ORIGINAL RESEARCH

Predictive Values of Obsessive Beliefs and Metacognitions in OCD Symptom Dimensions

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Abstract

Objective: The cognitive model explains the obsessive-compulsive symptoms with dysfunctional beliefs (i.e., beliefs about responsibility, perfectionism). In contrast, the metacognitive model gives the central role to metacognitive beliefs (i.e., beliefs about the thought process such as control or dangerousness of thoughts). Both cognitive and metacognitive models of obsessive-compulsive disorder (OCD) separately have been empirically supported. The purpose of this study was to explore the relationship between cognitive beliefs and metacognition and OCD symptom dimensions in an OCD outpatient sample.

Methods: One hundred and fifty-three patients diagnosed with OCD were included in the study. Dimensional Obsessive-Compulsive Scale (DOCS), Obsessive Beliefs Questionnaire (OBQ), Metacognitive Questionnaire-30 (MCQ), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) were applied to the participants. Hierarchical regression analysis for each symptom dimension conducted to evaluate predictive values of obsessive beliefs and metacognitions after controlling for level of depression and anxiety.

Results: For DOCS-contamination dimension OBQ − perfectionism and intolerance of uncertainty (OBQ-PC) (the final model accounted for 10 % variance in DOCS − contamination scores, F (10, 142) = 2.846, p = 0.003) ; for DOCS-responsibility dimension BAI, OBQ − overestimation of threat and inflated responsibility (OBQ-TR), OBQ − importance of and need to control thoughts (OBQ-ICT), and MCQ − positive beliefs about worry (MCQ-POS) (the final model accounted for 31 % of the variance in DOCS − responsibility scores, F(10, 142) = 7.960, p < 0,001); for DOCS-unacceptable thoughts dimensions BAI, OBQ − ICT, MCQ − beliefs concerning cognitive competence (MCQ-CC) and MCQ − beliefs about the need for control of thoughts (MCQ-NC) (the final model accounted for 31 % of the variance in DOCS − unacceptable thoughts scores, F(10, 142) = 8.120, p < 0.001) ; and for DOCS-symmetry dimension BAI, OBQ − PC, OBQ − ICT, MCQ − POS and MCQ − cognitive self-consciousness (MCQ-CSC) (the final model accounted for 25 % variance in DOCS − symmetry scores, F (10, 142) = 6.322, p = < 0.001) subscale scores were predictor factors.

Conclusion: In this study, 'perfectionism and intolerance of uncertainty' was the only variable associated with the contamination dimension. 'Importance of and need to control thoughts,' which is the metacognitive subscale of OBQ, was associated with all OCD symptom dimensions except contamination. These findings could imply that obsessive patients have different cognitive profiles according to their symptom dimensions. In addition to obsessive beliefs and generic metacognitions, further studies, including OCD specific metacognitions, will clarify our knowledge about OCD symptom dimensions.

Keywords: Obsessive c-Compulsive Disorder, Symptom Dimension, Obsessive Beliefs, Metacognition

INTRODUCTION

Obsessive-Compulsive Disorder (OCD) is characterized by the repeated occurrence of obsessions and/or compulsions. Obsessions are experienced as intrusive and unwanted thoughts, urges, or images. Compulsions are repetitive behaviors or mental acts that usually performed in response to an obsession. The vast majority of people with OCD experience both obsessions and compulsions (1). If OCD is not treated, the course is usually chronic, and it is associated with severely restricted functioning (2).

Unwanted and unacceptable intrusions were found to occur in most of the nonclinical populations and were similar in form and content to the clinical obsessions of OCD patients (3). To explain the transition from a subclinical intrusive thought into a clinical obsession, cognitive and behavioral models of OCD propose that normal obsessions become abnormal when

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individuals interpret them significant and personally meaningful and threatening. When a person appraises an intrusion as a threat, then experience distress and tries to remove the intrusion and prevent its perceived consequences. This mental effort can, in turn, increase the frequency of the intrusion and strengthen the appraisal (4). Appraisals are hypothesized to be derived from assumptions (beliefs) that are relatively enduring and pan-situational. The Obsessive-Compulsive Cognitions Working Group (OCCWG), a group of researchers interested in the role of cognitive factors (important beliefs and associated appraisals) in OCD, developed a self-report measure to assess obsessional belief domains and they named this instrument as Obsessive Beliefs Questionnaire (OBQ) (5). A shortened version of OBQ consists of 44 items and three dysfunctional/irrational belief domains that contribute to the development and maintenance of OCD, including (i) overestimation of threat and inflated responsibility, (ii) importance of and need to control thoughts, and (iii) perfectionism and intolerance of uncertainty (6). Based on this instrument, several studies have shown that these dysfunctional beliefs are related to OCD symptom dimensions. However, the results of the studies are inconsistent. For example, the overestimation of threat and inflated responsibility belief domain is usually associated with the washing/cleaning symptom dimension, but some studies could not find an association between those two (7-9).

In the metacognitive model of OCD, intrusions activate individual's metacognitive beliefs about their meaning and importance. The model includes two metacognitive belief domains: 1. metacognitive beliefs about the significance and importance of thoughts (fusion beliefs) and 2. metacognitive beliefs about the necessity of performing rituals. Activation of these dysfunctional metacognitive beliefs leads to a negative interpretation of the intrusion (as a sign of threat), changes in emotion, and finally activation of beliefs about rituals to reduce the perceived threat (10). Studies have shown that metacognitive beliefs in OCD are related to OCD symptoms, have predictive value for obsessive-compulsive symptoms independent of non-metacognitive beliefs like responsibility and perfectionism, and have a specific effect to explain obsessive-compulsive symptoms in OCD patients (11,12).

The To our knowledge, only one study investigated the full cognitive and metacognitive belief domains to explain the OCD symptom dimensions in a nonclinical population (8). In this study, we aimed to investigate all cognitive and metacognitive belief domains to predict OCD symptom dimensions in an OCD outpatient population. We hypothesize that all belief domains would have additional effects on the prediction of OCD symptom dimensions independent of anxiety and depression levels.

METHOD

Participants

One hundred and fifty-three OCD patients who were admitted to the Bakırköy Mazhar Osman Mental Health and Neurological Diseases Education and Research Hospital OCD outpatient clinic between February and July 2019 were enrolled in this study. For OCD diagnosis, Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (SCID-I) was used. Patients between 18 and 65 years of age were included in the study, and those with a psychotic disorder, mental retardation, lack of education, severe neurological disorder, or cognitive deficits were excluded. The study protocol was approved by the local ethics committee (06.02.2018 date and 127 number), and the written informed consent form was given to all participants.

Measures

Dimensional Obsessive-Compulsive Scale (DOCS) consists of four distinct obsessive-compulsive symptom dimensions (concerns about germs and contamination (DOCS-CON); concerns about being responsible for harm, injury or bad luck (DOCS-RES); concerns about symmetry, completeness, and need for things to be 'just right' (DOCS-SYM), unacceptable thoughts (DOCS-UT) and measures the severity of each symptom dimension. It is a four-point Likert-type self-report scale ranging from 0 to 4 and consists of 20 items (13). The Turkish validity and reliability study of DOCS was conducted by Safak et al (14).

Obsessive Beliefs Questionnaire (OBQ) is a seven-point Likert-type self-report scale that consists of 44 items and three subscales (overestimation of threat and inflated responsibility (OBQ-TR), the importance of and need to control thoughts (OBQ-ICT), perfectionism and intolerance of uncertainty (OBQ-PC) (6). The Turkish version of OBQ has been shown to have adequate validity and reliability (15).

Metacognitive Questionnaire-30 (MCQ) is a 30 item

measure. It has five subscales assessing the following metacognitions: Positive beliefs about worry (MCQ-POS), negative beliefs about the uncontrollability and danger of worry (MCQ-NEG), beliefs about the need for control of thoughts (MCQ-NC), beliefs concerning cognitive competence (MCQ-CC) and cognitive self-consciousness (MCQ-CSC)[16]. The validity and reliability study of MCQ was conducted by Tosun et al [17].

Beck Depression Inventory (BDI) is a 21-item self-rated inventory that evaluates the severity of depressive symptoms. **Beck Anxiety Inventory (BAI)** is a 21-item self-rated inventory that evaluates the severity of anxiety symptoms. The validity and reliability of both scales have been confirmed [18,19].

Statistical Analysis

All statistical analyses were performed using the 'Statistical Program for Social Sciences version 22.0'. We computed zero-order bivariate Pearson correlations to examine the associations among the BDI, BAI, OBQ subscales, MCQ subscales, and DOCS subscales. To examine the contributions of obsessive beliefs and metacognition in predicting OCD symptom dimensions, we ran a series of hierarchical regression analyses for each DOCS subscale. In each regression analysis, the BDI and BAI were entered in the first step to control general affectivity and distress, the OBQ subscales in step 2, and the MCQ subscales in step 3. $P < 0.05$ was considered to be a statistically significant level in all analyses.

RESULTS

Sociodemographic Features: The mean age (±SD) of the patients was 30.84 ± 9.4 years. 88 (57.5%) of the patients were female, and 65 (42.5) were male. Of the patients, 51 (33.3%) were working, and 102 (66.7%) were not working. Thirty-eight of the patients (24.8%) graduated from elementary school, 42 (27.5%) graduated from high school, and 73 (47.7%) graduated from college. 83 (54.2%) patients were single, 59 (38.6%) patients were married and 11 (7.2%) patients were divorced (Table 1).

Table 1. Sociodemographic characteristics of the OCD patients

Age (years)±SD		30.84±0.76
Gender n (%)	Female	88 (53.6)
	Male	65 (42.5)
Education Status n (%)	Elementary school	38 (24.8)
	High school	42 (27.5)
	Collage	73 (47.7)
Marital Status n (%)	Single	83 (54.2)
	Married	59 (38.6)
	Divorced	11 (7.2)
Occupation Status n (%)	Unemployed	102 (66.7)
	Employed	51 (33.3)

SD standard deviation

The mean scores and zero-order correlations of the scales are presented in Table 2.

Table 2. Means, standard deviations and zero-order correlations among study measures

	Mean±SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1.BDI	19.15±10.92	1	.58*	.45*	.41*	.39*	.06	.37*	.37*	.39*	.32*	.27**	.26**	.41**	.23
2.BAI	17.79±12.61		1	.42*	.44*	.27*	.13	.21*	.31*	.33*	.31*	.17	.45**	.41**	.36**
3.OBQ-TR	63.56±20.39			1	.77*	.62*	.31*	.41*	.34*	.40*	.35*	.30**	.39**	.39**	.32**
4.OBQ-PC	69.98±19.54				1	.56*	.34*	.41*	.33*	.36*	.36*	.35**	.29**	.39**	.41**
5.OBQ-ICT	41.81±16.06					1	.37*	.51*	.33*	.37*	.35*	.22**	.12	.40**	.08
6.MCQ-POS	11.69±4.05						1	.48*	.26*	.30*	.36*	.10	.28**	.17	.24**
7.MCQ-NEG	15.27±4.22							1	.40*	.61*	.53*	.23	.25	.34**	.15
8.MCQ-CC	13.05±5.04								1	.45*	.37*	.23	.18	.10	.21
9.MCQ-NC	16.81±4.26									1	.54*	.25	.32**	.41**	.23
10.MCQ-CSC	16.82±3.45										1	.21	.20	.26**	.09
11.DOCS-CON	8.47±5.31											1	.40	.10	.29*
12.DOCS-RES	6.98±4.6												1	.38*	.44*
13.DOCS-UT	8.93±5.18													1	.30*
14.DOCS-SYM	5.34±4.39														1

* Correlation is significant at the 0.01 level (2-tailed).
** Bonferroni corrected alpha level of $p < .001$ applied to the 40 correlation coefficients in the shaded region ($p = .05/40 = .00125$).

SD standard deviation, BDI Beck Depression Inventory, BAI Beck Anxiety Inventory, OBQ Obsessive Beliefs Questionnaire, TR overestimates of threat/responsibility subscale, ICT importance of/need to control thoughts subscale, PC perfectionism/certainty subscale, MCQ Metacognition Questionnaire, POS positive beliefs about worry subscale, NEG negative beliefs about the uncontrolla – bility of danger subscale, CC cognitive control subscale, NC need to control thoughts subscale, CSC cognitive self-consciousness subscale, DOCS Dimensional Obsessive-Compulsive Scale, CON contamination subscale, RES responsibility for harm subscale, UT unacceptable thoughts subscale, SYM symmetry subscale

Regression Analyses

Contamination: In Step 1, BDI explained significant amount of the variance in DOCS – CON scores ($R^2 = 0.06$, p = 0,003). Addition of the OBQ subscales in Step 2, did account for significant additional variance (R^2 change = 0.05, p < 0,001). However, in Step 3 none of the MCQ subscales emerged as significant contributors. The final model accounted for 10 % variance in DOCS – CON scores, F (10, 142) = 2.846, p = 0.003, only OBQ – PC subscale emerged as a significant contributor (Table 3).

Table 3. Hierarchical regression analysis predicting DOCS-CON scores

	R^2	Beta	t	p	spr^2
Final Model	0.10			.003	
BDI		.06	1.24	.21	.009
BAI		-.03	-.81	.41	-.003
OBQ – TR		.00	.04	.96	.000
OBQ – PC		.08	2.36	.01	.032
OBQ – ICT		-.01	-.40	.68	-.000
MCQ – POS		-.07	-.58	.56	-.002
MCQ – NEG		.03	.23	.81	.000
MCQ – CC		.08	.87	.38	.004
MCQ – NC		.10	.75	.45	.003
MCQ – CSC		.04	.30	.76	.000

BDI Beck Depression Inventory, BAI Beck Anxiety Inventory, OBQ Obsessive Beliefs Questionnaire, TR overestimates of threat/responsibility subscale, ICT importance of/need to control thoughts subscale, PC perfectionism/certainty subscale, MCQ Metacognition Questionnaire, POS positive beliefs about worry subscale, NEG negative beliefs about the uncontrolla – bility of danger subscale, CC cognitive control subscale, NC need to control thoughts subscale, CSC cognitive self-consciousness subscale, DOCS Dimensional Obsessive-Compulsive Scale, CON contamination subscale

Responsibility: In the first step of the regression analysis predicting DOCS-RES scores, BAI explained a significant portion of variance (R^2=0.19, p < 0,001). In Step 2, adding the OBQ subscales explained significant additional variance (R^2 change=0.06, p < 0,001). In step 3, addition of the MCQ subscales also accounted for significant additional variance (R^2 change = 0.05, p < 0,001). The final model accounted for 31 % of the variance in DOCS – RES scores, F(10, 142) = 7.960, p < 0,001 and BAI, OBQ – TR, OBQ – ICT and MCQ – POS emerged as significant unique predictors (Table 4).

Table 4. Hierarchical regression analysis predicting DOCS-RES scores

	R^2	Beta	t	P	spr^2
Final Model	0.31			< 0.001	
BDI		-.02	-.87	.60	-.001
BAI		.14	4.00	< 0.001	.085
OBQ – TR		.09	3.82	0.001	.056
OBQ – PC		-.02	-1.40	.28	-.005
OBQ – ICT		-.08	-2.80	0.003	-.041
MCQ–POS		.24	1.30	.01	.030
MCQ–NEG		.08	1.13	.43	.002
MCQ – CC		-.04	-.23	.49	-.000
MCQ – NC		.17	1.73	.09	.012
MCQ–CSC		-.11	-.14	.33	.004

BDI Beck Depression Inventory, BAI Beck Anxiety Inventory, OBQ Obsessive Beliefs Questionnaire, TR overestimates of threat/responsibility subscale, ICT importance of/need to control thoughts subscale, PC perfectionism/certainty subscale, MCQ Metacognition Questionnaire, POS positive beliefs about worry subscale, NEG negative beliefs about the uncontrolla – bility of danger subscale, CC cognitive control subscale, NC need to control thoughts subscale, CSC cognitive self-consciousness subscale, DOCS Dimensional Obsessive-Compulsive Scale, RES responsibility for harm subscale

Unacceptable Thoughts: In Step 1, BDI and BAI explained a significant portion of the variance in DOCS – UT scores ($R^2 = 0.20$, p < 0,001). The addition of the OBQ subscales in Step 2 explained significant additional variance (R^2 change = 0.05, p < 0,001). Adding the MCQ subscales in Step 3 also explained significant additional variance (R^2 change = 0.05, p < ,001). The final model accounted for 31 % of the variance in DOCS – UT scores, F(10, 142) = 8.120, p < 0.001, and BAI, OBQ – ICT, MCQ – CC and MCQ – NC scores emerged as unique, significant predictors (Table 5).

Table 5. Hierarchical regression analysis predicting DOCS-UT scores

	R^2	Beta	T	p	spr^2
Final Model	0.31			< 0.001	
BDI		.07	1.61	.10	.011
BAI		.08	2.40	.01	.025
OBQ – TR		.00	.008	.99	.000
OBQ – PC		.02	.88	.38	.034
OBQ – ICT		.06	2.19	.03	.021
MCQ-POS		-.00	-.02	.97	-.000
MCQ-NEG		.05	.44	.66	.000
MCQ-CC		-.24	-2.03	.003	-.041
MCQ-NC		.33	2.92	.004	.038
MCQ-CSC		-.07	-.56	.57	.001

BDI Beck Depression Inventory, BAI Beck Anxiety Inventory, OBQ Obsessive Beliefs Questionnaire, TR overestimates of threat/responsibility subscale, ICT importance of/need to control thoughts subscale, PC perfectionism/certainty subscale, MCQ Metacognition Questionnaire, POS positive beliefs about worry subscale, NEG negative beliefs about the uncontrolla – bility of danger subscale, CC cognitive control subscale, NC need to control thoughts subscale, CSC cognitive self-consciousness subscale, DOCS Dimensional Obsessive-Compulsive Scale, UT unacceptable thoughts subscale

Symmetry

In step 1 of the model predicting DOCS – SYM, BAI explained a significant portion of the variance (R^2 = 0.11, p < 0.001). The addition of the OBQ subscales in Step 2 accounted for significant additional variance (R^2 change = 0.10, p < 0,001). In Step 3, addition of the MCQ subscales also explained significant additional variance (R^2 change = 0.03, p < 0,001). The final model accounted for 25 % variance in DOCS – SYM scores, $F_{(10, 142)}$ = 6.322, p = < 0.001, BAI, OBQ – PC, OBQ – ICT, MCQ – POS and MCQ – CSC subscales emerged as a significant contributors (Table 6).

Table 6. Hierarchical regression analysis predicting DOCS-SYM scores

	R^2	B	t	p	spr^2
Final Model	0.25			< 0.001	
BDI		.01	.36	.71	.000
BAI		.07	2.26	.02	.024
OBQ – TR		.00	.35	.72	.000
OBQ – PC		.08	3.38	.001	.055
OBQ – ICT		-.08	-3.04	.003	-.045
MCQ-POS		.22	2.41	.01	.028
MCQ-NEG		-.03	-.29	.77	-.000
MCQ-CC		.04	.64	.51	.002
MCQ-NC		.15	1.476	.14	.010
MCQ-CSC		-.24	-2.131	.03	-.022

BDI Beck Depression Inventory, BAI Beck Anxiety Inventory, OBQ Obsessive Beliefs Questionnaire, TR overestimates of threat/responsibility subscale, ICT importance of/need to control thoughts subscale, PC perfectionism/certainty subscale, MCQ Metacognition Questionnaire, POS positive beliefs about worry subscale, NEG negative beliefs about the uncontrolla – bility of danger subscale, CC cognitive control subscale, NC need to control thoughts subscale, CSC cognitive self-consciousness subscale, DOCS Dimensional Obsessive-Compulsive Scale, SYM symmetry subscale

DISCUSSION

In this study, we aimed to explore the predictive values of cognitive and metacognitive variables in OCD symptom dimensions after controlling for depression and anxiety levels. For contamination dimension OBQ – PC; for responsibility dimension BAI, OBQ – TR, OBQ – ICT, and MCQ – POS; for unacceptable thoughts dimensions BAI, OBQ – ICT, MCQ – CC and MCQ – NC; and for symmetry dimension BAI, OBQ – PC, OBQ – ICT, MCQ – POS and MCQ – CSC subscale scores were predictor factors.

The presence of a relationship between obsessive beliefs and OCD has been shown in many studies (6,9,20,21,22). However, in some studies, it has been found that after controlling for anxiety and depression levels, OCD patients and healthy controls did not differ according to obsessive beliefs (23,24). Also, higher levels of obsessive beliefs are not only seen in OCD. The severity of obsessive beliefs has been reported to be higher in patients with depression and anxiety disorders than in healthy controls (25,26). Tolin et al. found that patients with OCD and anxiety disorders did not differ in most belief domains after controlling for depression and anxiety however in our study obsessive and metacognitive beliefs remained as significant contributor factors (23).

Several obsessions have been associated with specific types of obsessive beliefs. Previous studies regarding predictors of contamination dimension found inconsistent results. The contamination dimension was associated with RT in most of the studies (9,21,27). However, in some studies, it has also been shown that obsessive beliefs do not predict contamination symptoms (8,9). On the contrary, in a recent study, it has been reported that all obsessive belief domains were associated with contamination symptoms28. There are also reports regarding washing behaviors associated with perfectionism traits (29,30). In the present study, perfectionism and certainty was the only variable, accounted for little variance (7 %), associated with the contamination dimension. Abovementioned contrary results might be due to the heterogeneous nature of the contamination obsessions, or it could be related to that obsessive patients has different cognitive profile according to their symptom dimensions. Despite the phenomenological overlaps, Rachman has identified two different types of contamination fear. While contact contamination is defined as feelings of dirtiness arise after physical contact with concomitants, mental contamination is differentiated by feelings of internal dirtiness arising without actual contact. In both forms, washing/cleaning behaviors are evoked (31). To our knowledge, cognitive constructs behind these almost identical, but different contamination fears have not been studied yet. Besides contact and mental contamination, Cordeiro et al. mentioned the possible influence of cultural factors on the relationship between dysfunctional beliefs and symptom dimensions (32). In a study with Turkish patients, in which the OCD symptoms were evaluated by The Maudsley Obsessive-Compulsive Inventory, there was no correlation between contamination symptoms and obsessive beliefs (20). The lack of expected association between contamination dimension and obsessive – metacognitive beliefs in our study may also indicate that there are other variables beyond these cognitive constructs. In numerous studies, disgust propensity emerges as a significant variable

associated with contamination obsessions (33,34).

In this study, OBQ – RT predicted DOCS-R, and OBQ – PC predicted DOCS – S. These results are in line with the previous studies (9,26). To our knowledge, there is only one study conducted in a healthy population, evaluating the relationship between empirically derived symptom dimensions (via DOCS), obsessive beliefs, and metacognitions (8). Our study replicates that study and extends it to OCD patients. While in that study OBQ – ICT predicted none of the symptom dimensions, only DOCS – U correlated with OBQ – ICT, in this study OBQ – ICT which is the metacognitive subscale of OBQ predicted all dimensions except DOCS – C. This is consistent with Well's metacognitive model of OCD where metacognitions are in the center of the psychopathology of OCD, and non – metacognitive beliefs like responsibility, overestimation of threat and perfectionism are not OCD specific, are a by-product of metacognitions (12). It has been suggested that obsessive-compulsive symptoms lie on a continuum of severity and for this reason, healthy populations can be used in OCD research (12). It has also been reported that there may be content differences between clinical obsessions and benign intrusions (35) and OCD patients and healthy subjects are found to be different according to awareness and uncontrollability beliefs of their thoughts (36,37). Therefore, metacognitions may distinguish normal and pathological obsessions (38). In the last step of regression analysis, which included metacognitions, MCQ – CC, and MCQ – NC predicted DOCS – U, which is similar to Nance's previous work (8). Besides metacognitions regarding the need for control of the thoughts, metacognitions regarding cognitive confidence might play an important role in the pathology of unacceptable thoughts. MCQ – POS explained significant additional variance in responsibility for harm and symmetry dimensions after obsessive beliefs. MCQ-POS, in which worry is considered as an adaptive – positive response, might explain in the maintenance of these two particular dimensions. Nance et al. also pointed out a possible link between positive beliefs about worry and symmetry symptoms (8). In a clinical study from our country, checking symptoms, which is included in the DOCS-R subscale, were also found to be correlated with MCQ-POS (39).

The current study has several limitations. First, the cross-sectional design of the study prevents us from making causal inferences. Second, obsessive beliefs are not solely specific to OCD, are also associated with depression and anxiety disorders. Although depression and anxiety severity were controlled in regression analysis, the impact of comorbid diagnosis was not evaluated. Another limitation of this study is that a significant proportion of the patients were on medication while others not. Obsessive beliefs and metacognitions are known to be alleviated by drug therapy.

In conclusion, although cognitive beliefs and metacognitions were associated with all OCD symptom dimensions except contamination, metacognitions stand out as more specific structures in understanding OCD symptom dimensions. Understanding dimension-specific cognitive structures are important for elucidating the nature of OCD and developing particular treatment strategies. Further studies, particularly on OCD specific metacognitions, will expand our knowledge about the heterogeneous nature of OCD.

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