Eur Arch Psychiatry Clin Neurosci (2005) 255 : 350–358 DOI 10.1007/s00406-005-0573-y

ORIGINAL PAPER

Domenico De Berardis · Daniela Campanella · Francesco Gambi · Gianna Sepede · Gabriele Salini · Alessandro Carano · Raffaella La Rovere · Lucia Pelusi · Laura Penna · Alessandra Cicconetti · Carla Cotellessa · Rosa Maria Salerno · Filippo Maria Ferro

Insight and alexithymia in adult outpatients with obsessive-compulsive disorder

Received: 12 August 2004 / Accepted: 9 December 2004 / Published online: 21 February 2005

Abstract *Objective* To elucidate the relationships between insight and alexithymia in a sample of adult outpatients with obsessive-compulsive disorder (OCD). *Method* 112 adult outpatients with OCD were tested. Severity of OCD was assessed with the first 10-items of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) and score for item #11 on the Y-BOCS was considered as a measure of insight. Alexithymia was measured with 20-item Toronto Alexithymia Scale (TAS-20). Additional measures were Maudsley Hospital Obsessive Compulsive Inventory (MOCI) and Montgomery Åsberg Depression Rating Scale (MADRS). *Results* Of the patients, 29.5 % showed poor or no insight. Patients with poor or no insight were more alexithymic than patients with excellent, good and moderate insight. TAS-20 total score and subfactors positively correlated with score for item #11 on the Y-BOCS, severity of OCD and MADRS scores. In stepwise regression model, MADRS scores, factor 3 of TAS-20 (Externally Oriented Thinking), somatic and hoarding-saving obsessions were significantly associated with lower insight. *Conclusions* Results show a relationship between poor or absent insight and high alexithymia levels in OCD patients.

Key words insight · alexithymia · obsessive-compulsive disorder · depression

D. De Berardis (✉) · D. Campanella · F. Gambi · G. Sepede · G. Salini · A. Carano · R. La Rovere · L. Pelusi · L. Penna · A. Cicconetti · C. Cotellessa · R. M. Salerno · F. M. Ferro
Department of Oncology and Neurosciences
Institute of Psychiatry
University "G. D'Annunzio" of Chieti
Palazzina SE.BI.
Scuole di Specializzazione
via dei Vestini, 31
66013 Chieti, Italy
Tel.: +39-0871/355-6750
Fax: +39-0871/355-6721
E-Mail: dodebera@aliceposta.it

EAPCN 573

Introduction

The problem of insight has been a core issue in the debate about OCD. Considering insight as a multidimensional concept, it comprises motivational, cognitive and perceptive processes and can be divided into two components: "awareness of illness" and "attribution of symptoms". Traditionally, since obsession and compulsion are often present in psychotic disorders, the boundary between "neurotic" and "psychotic" obsessions and compulsions has been outlined by the presence or absence of insight (Amador et al. 1993). Insight seems to represent a continuum ranging from full awareness of the absurdity of obsessions and compulsions to a total lack of any such awareness. The DSM IV (APA 1994) classification has recognized the presence of a subtype of OCD, called "OCD with poor insight", for patients who, "for most of the time" during the current episode, do not recognize that the obsessions or compulsions are excessive or unreasonable. Subsequent studies have also reported poor insight in between 15 % and 36 % of patients with OCD (Catapano et al. 2001; Marazziti et al. 2002; Eisen et al. 2004). Furthermore, poor insight seems to be associated with earlier age-at-onset, longer duration of illness, greater number of obsessive-compulsive symptoms, more severe illness and higher comorbidity rate, particularly major depression (Ravi Kishore et al. 2004).

Coined by Sifneos, the term "alexithymia," which literally means "no words for mood," was introduced to designate a cluster of cognitive and affective characteristics that were observed among patients with psychosomatic diseases (Sifneos 1973). Alexithymia is characterized by difficulties in recognizing and verbalizing feelings, paucity of fantasy life, concrete speech and thought closely tied to external events (Taylor et al. 1994). These cognitive characteristics have been attributed to an impaired capacity to elevate emotions from a sensorimotor level of experience to a representational level, where they can be used as signalling responses to

internal or external events and modulated by psychological mechanisms (Taylor et al. 1997). An increasing body of studies indicates that alexithymia features exist not only in classic psychosomatic disorders but also in other severe and chronic somatic diseases and psychiatric disorders such as Somatoform Disorders (SOM) and Major Depression (MD) (Taylor et al. 1992; Parker et al. 1993; Bankier et al. 2001). The alexithymic patients showed significantly higher levels of anxiety, depression, and general psychological distress. Alexithymic individuals are prone to both "functional" somatic symptoms and symptoms of emotional turmoil because they are psychologically poorly equipped. The alexithymia construct, formulated from clinical investigations, is multifaceted and includes four distinct characteristics: (a) difficulty identifying and describing feelings, (b) difficulty distinguishing feelings from the bodily sensations, (c) diminution of fantasy, (d) concrete and poorly introspective thinking.

Insight and alexithymia can be involved in the help-seeking behavior and in the severity of the disorder, but few studies have separately investigated these two factors in OCD patients (Rufer et al. 2004; Ravi Kishore et al. 2004) and no study, to our knowledge, focused on their possible relationships. It is well known that patients with a long history of poor response to medication may have poor insight and/or not put sufficient effort into pharmacological or psychotherapeutic treatment (McDonough and Kennedy 2002; Tolin et al. 2004). Furthermore, since care seeking behavior in OCD is associated with the individuals' ability to recognize their symptoms as a disorder, patients with low insight often do not seek health care (Besiroglu et al. 2004). Furthermore, it is reported that also alexithymic features had a negative effect on antidepressant treatment in MD and could have a negative influence on treatment outcome in several other psychiatric disorders (Taylor and Bagby 2004).

Aim of the study

Since empirical findings concerning the relationships between alexithymia and insight in OCD have not been investigated before, the aim of this study was to elucidate the characteristics and the interrelationships of these two psychopathological constructs in a sample of adult outpatients.

Materials and methods

Patients

A total of 123 adult outpatients were recruited during activity of our Consultation-Liaison Service. Attrition rate was relatively low (n = 11, 9.8 %): three patients (2.4 %) refused to participate, six (4.9 %) met exclusion criteria and two (1.6 %) were excluded due to incomplete tests. A total of 112 patients were enrolled. All patients were informed about the study and gave their written consent to participate prior to enrollment. The participants enrolled in the study were patients with a DSM-IV diagnosis of OCD and a Yale-Brown Obsessive Compulsive Scale (Y-BOCS) (Goodman 1989) total score of at least 16 within the first 10 items. Diagnoses of OCD were made by psychiatrists with at least 5 years clinical experience and supervised by senior psychiatrists (RMS, FMF), following the Structured Clinical Interview for DSM-IV (First et al. 1997). Only OCD patients at first treatment contact in our center were eligible for the study and patients already in treatment at our center were considered not eligible. Exclusion criteria were age below 18 years or over 65 years, organic mental disorders and serious medical conditions. Subjects with an IQ ≤70 as measured by Wechsler Adult Intelligence Scale – Revised (WAIS-R) (Wechsler, 1981) were excluded from the study. The presence of lifetime or intra-episodic comorbidity with another axis I disorder was not considered as an exclusion criterion, except in the event of a full diagnosis of schizophrenia or other psychotic disorders. Patients previously treated or followed in other centers without improvement were not excluded from the study. Patient's demographic and historical data were recorded by an ad hoc schedule. The Family History Research Diagnostic Criteria (Andreasen et al. 1977) were used to collect information about familiar history of psychiatric disorders. All interviews were made blindly.

Measures

Severity of OCD was assessed with the first 10-items of the Y-BOCS, a clinician-administered scale developed to assess the severity of obsessions and compulsions, independent of the number and type of obsessions or compulsions present. The Y-BOCS comprises also a symptom checklist that contains a list of obsessions and compulsions the patient currently has or had in the past. The score for item #11 on the Y-BOCS was considered as the measure of insight level. Scores of ≥3 on item #11 of Y-BOCS are considered to mark the boundary between awareness and no awareness of the illness (Catapano et al. 2001; Marazziti et al. 2002).

Total score of Maudsley Hospital Obsessive Compulsive Inventory (MOCI) (Hodgson and Rachman 1977), a self-rating instrument, was employed as an additional measurement. MOCI is a 30 item true-false self-report questionnaire that assesses overt rituals and their related obsessions. The scale has satisfactory test-retest reliability (r = 0.80) and internal consistency (Cronbach's $\alpha = 0.80$).

Alexithymia was measured using the 20-item Toronto Alexithymia Scale (TAS-20), the most widely used measure of alexithymia (Taylor et al. 1994). Each item is rated on a five-point Likert-type scale, ranging from "strongly disagree" (scored 1) to "strongly agree" (scored 5). Scores range from 20 to 100, with a score of 61 or higher considered indicative of alexithymia. The TAS-20 has a three-factor structure (Haviland and Reise 1996). Factor l (F1) assesses the capacity to identify feelings and to distinguish between feelings and the bodily sensations of emotional arousal (Difficulty in Identifying Feelings, DIF); Factor 2 (F2) reflects the inability to communicate feelings to other people (Difficulty in Describing Feelings, DDF); Factor 3 (F3) assesses Externally Oriented Thinking (EOT). Cut-off scores for the TAS-20 are provided by Taylor et al. (1994) and a score of 61 and above is considered to be within the alexithymic range. The Italian validated translation of the TAS-20 was used (Bressi et al. 1996). Italian translation of the TAS-20 was developed by the usual method of back-translation and was cross-validated using confirmatory factor analysis with data collected from a large heterogeneous sample of adults in Italy. The Italian TAS-20 showed good internal consistency (Cronbach's $\alpha = 0.81$) and the same three-factor structure as the English version of the scale. In addition, we performed a Confirmatory Factor Analysis (CFA) on our sample which showed that the three factor model met the goodness-of-fit criteria ($\chi^2 = 523.1$, df = 155, $P < 0.001$; Goodness of Fit Index = 0.89; Adjusted Goodness of Fit Index = 0.87; Root Mean-Square Residual = 0.0051).

Finally, the Montgomery Åsberg Depression Rating Scale (MADRS) was used to evaluate depressive symptoms in OCD patients (Montgomery and Åsberg 1979). It consists of ten rating items that can be clinician-administered in a short period of time. Each item is scored on a 0–6 scale, with 6 indicating maximum symptom severity; the total score is constructed by summing the ten item scores.

Data analysis

Descriptive statistics (means and standard deviations as appropriate) and percentages were computed for the study sample on demographic variables and all psychometric scales. The data were checked for deviations from the Gaussian distribution using the Kolmogorov-Smirnov test. Scores on item #11 of Y-BOCS were considered both categorically and dimensionally. Initially, since scores of ≥ 3 on item #11 of Y-BOCS are considered to mark the boundary between awareness and no awareness of the illness as reported by Catapano et al. (2001) and Marazziti et al. (2002), insight was considered as a categorical variable and patients were divided into two groups: one group with insight (excellent, good, moderate insight: scores of 0,1,2 on item #11 of Y-BOCS, respectively) and one group without insight (poor or absent insight: scores of 3 and 4 on item #11 of Y-BOCS, respectively). To analyze differences among groups in categorical variables, the χ^2 values (with the Yates' correction for 2 x 2 tables) were used while differences among excellent, good, moderate insight/poor or absent insight groups in continuous variables were analyzed with one-way analysis of variance using the General Linear Models (GLM) procedure. Afterward, insight was considered as dimensional construct and mean scores on item #11 of Y-BOCS were used. Correlations between continuous variables were computed using the Pearson product moment coefficient. A stepwise linear regression analysis using a forward technique was performed in order to find which variables were associated with insight. In each step the least significant factor was eliminated when F was lower than 4.00 ($p = 0.049$). The quality of the regression model was also tested using the Durbin-Watson statistic (a value between 0 and 4 indicating the amount of autocorrelation within the model with an optimum of 2.0). P values less than 0.05 were considered to be statistically significant. All statistical testing was two-sided. Statistical analyses were performed using SPSS for Windows release 10.0.0 (2000). All data are expressed, if otherwise specified, as mean ± standard deviation (SD).

Results

Demographic and clinical features of the patients are reported in Tables 1 and 2, respectively; 107 patients (95.5 %) showed lifetime comorbidity with at least one psychiatric disorder. The most frequent comorbid diagnoses were Unipolar Major Depression (MD) in 44 patients (39.3 %) and Bipolar II Disorder in 23 patients (20.5 %), of type I (n = 6, 5.4 %) and II (n = 17, 15.2 %).

Table 1 Demographic data of the 112 patients (mean ± SD)

Age (years, mean ± SD)	35.7 ± 12.8
Gender (number, Males/Females)	52/60
Marital status (number, %)	
Single	68, 60.7
Married	44, 39.3
Education (number, %)	
Primary school not completed	6, 5.4
Primary school	25, 22.3
High school not completed	38, 33.9
Degree	27, 24.1
Post-degree	2, 1.8
Occupation (number, %)	
White collar	13, 11.6
Blue collar	38, 33.9
Government employer	14, 12.5
Specialized worker	11, 9.9
Student	4, 3.6
Housewife	10, 8.9
Unemployed	22, 19.6

Considering insight as a categorical variable, comparison of total TAS-20 scores indicated that patients with poor or absent insight were more alexithymic than patients with excellent, good and moderate insight (65.6 ± 13.5 vs 48.1 ± 11.7; $F = 47.26$, $df = 1$, $P < 0.001$) with higher scores on DIF, DDF and EOT subscales (Table 3). Based on the empirically derived cut-off score of ≥ 61, 40 patients (35.7 %) were positive for high alexithymia: among these, 28 (70 %) had poor or absent insight compared to 12 (30 %) who had excellent, good and moderate insight ($\chi^2 = 46.21$, $df = 1$, $P < 0.001$). Also scores on Y-BOCS and its subscales, MOCI and MADRS were higher in patients with poor or absent insight than patients with excellent, good and moderate insight. An overall MANOVA showed no significant gender differences in terms of age, age at onset of OCD, illness duration, insight, Y-BOCS, TAS-20, MOCI or MADRS scores.

Considering insight as a dimension, there were significant positive correlations between Y-BOCS item #11 scores and the Y-BOCS obsessive, compulsive and total score ($r = 0.32$, $P < 0.001$, $r = 0.50$, $P < 0.001$ and $r = 0.51$, $P < 0.001$, respectively). The Y-BOCS item 11 scores were also significantly correlated with MOCI scores ($r = 0.61$ $P < 0.001$) and MADRS scores ($r = 0.68$ $P < 0.001$). No relationships were found between age, age at onset, duration of illness and insight.

Correlations between TAS-20 and Y-BOCS, insight, MOCI and MADRS are shown in Table 4. TAS-20 total score and subfactors positively correlated with insight (score for item #11 on the Y-BOCS), severity of OCD (measured by Y-BOCS and MOCI), and MADRS scores.

Forward stepwise linear regression models were performed to assess factors associated with insight (score for item #11 on the Y-BOCS as dependent variables) in the study sample (Table 5). The results indicated that MADRS and the factor 3 of TAS-20 (EOT) scores were significantly associated with lower insight (respectively $\beta = 0.288$, $P < 0.001$, 95 % CI = 0.231–0.323 and $\beta = 0.211$, $P < 0.001$, 95 % CI = 0.231–0.323) in the multiple linear regression analysis. The presence of somatic and hoarding-saving obsessions were also significantly associated with poor insight (respectively $\beta = 0.266$, $P = 0.001$, 95 % CI = 0.122–0.412 and $\beta = 0.310$, $P < 0.001$, 95 % CI = 0.211–0.393).

In this analysis, the r^2 values demonstrated good accuracy of the prediction with the model accounting for 77 % of the variance in insight. In addition, the Durbin-Watson coefficient was 1.96 (very near to the optimum of 2.0) and the standardized residuals were normally distributed.

Patients with excellent, good and moderate insight (n = 79) were treated with one of the following drugs: fluvoxamine (100–300 mg/day, n = 33, 41.8 %), clomipramine (75–250 mg/day, n = 17, 21.5 %), paroxetine (20–60 mg/day, n = 16, 20.3 %), sertraline (100–200 mg/day, n = 10, 12.7 %) and citalopram (40–60 mg/day, n = 3, 3.8 %). Twenty patients (25.3 %) underwent Cognitive-

Table 2 Clinical features of OCD patients (n = 112)

Age at onset (years, mean ± SD)	23.6 ± 9.4 (range: 10–52)
Duration of illness (years, mean ± SD)	12.2 ± 10.2 (range: 1–50)
Course (number, %)	
Chronic	75, 67
Episodic	37, 33
Family history of OCD (number, %)	20, 17.9
Family history of schizophrenia (number, %)	13, 11.6
Most frequent obsessive symptoms (number, %)*	
Contamination obsessions	47, 42
Obsession with need for symmetry and exactness	47, 42
Hoarding obsessions	38, 33.9
Sexual obsessions	31, 27.8
Aggressive obsessions	22, 19.6
Somatic obsessions	20, 17.9
Most frequent compulsive symptoms (number, %)*	
Repeating rituals	52, 46.4
Washing/cleaning compulsions	46, 41.1
Checking compulsions	33, 29.5
Previous unsuccessful treatments (number, %)	43, 38.4
Y-BOCS (mean ± SD)	
Total	25.6 ± 4.5 (range: 17–38)
Obsessive subscale	13.7 ± 2.5 (range: 9–20)
Compulsive subscale	11.9 ± 3.0 (range: 6–18)
Insight (Item #11 of Y-BOCS) (mean ± SD)	1.8 ± 1.4 (range 0–4)
Scores on Item #11 of Y-BOCS (number, %)	
0 (excellent)	25, 22.3
1 (good)	25, 22.3
2 (moderate)	29, 25.9
3 (poor)	14, 12.5
4 (absent)	19, 17
TAS-20 (mean ± SD)	
Total	53.3 ± 14.6 (range: 21–90)
DIF	12.6 ± 5.8 (range: 7–30)
DDF	12.4 ± 3.8 (range: 5–21)
EOT	30.5 ± 6.7 (range: 10–40)
MOCI (mean ± SD)	23.0 ± 5.8 (range 10–30)
MADRS (mean ± SD)	15.5 ± 7.6 (range 5–35)

* Y-BOCS checklist

Table 3 Comparison of patients with excellent, good and moderate insight (score of 0, 1 or 2 on item #11 of Y-BOCS) and poor or absent insight (score ≥ 3 on item #11 of Y-BOCS)

	Excellent, good and moderate insight (n = 79; 70.5% of patients)	Poor or absent insight (n = 33; 29.5% of patients)	Statistics
Men/women (number)	37/42	15/18	NS
Mean age (years, mean ± SD)	36.4 ± 13.6	34.2 ± 10.8	NS
Mean illness duration (years, mean ± SD)	12.5 ± 10.4	11.5 ± 10.0	NS
Mean age at onset of OCD (years, mean ± SD)	23.9 ± 10.0	22.7 ± 7.9	NS
Y-BOCS (mean ± SD)			
Total	24.3 ± 3.8	28.6 ± 4.8	$F = 26.26$, $df = 1$, $P < 0.001$
Obsessive subscale	13.3 ± 2.4	14.6 ± 2.7	$F = 6.92$, $df = 1$, $P = 0.01$
Compulsive subscale	11.0 ± 2.4	14.0 ± 3.2	$F = 30.62$, $df = 1$, $P < 0.001$
TAS-20 (mean ± SD)			
Total	48.1 ± 11.7	65.6 ± 13.5	$F = 47.26$, $df = 1$, $P < 0.001$
DIF	12.1 ± 5.1	16.2 ± 6.3	$F = 13.19$, $df = 1$, $P < 0.001$
DDF	11.8 ± 3.3	15.4 ± 3.9	$F = 25.72$, $df = 1$, $P < 0.001$
EOT	24.2 ± 6.7	33.9 ± 6.7	$F = 49.05$, $df = 1$, $P < 0.001$
MOCI (mean ± SD)	21.1 ± 5.3	27.7 ± 4.1	$F = 40.05$, $df = 1$, $P < 0.001$
MADRS (mean ± SD)	12.8 ± 6.0	21.7 ± 7.3	$F = 46.30$, $df = 1$, $P < 0.001$

Table 4 Correlations between TAS-20 (and its factors) and Y-BOCS total score and subscales, insight (mean scores on Item #11 of Y-BOCS), MOCI, MADRS

Total Sample (n = 112)	TAS-20 Total	DIF	DDF	EOT
Y-BOCS Total Score	0.74*	0.57*	0.68*	0.68*
Y-BOCS Obsessive Subscale	0.53*	0.34*	0.54*	0.52*
Y-BOCS Compulsive Subscale	0.68*	0.59*	0.57*	0.60*
Insight (Item #11 of Y-BOCS)	0.64*	0.47*	0.52*	0.63*
MOCI	0.74*	0.54*	0.54*	0.79*
MADRS	0.49*	0.34*	0.42*	0.51*

* $P < 0.001$

Behavioral Therapy (CBT) in addition to pharmacologic therapy. Patients with poor and absent insight (n = 33) were treated with one of the following drugs: fluvoxamine (200–300 mg/day, n = 23, 69.7 %), clomipramine (150–250 mg/day, n = 7, 21.2 %) and paroxetine (40–80 mg/day, n = 3, 9.1 %). Twenty-five patients (75.8 %) were treated with Cognitive-Behavioral Therapy (CBT) in addition to pharmacologic therapy.

Discussion

To date, this is the first study that investigates the possible correlation between alexithymia and insight, as assessed by the specific item (#11) on the Y-BOCS, in a group of outpatients affected with OCD. Since scores of ≥ 3 on item #11 of Y-BOCS are considered to mark the boundary between awareness and non-awareness of the illness, 29.5 % of the patients showed poor or absent insight. This finding is in accordance with results found in previous studies which have pointed out that the percentage of patients with poor or absent insight is relevant in OCD patients, ranging from 6 % and 47 % (Insel et al. 1986; Catapano et al. 1996).

In the literature, both no correlations with severity or resistance levels, or significant relationships with the Y-BOCS total score have been reported (Matsunaga et al. 2002; Palomo et al. 2003). Our findings are in accordance with the latter, as we found more severe OCD symptoms in individuals with poor or absent insight. Since in our sample we found significant, positive correlations between Y-BOCS item #11 scores and the Y-BOCS obsessive, compulsive and total score (even if correlation of item #11 of the Y-BOCS with the Y-BOCS obsessive subscale was weaker than others, although significant), our results are consistent with the hypothesis that criticism of OCD patients towards their obsessions and compulsions is distributed along a continuum that goes from the full awareness of their abnormality to a complete lack of insight (Rachman and Hodgson 1980; Palomo et al. 2003). Furthermore, our results suggest that insight can be considered as a dimension and every patient can show more or less stable differences in the degree of criticism or adherence to OCD manifestations (Eisen and Rasmussen 1993; Türksoy et al. 2002). In the gender comparison, female patients with little or no insight were more numerous than male patients (18 vs 15) but this difference did not reach statistical significance: this finding is in accordance with other studies that show no significant gender differences in insight levels (Solyom et al. 1985; Bankier et al. 2001). The age of onset and duration of illness have been reported as being both positively and negatively linked to insight: however, we and other groups (Bankier et al. 2001; Matsunaga et al. 2002) have been unable to support this relationship.

Few studies have investigated alexithymia in OCD patients. The study of Zeitlin and McNally (1993) was the first ever published and was conducted on 27 patients with Panic Disorder (PD) and 31 with OCD who sought treatment at an anxiety disorders clinic. They found that PD was associated more with alexithymia total scores than OCD: 18 patients of 27 (66.7 %) with PD compared to 4 of 31 (12.9 %) with OCD were above the cutoff score for alexithymia. In our sample prevalence of alexithymia was higher and scores of ≥ 61 were found in 40 patients (35.7 %). However, since these authors used the TAS-26 in their study and did not report scores of subscales, the confrontation with our results is limited and unclear. In a more recent study, Bankier et al. (2001) administered the TAS-20 to subjects with a DSM-IV diagnosis of somatoform disorder (SOM, n = 24), PD (n = 123), depression (n = 28) and OCD (n = 59). Subjects with PD (49 ± 11.4) exhibited lower TAS-20 total scores compared to subjects with OCD (51.9 ± 8.7), SOM (54.9 ± 12.4), and depression (56.6 ± 13.6). Comparing scores, we found slightly higher TAS-20 total scores in OCD patients (53.3 ± 14.6 vs 51.9 ± 8.7), but mean alexithymia scores among the entire sample in this study were within the non-alexithymic range. Alexithymia did not differ between the literate and illiterate subjects in this study and, therefore, it is unlikely that literacy status

Table 5 Stepwise linear regression analysis showing variables associated with insight (score on item #11 of Y-BOCS as dependent variable)

Variables	β	Standard Error	P	95 % CI	R^2
MADRS	0.288	0.010	< 0.001	0.231–0.323	0.599
TAS-20 EOT	0.211	0.005	< 0.001	0.161–0.302	0.710
Somatic obsessions	0.266	0.253	0.001	0.122–0.412	0.747
Hoarding-saving obsessions	0.310	0.256	< 0.001	0.211–0.393	0.770
Constant	0.597	0.280		0.441–0.639	

of the sample could have contributed to the low alexithymia scores. It is possible that socio-cultural factors could influence the lower levels of alexithymia found in this Italian sample of OCD patients, but further studies may be needed to investigate this aspect.

Our results show that the prevalence and level of alexithymia was higher in patients with poor or absent insight than in patients with excellent, good or moderate insight. Since the severity of OCD was also higher in patients with poor or absent insight, a high alexithymia could be present in more severe OCD patients that, in itself, is characterized by a relative unawareness of illness.

Remarkably, EOT appears to be the more relevant variable in our survey and predicted lower insight in multiple regression analysis. This is one of the main findings of our study and is in accordance with results of Bankier et al. (2001) who reported that EOT was significantly associated with OCD ($P < 0.001$). Externally oriented thinking corresponds closely to "la pensée opératoire", a concept launched by French researchers Marty, de M'Uzan and David in the early 1960s (1963). The main characteristics of "la pensée opératoire" are an utilitarian style of thinking, conspicuous absence of fantasies and dearth of symbolic capacity. It seems that externally oriented thinking can be described as a personality trait that remains stable and does not readily change with mood. This concrete and externally oriented cognitive style was identified in the majority of our patients: subjects with OCD may tend to cope with emotional stress by using operational thinking. In addition, since the alexithymia construct pertaining to constricted imaginal activity is assessed indirectly by the factor assessing externally oriented thinking, this facet of the alexithymia construct may be relevant in OCD patients.

Alexithymic characteristics combined with a low insight may influence treatment-seeking. Lumley et al. (1996) examined relationships between alexithymia and the use of six health services in 911 young adults: interestingly, DIF and DDF were linked to increased use of outpatient treatment and psychotherapy, while EOT was a predictor of less effective outpatient treatment and not engaging in psychotherapy. Our data seem to be in accordance with this observation, since the EOT score in our sample was relevant with 67 % of patients having a chronic course of OCD with delayed treatment-seeking (confirmed by a mean duration of illness of 12.2 years) or with an unsuccessful response to previous therapies (reported in 38.4 % of patients). However, a limitation must be considered: in the cross validation of factor structure of the Italian TAS-20, α coefficients and mean interitem correlation coefficients indicated optimal levels of item homogeneity for DIF and DDF, whereas EOT coefficients were considerably lower in magnitude (Bressi et al. 1997). Also in other studies, it is reported that the α coefficients of the EOT factor were lower than those of the DIF and DDF factors (Loas et al. 1995; Loas et al. 2001). Thus, interpretation of EOT results must be viewed with caution.

A few studies have reported a significant and positive correlation between alexithymia and depression in normal, as well as in pathological samples. Parker et al. (1991) found a significant correlation between depression in a sample of students, evaluated by the Beck Depression Inventory (BDI), and alexithymia, measured by the TAS-26. In addition, Honkalampi et al. (2001) using the TAS-20, attested that the severity of depression was significantly associated with alexithymia. Moreover, Luminet et al. (2001) found that although alexithymia scores may change in the presence of large changes in the severity of depressive symptoms, the finding of relative stability of alexithymia supports the view that this construct is a stable personality trait rather than a state-dependent phenomenon.

There are also studies suggesting that depression aggravates OCD and decreases response to treatment (Steketee et al. 1999; Fear et al. 2000). Since in our study we found that the most frequent comorbid diagnosis was Unipolar Major Depression ($n = 44$, 39.3 %), the MADRS was significantly correlated with TAS-20 and subfactors and higher MADRS scores were found to be predictors of poor or absent insight. This finding suggests that depressive symptoms may play an important role in lack of insight, but our data do not permit us to establish a clear relationship between depression, insight and alexithymia. The complex interplay between depression, OCD symptom severity, insight, alexithymia, each influencing each other, may not be so easy to formulate, even with prospectively designed studies. The study of Karno et al. (1988), based on Epidemiologic Catchment Area (ECA), revealed that 31.7 % of OCD patients were diagnosed as having a co-morbid major depressive episode and our results confirm this finding substantially, although our percentage of comorbid depression was slightly higher (39.3 %). The relationship between depressive and obsessive compulsive symptoms was also analyzed by Khanna et al. (1990) who concluded that depressive symptoms were related to OCD as a whole and not to any specific cluster of OCD symptoms. Our results point out that OCD patients with poor or absent insight present more severe depressive symptoms and are more alexithymic than patients with excellent, good and moderate insight. This finding is in accordance with the results of Türksoy et al. (2002) who found that more severe depressive symptoms were seen in OCD patients with poor insight. These results seem to point to a subgroup of OCD patients and could have important therapeutic implications, since patients with a high alexithymia level and severe depressive symptoms may be poorly responsive to treatment as demonstrated by previous studies conducted on major depression (Ozsahin et al. 2003). There are data to suggest that OCD depressed patients do not respond to behavioral treatment as well as non-depressed patients (Foa et al. 1983). Furthermore, Catapano et al. (1996) found that OCD patients with a poor insight were less likely to respond to SSRIs and, more recently, Ravi Kishore et al. (2004) confirmed this finding also pointing out that poor insight is associated with higher comorbidity rate, particularly

major depression. Therefore, we suppose that combination of poor/absent insight, high alexithymia and the presence of depressive symptoms may account for a diminished response to the treatment, but prospective studies are needed.

Results of regression analysis showed that somatic and hoarding-saving obsessions were significantly associated with poor insight. Furthermore, we found a high rate of hoarding in our sample even if the prevalence of hoarding in our sample (33.9%) was within the range described in the literature (14.2% to 42%) (Samuels et al. 2002; Saxena et al. 2002; Calamari et al. 2004). This finding is in accordance with other studies, which found that somatic and hoarding symptoms often are associated with lower insight (Damecour and Charron 1998; Marazziti et al. 2002). Considering that hoarding is common in Obsessive-Compulsive Personality Disorder (OCPD), relationships between hoarding and poor insight could be explained where insight is compared less to OCD and could be difficult to differentiate between OCPD or OCD hoarding with the Y-BOCS Symptom Checklist. Furthermore, hoarders are emotionally tied to their saved items: this may generate comforting and pacifying sensations that are often unlikely to be perceived as irrational (Ravi Kishore et al. 2004). Interestingly, in our sample we also found a relatively high comorbidity with Bipolar Disorder (BD). Despite the association between BD and OCD being widely reported in the literature, the association between hoarding and BD comorbidity in OCD was investigated by Samuels et al. (2002) who found that hoarders exhibited significantly higher rates of hypomania and brief depression, while Hantouche et al. (2003) described that patients with OCD and "cyclothymia" were characterized by a high frequency of hoarding and Fontenelle et al. (2004) found a higher rate of comorbidity with BD in patients with OCD and hoarding. Taken together, these results suggest that patients with OCD and hoarding may be more likely than patients with more ordinary OCD to be affected by disorders characterized by significant mood swings (mania/hypomania or depression). This is in accordance with the model of Perugi and Akiskal (2002) who proposed the enlargement of the concept of Bipolar II Disorders in order to incorporate some forms of mood, anxiety, impulse control, and eating disorders under a hypothetical spectrum of cyclothymic-anxious-sensitive disposition. In addition, it should be hypothesized that association with high alexithymia levels could explain why these patients respond more poorly to conventional OCD treatments as reported in previous studies (Denys et al. 2003).

A possible neurobiological mechanism common in OCD patients with poor insight and alexythymia may support the role of a frontal lobe dysfunction, in particular of the ventromedial prefrontal cortex (VMPFC). VMPFC could be associated with the elaboration of different types and intensity of emotion, consistent with its role in integrating information about rewards and punishments (Kandel et al. 1991). There appear to be distinct regions in the ventromedial prefrontal cortex, such as the Anterior Cingulate Cortex (ACC) and the orbitofrontal cortex, that participate in emotion and that may be associated with impairments in both cognitive and emotional aspects of alexithymia (Lane et al. 1998; Berthoz et al. 2000; Larsen et al. 2003). Some studies also support the role of ventromedial prefrontal cortex in OCD patients (Cavedini et al. 2002; Shapira et al. 2003). Furthermore, it is reported that increased activation in the right orbitofrontal cortex is congruent with the intense emotional reactions that hoarding patients experience when they are asked to discard their possessions and activity in this region has been shown to be negatively correlated with response to pharmacotherapy (Saxena et al. 1999; Mataix-Cols et al. 2004). However, different obsessive-compulsive symptom dimensions are mediated by relatively distinct components of frontostriatothalamic circuits implicated in cognitive and emotion processing. As stated by Mataix-Cols et al. (2004) OCD may be best conceptualized as a spectrum of multiple, potentially overlapping syndromes rather than a unitary nosologic entity.

This study has several limitations. A major methodological limitation of the current study concerns the rationale for measuring insight and determining the cut-off. In fact, the insight question is categorized in item #11 of the Y-BOCS, and the psychometric property of this item still remains to be elucidated. Further studies focusing on the relationships between insight and alexithymia are needed with a more adequate psychometric instrument to measure insight. Furthermore, the present study lacks follow-up data. We are currently evaluating follow-up investigations with OCD patients to assess the long-term course of insight and alexithymia and their predictive value for long-term outcome of OCD. Another limitation is that many patients were previously treated in other centers, which may contribute to improve insight and reduce alexithymia levels. Further studies on drug naïve patients are needed.

References

1. Amador XF, Strauss DH, Yale SA, Flaum MM, Endicott J, Gorman JM (1993) Assessment of insight in psychosis. Am J Psychiatry 150:873–879
2. American Psychiatric Association (APA) (1994) Diagnostic and Statistical Manual of Mental Disorders, 4th Edition. American Psychiatric Association, Washington, DC
3. Andreasen NC, Endicott J, Spitzer RL, Winokur G (1977) The family history method using diagnostic criteria. Arch Gen Psychiatry 34:1229–1235
4. Bagby RM, Parker JDA, Taylor GJ (1994) The twenty-item Toronto Alexithymia Scale-1. Item selection and cross-validation of the factor structure. J Psychosom Res 38:23–32
5. Bankier B, Aigner M, Bach M (2001) Alexithymia in DSM-IV disorder: comparative evaluation of somatoform disorder, panic disorder, obsessive-compulsive disorder, and depression. Psychosomatics 42:235–240
6. Berthoz S, Artiges E, van de Moortele PF, Poline JB, Rouquette S, Martinot JL (2000) Emotion-inducing stimuli processing in alexithymia: an fMRI study (Abstract). Biol Psychiatry 47:110S

7. Besiroglu L, Cilli AS, Askin R (2004) The predictors of health care seeking behavior in obsessive-compulsive disorder. Compr Psychiatry 45:99–108
8. Bressi C, Taylor G, Parker J, Bressi S, Brambilla V, Aguglia E, Allegranti I, Bongiorno A, Giberti F, Bucca M, Todarello O, Callegari C, Vender S, Gala C, Invernizzi G (1996) Cross validation of the factor structure of the 20-item Toronto Alexithymia Scale: an Italian multicenter study. J Psychosom Res 41:551–559
9. Calamari JE, Wiegartz PS, Riemann BC, Cohen RJ, Greer A, Jacobi DM, Jahn SC, Carmin C (2004) Obsessive-compulsive disorder subtypes: an attempted replication and extension of a symptom-based taxonomy. Behav Res Ther 42:647–670
10. Catapano F, Sperandeo R, Di Martino S, Bartoli L, Maj M (1996) Insight e resistenza nei pazienti ossessivi. Giornale Italiano di Psicopatologia 2:126–132
11. Cavedini P, Riboldi G, D'Annucci A, Belotti P, Cisima M, Bellodi L (2002) Decision-making heterogeneity in obsessive-compulsive disorder: ventromedial prefrontal cortex function predicts different treatment outcomes. Neuropsychologia 40(2):205–211
12. Damecour CL, Charron M (1998) Hoarding: a symptom, not a syndrome. J Clin Psychiatry 59:267–272
13. Denys D, Burger H, van Megen H, de Geus F, Westenberg H (2003) A score for predicting response to pharmacotherapy in obsessive-compulsive disorder. Int Clin Psychopharmacol 18:315–322
14. Eisen JL, Rasmussen SA (1993) Obsessive-compulsive disorder with psychotic features. J Clin Psychiatr 54:373–379
15. Eisen JL, Phillips KA, Coles ME, Rasmussen SA (2004) Insight in obsessive compulsive disorder and body dysmorphic disorder. Compr Psychiatry 45:10–15
16. Fear C, Sharp H, Healy D (2000) Obsessive-compulsive disorder with delusions. Psychopathology 33:55–61
17. First MB, Spitzer RL, Gibbon M, Williams JB (1997) Structured Clinical Interview for DSM-IV Axis I Disorders – Patient Edition (SCID-I/P, version 2.0, 4/97 revision). Biometrics Research Department, New York
18. Foa EB, Grayson JB, Steketee GS, Doppelt HG, Turner RM, Latimer PR (1983) Success and failure in the behavioural treatment of obsessive-compulsives. J Consult Clin Psychology 51:287–297
19. Fontenelle LF, Mendlowicz MV, Soares ID, Versiani M (2004) Patients with obsessive-compulsive disorder and hoarding symptoms: a distinctive clinical subtype? Compr Psychiatry 45: 375–383
20. Goodman WK, Price LH, Rasmussen SA, Mazure C, Fleischmann RL, Hill CL, Heninger GR, Charney DS (1989) The Yale-Brown Obsessive Compulsive Scale, I: development, use, and reliability. Arch Gen Psychiatry 46:1006–1011
21. Hantouche EG, Angst J, Demonfaucon C, Perugi G, Lancrenon S, Akiskal HS (2003) Cyclothymic OCD: a distinct form? J Affect Disord 75:1–10
22. Haviland MG, Reise SP (1996) Structure of the twenty-item Toronto Alexithymia Scale. J Pers Assess 66:116–125
23. Hodgson RJ, Rachman S (1997) Obsessional-compulsive complaints. Behav Res Ther 15:389–395
24. Honkalampi K, Hintikka J, Laukkanen E, Lehtonen J, Viinamaki H (2001) Alexithymia and depression: a prospective study of patients with major depressive disorder. Psychosomatics 42: 229–234
25. Insel TR, Akiskal HS (1986) Obsessive-compulsive disorder with psychotic features: a phenomenological analysis. Am J Psychiatr 143:1527–1533
26. Kandel EJ, Schwartz JH, Jessel TM (1991) Principles of neural science. London: Prentice-Hall
27. Karno M, Golding JM, Sorenson SB, Burnam MA (1988) The epidemiology of obsessive compulsive disorder within five US communities. Arch Gen Psychiatry 45:1094–1099
28. Khanna S, Kaliaperumal VG, Channabasavanna SM (1990) Clusters of obsessive-compulsive phenomena in obsessive-compulsive disorder. Br J Psychiatry 156:51–54
29. Lane RD, Reiman EM, Axelrod B, Yun LS, Holmes A, Schwartz GE (1998) Neural correlates of levels of emotional awareness: evidence of an interaction between emotion and attention in the anterior cingulated cortex. J Cogn Neurosci 104:525–535
30. Loas G, Corcos M, Stephan P, Pellet J, Bizouard P, Venisse JL, Perez-Diaz F, Guelfi JD, Jeammet P; Reseau INSERM no. 494013 (2001) Factorial structure of the 20-item Toronto Alexithymia Scale: confirmatory factorial analyses in nonclinical and clinical samples. J Psychosom Res 50:255–261
31. Loas G, Fremaux D, Marchand MP (1995) Factorial structure and internal consistency of the French version of the twenty-item Toronto Alexithymia Scale in a group of 183 healthy probands. Encephale 21:117–122
32. Luminet O, Bagby RM, Taylor GJ (2001) An evaluation of the absolute and relative stability of alexithymia in patients with major depression. Psychother Psychosom 70:254–260
33. Lumley MA, Norman S (1996) Alexithymia and Health Care Utilization. Psychosom Med 58:197–202
34. Marazziti D, Dell'Osso L, Di Nasso E, Pfanner C, Presta S, Mungai F, Cassano GB (2002) Insight in obsessive-compulsive disorder: a study of an Italian sample. Eur Psychiatry 17:407–410
35. Marty P, DeM'uzan M, David C (1963) La pensée opératoire. Rev Fr Psychanal 27:345–356
36. Mataix-Cols D, Wooderson S, Lawrence N, Brammer MJ, Speckens A, Phillips ML (2004) Distinct neural correlates of washing, checking, and hoarding symptom dimensions in obsessive-compulsive disorder. Arch Gen Psychiatry 61:564–576
37. Matsunaga H, Kiriike N, Matsui T, Oya K, Iwasaki Y, Koshimune K, Miyata A, Stein DJ (2002) Obsessive-compulsive disorder with poor insight. Compr Psychiatry 43:150–157
38. McDonough M, Kennedy N (2002) Pharmacological management of obsessive-compulsive disorder: a review for clinicians. Harv Rev Psychiatry 10:127–137
39. Montgomery SA, Åsberg M (1979) A new depression scale designed to be sensitive to change. Br J Psychiatry 134:382–389
40. Ozsahin A, Uzun O, Cansever A, Gulcat Z (2003) The effect of alexithymic features on response to antidepressant medication in patients with major depression. Depress Anxiety 18:62–66
41. Palomo Nicolau AL, Alcoverro Fortuny O, Hurtado Ruiz G, Guerrero Pedraza A (2003) Thought disorders in obsessive-compulsive disorder. Actas Esp Psiquiatr 31:100–102
42. Parker JD, Taylor GJ, Bagby RM, Acklin MW (1993) Alexithymia in panic disorder and simple phobia: a comparative study. Am J Psychiatry 150:1105–1107
43. Parker JD, Bagby RM, Taylor GJ (1991) Alexithymia and depression: distinct or overlapping constructs? Compr Psychiatry 32: 387–394
44. Perugi G, Akiskal HS (2002) The soft bipolar spectrum redefined: focus on the cyclothymic, anxious-sensitive, impulse dyscontrol, and binge-eating connection in bipolar II and related conditions. Psychiatr Clin North Am 25:713–737
45. Rachman S, Hodgson R (1980) Obsession and compulsions. Prentice-Hall: Englewood Cliffs
46. Ravi Kishore V, 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
47. Rufer M, Hand I, Braatz A, Alsleben H, Fricke S, Peter H (2004) A prospective study of alexithymia in obsessive-compulsive patients treated with multimodal cognitive-behavioral therapy. Psychother Psychosom 73:101–106
48. Samuels J, Bienvenu OJ, Riddle MA, Cullen BA, Grados MA, Liang KY, Hoehn-Saric R, Nestadt G (2002) Hoarding in obsessive compulsive disorder: results from a case-control study. Behav Res Ther 40:517–528
49. Saxena S, Brody AL, Maidment KM, Dunkin JJ, Colgan M, Alborzian S, Phelps ME, Baxter LR (1999) Localized orbitofrontal and subcortical metabolic changes and predictors of response to paroxetine treatment in obsessive-compulsive disorder. Neuropsychopharmacology 21:683–693
50. Saxena S, Maidment KM, Vapnik T, Golden G, Rishwain T, Rosen RM, Tarlow G, Bystritsky A (2002) Obsessive-compulsive hoarding: symptom severity and response to multimodal treatment. J Clin Psychiatry 63:21–27

51. Shapira NA, Liu Y, He AG, Bradley MM, Lessig MC, James GA, Stein D, Lang PJ, Goodman WK (2003) Brain activation by disgust-inducing pictures in obsessive-compulsive disorder. Biol Psychiatry 54:751–756
52. Sifneos PE (1973) The prevalence of alexithymic characteristics in psychosomatic patients. Psychother Psychosom 22:255–262
53. Solyom L, Di Nicola VF, Phil M, Sookman D, Luchinis D (1985) Is there an obsessive psychosis? Aetiological and prognostic factors of atypical form of obsessive-compulsive neurosis. Can J Psychiatry 30:372–380
54. Steketee G, Eisen J, Dyck I, Warshaw M, Rasmussen S (1999) Predictors of course in obsessive-compulsive disorder. Psychiatry Res 27:229–238
55. Taylor GJ, Bagby RM (2004) New trends in alexithymia research. Psychother Psychosom 73:68–77
56. Taylor GJ, Bagby RM, Parker JD (1997) Disorders of affect regulation: alexithymia in medical and psychiatric illness. Cambridge: Cambridge University Press
57. Taylor GJ, Parker JD, Bagby RM, Acklin MW (1992) Alexithymia and somatic complaints in psychiatric outpatients. J Psychosom Res 36:1–8
58. 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
59. Türksoy 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
60. Wechsler D (1981) Wechsler Adult Intelligence Scale-Revised. San Antonio: The Psychological Corporation
61. Zeitlin SB, McNally RJ (1993) Alexithymia and anxiety sensitivity in panic disorder and obsessive-compulsive disorder. Am J Psychiatry 150:658–660