the 3 insight-specific scales (BABS, OVIS, and Y-BOCS-11) confirmed that the greater the severity of OCD, the poorer the insight. These results agree with those reported in another study that also used the Y-BOCS-11 to

evaluate insight.⁴³ These results strengthen the dimensional construct of OCD: patients with worse insight are those who phenomenologically share more similarities with psychotic than anxiety disorders. In fact, the lack of awareness and implausibility of the beliefs of these patients are reminiscent of overvalued ideas or delusions.

Given the growing focus on factors such as insight and visual memory in OCD in recent literature,^{23–27} we included the ROCFT in the study to assess the relationship between insight and neuropsychological or cognitive functions. In our study, we found only a weak correlation between insight and visual memory, and thus no further speculation about the meaning of this finding is included because the correlation was not strong enough. Our results in this are consistent with those reported by Kashyap et al,²⁶ who evaluated different neuropsychological variables using the ROCFT but did not find a significant correlation between insight measured with the BABS and visual memory.²⁶ Other studies that have evaluated the relationship between insight and visual memory in other samples found similar results using instruments other than the ROCFT to evaluate visual memory.^{27,50}

Analysis of our results showed that the general scale used for measuring insight (SUMD) did not correlate with the clinical variables. The scales that did correlate with the clinical variables we evaluated were those that measured specific insight, especially the BABS and OVIS, which measure insight with more than a single dimension. A multivariate model was used to evaluate the predictive value of significant variables in relation to insight. In this model, all significant variables were included, regardless of the level of correlation. According to the multivariate model, age at first diagnosis, the Y-BOCS-O, Y-BOCS-C, CGI, GAF, ROCFT, and the course of the disorder were predictors of level of insight. The GAF scale was also found to be a predictor of insight level in patients with OCD on various insight scales, while the other variables were found to be predictors on just one scale. This discrepancy in results on the basis of the particular insight scale used may reflect the heterogeneity of the disorder, characteristics of the sample, and methodological differences such as the use of a lower level of significance in the statistical analysis. However, we observed that certain predictor variables (course of the disorder, Y-BOCS-O, Y-BOCS-C, GAF, and CGI) were directly related to the severity of OCD. Visuospatial memory (ROCFT) was found to be a predictor of

general insight. We found a strong correlation between the OVIS and BABS because they measure the same aspects of insight. Their correlation with the SUMD scale was not as strong, given that the SUMD evaluates general awareness of the disorder.

Strengths and Limitations

One limitation of our study was the relatively small sample size in comparison with other studies in this area. The participants in our study were active patients in treatment in our service, some of whom were long-term patients, which could have interfered with the data we gathered on the type of symptoms that were present. The participants were selected on the basis of having a principal diagnosis of OCD; therefore, no randomization in the sample selection was performed.

Other potentially significant variables, such as comorbidities, psychopharmacological treatments, or other neuropsychological tests besides ROCFT, were not included in our analysis. Another limitation of our study was the use of the GAF from DSM-IV, which is not included in the DSM-5, although at the time of this study, that scale was still widely used.

Notwithstanding these limitations, we believe this research provides promising results and that further research to expand on our findings is needed. Investigations correlating insight in OCD as measured with different scales with clinical variables or visual memory barely exist. Given the significant correlations that we found between these variables, it would be desirable to replicate the findings to determine whether these associations actually exist and to advance our understanding of the role and potential therapeutic implications of insight in OCD.

The application of the different insight assessment tools in this study showed that each of these assessments takes an interesting approach and provides information that could be useful in a clinical setting. It would be interesting to consider the creation of a new assessment tool that integrates all of the different relevant aspects of insight assessed in these scales to facilitate evaluation of patients with OCD in clinical practice.

CONCLUSIONS

The different scales evaluating insight measure distinct aspects of awareness of the disorder. In the study

presented here, when evaluating and comparing insight with different sociodemographic and clinical variables, we observed that the results, although not homogeneous, suggested that lack of awareness of their disorder and symptoms in patients with OCD is associated with greater severity of the disorder. Evaluating insight as a continuous variable allowed us to evaluate the concept that it is the level of insight that is related to the severity of the disorder, not a specific subtype of OCD. Insight has proven to be a relevant clinical variable that should be taken into consideration in the global evaluation and subsequent treatment of OCD because it is a modifiable and treatable variable that could help in the therapeutic intervention for OCD. Insight appears to be associated with the severity of OCD, a deteriorating course of the disorder, working status, educational level, scores on the CGI scale, and functionality of the patient.

Given the results of our study, it appears that symptom-specific insight, in particular, and also multidimensional insight have a close relationship with OCD in the clinical setting. Therefore, the BABS and OVIS seem to be the best options for evaluating insight in patients with OCD. Both of these scales evaluate insight from a multidimensional perspective and take a similar period of time to administer.

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