CHAPTER 4

The impact of poor insight on the two year natural course of Obsessive-Compulsive Disorder

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ABSTRACT

Background: Some patients with Obsessive Compulsive Disorder (OCD) think or are convinced that their obsessive-compulsive beliefs are true. These patients have OCD with poor or absent insight, a clinical profile that poses a challenge to the clinician. The purpose of this study is to determine the range of insight, characterize the clinical profile of poor insight OCD and study the impact of poor insight on the natural two year course of OCD.

Methods: Data were analyzed of 253 adult patients with OCD, participating in the prospective naturalistic Netherlands Obsessive Compulsive Disorder Association (NOCDA) Study. Insight was measured using a standardized instrument, the Overvalued Ideas Scale.

Results: Good, fair, poor and absent insight occurred at every severity level of OCD. A small but significant correlation between changes in OCD severity and changes in insight was found. Poor insight was associated with higher OCD symptom severity, more chronicity, more comorbidity and predicted poor outcome at two-year follow-up, independently of severity of OCD- and depressive symptoms, age of onset, comorbidity and chronicity of OCD.

Conclusions: These findings show that appropriate changes are introduced in DSM-5 diagnostic criteria for OCD; insight in OCD ranges from excellent to absent. Poor insight in OCD appears to be an independent phenomenon which is critically important to the prognosis of OCD. Therefore measuring insight and specifically targeting improvement of insight might be recommendable in OCD treatment. Future work should focus on validating treatment that specifically targets insight.

INTRODUCTION

A substantial proportion of the patients with Obsessive Compulsive Disorder (OCD) has poor insight1-11. These patients think or are convinced that their obsessive-compulsive beliefs are true12. Patients with OCD and poor insight have a worse clinical condition than patients with good insight in terms of more severe symptoms2-14, lower quality of life10, more chronicity13,14 and suicidal ideation15. Furthermore among these patients a worse response to psychotropic medication3,7,16 and cognitive behaviour therapy (CBT)1,10,17-19 was found. However, the clinical profile of patients with OCD and poor insight has not been established firmly and knowledge of the impact of insight on the natural course of OCD is marginal. Furthermore, examinations so far leave unanswered whether poor insight is merely a proxy for severe OCD, or a distinct phenomenon.

More knowledge about insight in OCD might help to comprehend the relevance of insight for OCD and its prognosis, and the possible necessity to specifically target insight in OCD treatment. The goals of this study were to (i) establish the range of insight in a clinical sample of patients with OCD, (ii) characterize the clinical profile of OCD with poor insight, (iii) study the natural course of insight and its correlation with the natural course of OCD severity and (iv) study the impact of insight on the two-year course of OCD.

MATERIALS AND METHODS

Design and Participants

Data were drawn from the Netherlands Obsessive Compulsive Disorder Association (NOCDA) study. The NOCDA study is an ongoing multi-center 6-year longitudinal naturalistic cohort study which examines the course of OCD. The participants were patients with a life-time diagnosis of OCD, aged 18 years and over and referred to one of the participating second and third line mental health care centers. At baseline a total of 419 participants were included in the NOCDA study. No formal exclusion criteria were applied except for an inadequate understanding of the Dutch language. The study was approved by the local ethical committee, and all participants gave written informed consent. Detailed sample characteristics and methodology of NOCDA are described elsewhere20.

An insight measure was administered at first at wave 3 (two years after baseline). In the present study we included all patients with OCD complaints at wave 3 of NOCDA.
(N=253) (whereby insight in OCD could be measured) and analyzed their data at wave 3 and wave 4 (two years later). Data were collected between 2007 and 2012.

**Assessments**

**Assessments at wave 3**

Insight into OCD symptoms was assessed with the Overvalued Ideas Scale (OVIS). The OVIS\(^2\) is a 10 item clinician administered scale that assesses the severity of OCD-related over-valued ideation. The concept of overvalued ideas can be considered equivalent to poor or absent insight as described in DSM-5\(^3\). The scale comprises 10 items that investigate features of the main OCD related belief that the patient has had in the last week. The 10 items measure: strength of belief; reasonableness of belief; the extent to which others share the same belief; effectiveness of compulsions; attribution of different views by others; strength of the resistance; the extent to which the patients OCD has caused the belief; fluctuation and duration of belief. The score of each item ranges from 0 to 10 and the OVIS total score is the mean score of the 10 items, where a high score represents poor insight. Internal consistency (α=0.88-0.95) and inter-rater reliability (κ=0.86) are adequate. Patients with an OVIS score <4 are considered to have good insight, an OVIS score ≥4 and <6 reflects fair insight, an OVIS score ≥6 and <7.5 OR OVIS score ≥6 and item 5 (how accurate is the belief) <9 reflects poor insight and an OVIS score ≥7.5 and item 5 ≥9 reflects absent insight.

**OCD symptom severity** was assessed using the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) severity scale\(^2\). The YBOCS-severity scale is a 10 item clinician administered scale that assesses the severity of OCD related symptoms. OCD symptom severity reflects the severity of obsessions and compulsions with total scores ranging from 0 to 40. Higher scores indicate greater severity. This reliable and valid scale is widely accepted as the major outcome measure for OCD\(^2\).

**Chronicity of OCD** was defined as “continuous presence of at least moderately severe OCD symptoms during at least two years”, as proposed by Visser et al.,\(^2\) and was assessed retrospectively using the Life-Chart Interview (LCI)\(^24\). To establish OCD and other DSM-IV-TR axis I disorders, the Structured Clinical Interview for DSM-IV-TR (SCID-I/P)\(^25\) was administered. Severity of depressive and anxiety symptoms were assessed with the Beck Depression Inventory\(^26\) and the Beck Anxiety Inventory\(^27\). Severity of symptoms of Attention Deficit Hyperactivity Disorder (ADHD) was assessed using an 18-item interview\(^28\). Severity of symptoms within the autism spectrum was rated using the 50 item Autism-Spectrum Quotient\(^29\). Tic symptoms and severity were measured with the Yale Global Tic Severity Scale\(^30\). Severity of psychotic symptoms was measured using the psychosis items of the Comprehensive Psychopathological Rating Scale (CPRS)\(^31\). The Padua Inventory Revised (PI-R)\(^32\) was used to determine presence and severity of subtypes. The Interpretation of Intrusion Inventory (Triple I)\(^33\) was administered to assess appraisals of obsessions. The age at which patients first fulfilled DSM-IV criteria for OCD was marked as the age of onset. Information on the presence of OCD among first degree relatives was obtained using the family tree method\(^34\). Quality of life was assessed with the EuroQol (EQ)\(^35\). The Daily Hassles questionnaire measures stress arising from daily circumstances such as work, arguments or financial problems\(^36\). As an indicator of loneliness the Loneliness Scale\(^37\) was administered. Demographic characteristics (age, gender, education level, living together with a partner, having a paid job) were recorded during the interview.

**Assessment at wave 4 (follow-up)**

At follow-up OCD symptom severity was measured with the YBOCS severity scale\(^2\) and insight in OCD with the OVIS\(^2\). Follow-up data were present in respectively 220 (87%) and 192 (76%) participants.

**Statistical analyses**

The range of insight and the proportions of patients with good, fair, poor and absent insight were studied using descriptive statistics. To examine (cross-sectional) whether insight differed per OCD severity category a one way ANOVA with post-hoc tests was conducted.

One way ANOVAs with post-hoc tests and chi-square tests were performed to determine (cross-sectional) whether patients with good, fair, poor and absent insight were distinguished by different clinical and demographic characteristics.

Although the main analysis was based on an intention to treat basis using linear mixed effects models (described below), we also performed some completer analyses where we tested whether severity of OCD and insight into OCD changed significantly over two years using a paired t-test, and where we described the relationship between changes in OCD symptom severity and changes in insight in terms of Pearson’s correlation coefficient. In order to assess the generalizability of the completer analysis to the full sample, we determined whether participants that i) were lost at wave 4 or ii) of whom the insight score was missing at wave 4 had different characteristics than participants that completed wave 4, using t-tests and chi-square tests.

To examine the predictive value of insight for the two-year course of OCD symptom severity, given equal initial OCD severity, on an intention-to-treat basis a linear mixed-effects model was used. Therefore, the data were transformed into “long format”, so that participants either appear once (wave 3 only, in case of drop-out) or twice (both
The impact of poor insight on the natural two year course of OCD

wave 3 and wave 4) in the data set. The fixed-effects part of the model included a time indicator to estimate the change in OCD severity between wave 3 and wave 4 in the reference group (patients with poor or absent insight), and two time-by-insight group-interaction terms: one for the good insight group and one for the fair insight group, to estimate to what extent the change in OCD severity differs between these groups and the reference group. The two insight group indicators themselves are left out of the model. In this way, the model corrects for the differences between the groups with respect to OCD severity at wave 3 (see Twisk, 2013)¹⁶. All variables were entered as fixed effects, with subject as the only random factor.

Additionally an extended version of this model was estimated to determine whether insight predicts changes in OCD severity independently of factors that were previously found to predict the natural course of OCD, namely age of onset, comorbidity, chronicity of OCD and severity of depressive symptoms. The fixed effects part of the model was therefore extended by adding interaction terms of these variables (age at onset, comorbidity, etc.) with the time indicators, since in a long data structure covariates should be added as interaction terms.

Statistical analyses were performed using the Statistical Package for Social Sciences version 18. All p values were two-tailed and statistical significance was set at p <.05. Bonferroni correction for multiple testing was applied to the 42 regression analyses testing the relationship between insight and other characteristics, the threshold for statistical significance was set at 0.05/42=0.0012.

RESULTS

The sample included 143 (56.5%) women and 110 men, the mean age at wave 3 was 39 years (SD=10.7) and the mean educational level was 13.24 years (SD=3.2). Of the sample 76% had current OCD. The mean score on the YBOCS was 16.82 (SD=8.1) reflecting a moderate general severity of OCD, 39% of the participants reported a chronic course. Within every OCD severity category the OVIS score ranged from very low to very high, indicating that poor insight occurs even among patients with subclinical OCD, while patients with extremely severe OCD still may have good insight.

Table 1 shows that among patients with moderate, severe and extreme OCD symptoms, insight was worse than among patients with subclinical and mild symptoms. Within every OCD severity category the OVIS score ranged from very low to very high, indicating that poor insight occurs even among patients with subclinical OCD, while patients with extremely severe OCD still may have good insight.

<table>
<thead>
<tr>
<th>OCD severity*</th>
<th>N</th>
<th>Mean (SD)</th>
<th>Range</th>
<th>I : II : III : IV : V</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Subclinical (0-7)</td>
<td>29</td>
<td>3.25 (1.6)</td>
<td>1.10-7.80</td>
<td>I=II &lt;III ***</td>
</tr>
<tr>
<td>II Mild (8-15)</td>
<td>89</td>
<td>3.81 (1.1)</td>
<td>1.00-6.60</td>
<td>I=II &lt;III***</td>
</tr>
<tr>
<td>III Moderate (16-23)</td>
<td>79</td>
<td>4.76 (1.4)</td>
<td>1.70-7.80</td>
<td>I=II &lt;III***</td>
</tr>
<tr>
<td>IV Severe (24-31)</td>
<td>44</td>
<td>4.99 (1.5)</td>
<td>1.70-8.20</td>
<td>I=II &lt;III***</td>
</tr>
<tr>
<td>V Extreme (32-40)</td>
<td>12</td>
<td>5.72 (1.4)</td>
<td>3.50-7.90</td>
<td>III=IV=V</td>
</tr>
<tr>
<td>Total</td>
<td>253</td>
<td>4.34 (1.5)</td>
<td>1.00-8.20</td>
<td></td>
</tr>
</tbody>
</table>

One way ANOVA with posttest comparing mean OVIS scores per OCD severity category. ***p<.001; * severity categories on the Yale Brown Obsessive Compulsive Scale

Clinical profile of OCD with poor insight

Table 2 shows demographic and clinical characteristics of patients with OCD and good, fair or poor insight. Gender distribution, age of onset, level of education, living together with a partner, having a paid job and having a first degree family member with OCD were similar across groups. The group with poor insight reported more severe obsessions and compulsions than the fair and good insight group. Patients in the poor insight group (55.6%) and in the fair insight group (43.2%) reported much more (trend level) a chronic course of OCD symptoms than patients in the good insight group (27.5%). With respect to subtypes, only severity of impulses was similar among the groups. Metacognitions were less prominent among patients with good insight, than among patients with fair and poor insight.
### Table 2. Clinical and demographic characteristics of patients with good, fair and poor insight (cross-sectional at wave 3).

<table>
<thead>
<tr>
<th>Insight level</th>
<th>Variable</th>
<th>total</th>
<th>I (N=253)</th>
<th>II (N=113)</th>
<th>III (N=36)</th>
<th>p</th>
<th>I : II : III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age, Mean (sd)</td>
<td>39.03 (10.7)</td>
<td>37.48 (9.9)</td>
<td>38.79 (10.4)</td>
<td>44.06 (12.6)</td>
<td>.011</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Sex, (% women)</td>
<td>56.5%</td>
<td>49.0%</td>
<td>62.8%</td>
<td>58.3%</td>
<td>.119</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Education, Mean (sd)</td>
<td>13.24 (3.2)</td>
<td>13.58 (3.4)</td>
<td>13.19 (3.1)</td>
<td>12.42 (3.0)</td>
<td>.167</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Paid job</td>
<td>59.0%</td>
<td>63.6%</td>
<td>61.8%</td>
<td>37.5%</td>
<td>.027</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Living with a partner (% yes)</td>
<td>55.6%</td>
<td>57.7%</td>
<td>57.3%</td>
<td>50.0%</td>
<td>.770</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Age of onset, Mean (sd)</td>
<td>17.74 (9.1)</td>
<td>17.35 (8.5)</td>
<td>17.99 (9.7)</td>
<td>18.09 (9.6)</td>
<td>.867</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Genetic Risk OCD, Mean (sd)</td>
<td>0.67 (0.9)</td>
<td>0.57 (0.9)</td>
<td>0.70 (0.8)</td>
<td>0.89 (1.2)</td>
<td>.174</td>
<td>1:2:3</td>
</tr>
</tbody>
</table>

One way ANOVA with post-test for continuous variables and chi-square tests for categorical variables. Bold values indicate significant difference after bonferroni correction. *p<.05; **p<.01, ***p<.001. Number of first grade family members with the disorder.

### Table 3. Comorbidity patterns among patients with good, fair and poor insight (cross sectional at wave 3).

<table>
<thead>
<tr>
<th>Insight level</th>
<th>Variable</th>
<th>total</th>
<th>I (N=253)</th>
<th>II (N=113)</th>
<th>III (N=36)</th>
<th>p</th>
<th>I : II : III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Axis I disorders; Mean (sd)</td>
<td>1.30 (1.1)</td>
<td>1.01 (1.1)</td>
<td>1.38 (1.3)</td>
<td>1.89 (1.3)</td>
<td>.000</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Affective Disorder (% yes)</td>
<td>15.8%</td>
<td>11.5%</td>
<td>13.3%</td>
<td>36.1%</td>
<td>.001</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Anxiety Disorder besides OCD (% yes)</td>
<td>21.3%</td>
<td>15.4%</td>
<td>22.1%</td>
<td>36.1%</td>
<td>.031</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Other Axis I disorder (% yes)</td>
<td>8%</td>
<td>6.7%</td>
<td>9.7%</td>
<td>11.1%</td>
<td>.630</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Severity of general anxiety (BAI), Mean (sd)</td>
<td>14.09 (11.4)</td>
<td>12.12 (9.8)</td>
<td>14.00 (11.0)</td>
<td>19.87 (14.9)</td>
<td>.005</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Severity of depressive symptoms (BDI), Mean (sd)</td>
<td>10.17 (10.7)</td>
<td>7.24 (9.2)</td>
<td>11.41 (10.4)</td>
<td>14.64 (13.5)</td>
<td>.000</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Severity of psychotic symptoms (CPRS), Mean (sd)</td>
<td>0.76 (1.8)</td>
<td>0.51 (1.3)</td>
<td>0.74 (1.7)</td>
<td>1.50 (2.9)</td>
<td>.018</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Severity of ADHD symptoms, Mean (sd)</td>
<td>8.76 (7.0)</td>
<td>7.78 (6.7)</td>
<td>9.37 (7.3)</td>
<td>9.06 (6.6)</td>
<td>.235</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>Presence of Tic symptoms, (% yes)</td>
<td>22.9%</td>
<td>27.2%</td>
<td>20.7%</td>
<td>17.1%</td>
<td>.363</td>
<td>1:2:3</td>
</tr>
<tr>
<td></td>
<td>ASD total score, Mean (sd)</td>
<td>113.76 (15.9)</td>
<td>111.16 (14.9)</td>
<td>113.62 (16.0)</td>
<td>122.07 (15.8)</td>
<td>.003</td>
<td>1:2:3</td>
</tr>
</tbody>
</table>

One way ANOVA with posttest for continuous variables and chi-square tests for categorical variables. Bold values indicate significant difference after bonferroni correction. *p<.05; **p<.01, ***p<.001. Affective Disorder = any affective disorder besides bipolar disorder. BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; CPRS = Comprehensive Psychiatric Rating Scale; ADHD = Attention Deficit Hyperactivity Disorder; ASD = Autism Spectrum Disorder; number of current axis-I disorders.
With respect to comorbidity (see table 3), the mean number of current Axis-I disorders is higher among patients with poor insight than among patients with fair insight who in turn report more Axis-I disorders than patients with good insight. Affective disorders and anxiety disorders besides OCD occurred (trend level) most frequently in the poor insight group. Depressive symptoms (significantly) and autism spectrum disorder symptoms (trend level) were most severe in the poor insight group.

The two-year course of OCD severity and insight into OCD
OCD severity was stable over two years in the total sample, the mean difference on the YBOCS was 0.61, 95%-CI=(-0.36, 1.58), \(t(219)=1.25, p=.21\). The same holds for insight in OCD, the mean difference on the OVIS was 0.20, 95%-CI=(-0.03, 0.44), \(t(191)=1.73, p=.09\). However, the ranges of difference scores were large on the YBOCS (-22 to 27) as well as on the OVIS (-3 to 5.6). Changes in OCD symptom severity correlated small, but significantly with changes in insight, \(r = .27, p<.000\).

The predictive value of insight
The results of the linear mixed-effects model analysis revealed that the two year course of patients with poor insight was significantly worse than the course of patients with good insight and patients with fair insight. Given an equal OCD severity at wave 3 patients with good insight were almost 4 points on the Y-BOCS better off at wave 4 than patients with poor insight (estimated difference : 3.90, 95%-CI = (1.21, 6.58), \(p=.005\)), and patients with fair insight were almost 3 points better off than patients with poor insight (estimated difference : 2.90, 95%-CI = (0.24, 5.57), \(p=.03\)). The course of patients with fair insight was not significantly worse than the course of patients with good insight (estimated difference: 0.99, 95%-CI = (-0.91, 2.90), \(p=.31\)) (see figure 1).

The results of the extended model, in which time to age of onset-, comorbidity-, chronicity-, severity of depressive symptoms interaction terms were added as fixed factors to the original model, revealed that only severity of OCD (\(t(324)=33.13, p=.000\)), poor insight (\(t(271)=2.41, p=.017\)) and chronicity (\(t(271)=2.63, p=.009\)) significantly predicted OCD severity at wave 4.

DISCUSSION
Principal findings
We found that 41.1% of the patients with OCD had good insight, 44.7% fair insight, 12.6 % poor insight and 1.6% absent insight. The proportion of patients with poor or absent insight that we found (14.2%) is within the range of proportions found in previous studies (13% to 39%)\(^{-11}\), but close to the lower limit of it, which might be explained by the fact that in our study 24% of the participants had remitted OCD. The principal finding of this study is that given the same initial OCD severity, patients with poor insight had a less favorable natural two year course in terms of OCD severity than patients with good- or fair insight. This difference remained significant after controlling for factors that were found to predict the natural course of OCD in previous studies: age at onset, depressive symptoms, the number of comorbid Axis-I disorders and chronicity of OCD. This finding suggests that poor insight is not merely a proxy for disorder severity in OCD or a concomitant of depressive symptoms associated with severe or chronic OCD, but at least partially a distinct phenomenon. This assumption is further supported by our finding that poor insight was more common among, but not exclusive to patients with severe OCD symptoms. Poor insight occurred even in patients with subclinical OCD.
The impact of poor insight on the natural two year course of OCD

Our results are consistent with earlier studies finding that poor insight predicts a worse treatment outcome\(^1\,^7\,^10\,^16\,^19\) and follow-up status in OCD\(^6\). However, our finding is in contrast to the only two other studies examining the predictive value of insight for the natural course of OCD, which found no significant relationships\(^2\,^8\,^9\). A reason for these discrepant findings might be, except from a small sample size (N=36) in one of the studies mentioned\(^6\), that insight was treated as a categorical variable (i.e. poor insight vs good and vs fair insight) in our study, whereas in the other studies the effect of insight as a continuous dimension (the total score on the Brown Assessment of Beliefs Scale (BABS))\(^4\) was examined. Probably the relationship between insight and the course of OCD is not linear, i.e. only really poor insight might have a negative impact on the course of OCD. In that case the impact of insight on the course of OCD would be harder to detect with a continuous variable. Indeed in our study patients with fair insight were not better off at follow up than patients with good insight (together 85.8 % of the sample). To further investigate this we post-hoc analyzed whether insight as a continuous measure predicted two year out-come in our sample. Conformingly, we found no significant relationship. Therefore our results suggest that only poor insight has a negative impact on the course of OCD.

The clinical profile of OCD with poor insight found in the present study is in line with the literature. We found that OCD with poor or absent insight is a subtype of OCD that is characterized by more severe OCD symptoms\(^1\,^3\,^10\,^15\), more chronicity\(^1\,^3\,^14\) and comorbidity\(^2\,^8\,^12\), including more depressive\(^3\,^10\,^11\,^12\) and autistic symptoms\(^4\) and a higher estimation of the importance of thoughts.

In our ongoing longitudinal study after two years the mean OCD severity and insight of the sample changed little, however, the ranges of both difference scores were large, indicating that deterioration, stability and improvement occurred. We found, in line with some previous treatmentstudies\(^4\,^8\,^10\) a small correlation between change of OCD severity and change of insight.

Clinical implications
All together our findings suggest that poor insight in OCD is an at least partially distinct phenomenon, occurring at every severity level of OCD, which is associated with a poor prognosis of OCD. This is relevant because poor insight might be a factor that needs specific attention in treatment which might, if targeted successfully, ameliorate the prognosis of patients suffering from OCD with poor insight. Indeed, in an earlier randomized controlled treatment study, a post-hoc analysis revealed that patients with really poor insight reached significantly more symptom reduction after treatment with the Inference Based Approach, a treatment that specifically targets insight, than patients that were treated with Cognitive Behavior Therapy\(^4\).

Limitations
This study has limitations that need to be addressed. One of which is the dropout rate of 13%. Non-random loss to follow-up may have affected our results even though participants without follow-up data did not differ on any of the clinical and demographical variables. Using mixed models is currently the best available way to deal with this issue and to estimate effects when data are missing\(^4\). Further, a methodological limitation of the current study concerns the rationale for setting the OVIS cut-off scores for good, fair, poor and absent insight. Although the cut-off for poor insight is the one previously employed in the adult OCD literature, its validity still remains to be definitively established. The cut-off scores for fair and absent insight were based on personal communication with the author of the OVIS. Until now no insight measures with validated cut-off scores for different insight levels are available. Finally, this was a treatment seeking sample and it stands to reason that individuals with poor insight are less likely to seek treatment due to poor awareness of their disorder, so study results may thus not be generalizable to all adults with OCD, but just to treatment seekers with OCD.

Conclusion
In conclusion our findings show that appropriate changes are introduced in DSM-5 diagnostic criteria for OCD; insight in OCD ranges from excellent to absent and appears to be an independent phenomenon which is critically important to the prognosis of OCD. This finding is encouraging. Future work should focus on validating treatment interventions that specifically target insight in OCD.
REFERENCES


44. Twisk J, de Boer M, de Vente W, et al. Multiple imputation of missing values was not necessary before performing a longitudinal mixed-model analysis. J Clin Epidemiol 2013;66: 1022-1028