Emotion Regulation Difficulties in Obsessive-Compulsive Disorder Presenting with Reactive and Autogenous Obsessions

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Abstract

This study aimed to evaluate the differences in difficulties in emotion regulation (DER) between patients with OCD and healthy controls (HC) and whether a relationship exists between DER and obsession type. Thirty nine OCD patients with autogenous (sexual, religious, aggressive) obsessions and 45 OCD patients with reactive (contamination and symmetry-order) obsessions and 40 HC were evaluated with sociodemographic form, Structured Clinical Interview for DSM-5, Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Beck Anxiety Inventory, Beck Depression Inventory, and Difficulties in Emotion Regulation Scale (DERS). In terms of DERS strategy, non-acceptance, impulse, clarity, and total scores, OCD patients with reactive obsessions had higher scores than HC and lower scores than OCD patients with autogenous obsessions (p<0.05). Y-BOCS score was statistically significant positively correlated with DERS goal, strategy, non-acceptance, impulse, clarity, and total scores (p<0.05). . In OCD participants, our results showed that DER might probably be related with autogenous obsessions. These results may be important for the clinical course and the treatment of OCD.

Keywords: Emotion regulation, obsessive-compulsive disorder (OCD), difficulties in emotion regulation scale (DERS)

Öz

Reaktif ve Otojen Özellikler Gösteren Obsesif Kompulsif Bozuklukta Duygu Düzenleme Güçlüğünün Araştırılması

Bu çalışmanın amacı Obsesif Kompusif Bozukluk (OKB) olan hastalar ve sağlıklı kontroller arasında duygulanım düzenleme güçlüğü açısından farklılıkları ve duygulanım düzenleme güçlüğü ile obsesyon türleri arasındaki ilişkiyi araştırmaktır. Otuz dokuz otojen (cinsellik, dini ve saldırganlık obsesyonu) olan 45 reaktif (kirlenme-bulaşma, simetri-düzen) obsesyonları olan OKB tanılı hasta ve 40 sağlıklı kontrol DSM-5 Bozuklukları için Yapılandırılmış Klinik Görüşme (SCID-5-CV), Yale-Brown Obsesyon Kompulsiyon Ölçeği (Y-BOKÖ), Beck Anksiyete Ölçeği (BAÖ), Beck Depresyon Ölçeği (BDÖ), ve Duygu Düzenleme Güçlükleri Ölçeği (DDGÖ) ile değerlendirildi. Reaktif obsesyonu olan OKB hastalarında DDGÖ stratejiler, kabullenememe, dürtü, açıklık ve toplam puanları açısından sağlıklı kontrollere göre daha yüksek; otojen obsesyonu olanlara göre daha düşük puanlar elde edildi (p<0,05). Y-BOKÖ toplam puanı ve DDGÖ hedef, stratejiler, kabullenememe, dürtü, açıklık ve toplam puanlar arasında istatistiksel olarak anlamlı pozitif korelasyon mevcuttu (p<0,05). Çalışmamızın bulgularına göre otojen obsesyonların geliştiği kişilerde daha çok stres ve emosyon disregülasyonu görülebilir. Duygu düzenleme güçlüklerinin belirlenmesi ve buna yönelik müdahaleler OKB'nin tedavi sürecinde önemli olabilir.

Anahtar Kelimeler: Duygu düzenleme, obsesif kompulsif bozukluk (OKB), duygu düzenleme güçlüğü ölçeği

INTRODUCTION

OCD is characterized by recurrent and persistent thoughts considered as intrusive and unwanted (obsessions), and/or repetitive behaviors or mental acts performed in response to an obsession in the objective of decreasing anxiety (compulsions). OCD has an average incidence of 2% in the general population and can lead to impaired social and professional functionality. The *DSM-5* defines OCD in a distinct category, "obsessive compulsive and related disorders" (American Psychiatry Association, 2013).

Various frameworks for subtyping OCD have been proposed, including subtypes based on patterns of symptoms (e.g., washers vs. checkers), and subtypes based on etiological mechanisms (e.g., whether or not OCD is associated with pediatric streptococcal infection). Scholars have conducted research to explain the subtypes of OCD in its chronic form. For the first time, aggressive, sexual, and religious obsessions without any compulsions have been defined as subtypes of "pure obsession" by Baer (1994). In contrast, Abramowitz et al. (2003) suggested that these symptom-based pure obsessions, are actually related to mental rituals as compulsions. Williams et al. (2011) suggested that mental difficulties accompany sexual, religious, and aggressive obsessions. Lee and Kwon (2003) offered one classification: autogenous obsessions that tend to erupt suddenly into consciousness without detectable stimuli; are sensed as ego-dystonic; and include sexual, aggressive, or religious thoughts or impulses. In contrast, reactive obsessions are triggered by detectable external stimuli; are sensed as more realistic and rational; and include thoughts about contamination, a mistake, an accident, symmetry-order, etc.

Emotion regulation is a combination of processes involving having an emotion as well as how that emotion is experienced and shown (Gross, 1998). The defining feature of emotion regulation is the activation of a goal to influence the emotion trajectory (Gross et al., 2011). Sometimes this goal itself is the desired end point—for example; I may regulate my sadness in order to feel less sad. At other times, however, an emotion regulation goal is merely a means for achieving some other valued end—for example, I may be motivated to look more interested in a conversation than I really am in order to get a job (Gross, 2015). Cole et al. (1994) asserted that emotion regulation difficulties may include inadequate and excessive regulation. Emotion regulation difficulties may occur in many psychiatric disorders (Aldao et al., 2010; Haynos et al., 2015; Merwin et al., 2013). Data from different

studies conducted to date suggest a connection between emotion regulation difficulties and OCD. Stern et al. (2014) reported that obsessive compulsive symptom severity was associated with emotion regulation difficulties in a non-clinical population. Similarly, in a community-based study, Fergus and Bardeen (2014) maintained that obsessive-compulsive symptom severity was associated with emotion regulation difficulties.

Emotion regulation difficulties have also been observed in anxiety disorders and depression (Aldao et al., 2010). Between 60-80% of OCD patients experience at least one major depressive attack throughout their lifetime, and 30% of patients with OCD have a common anxiety disorder comorbidity. Differentiating whether emotional regulation difficulties in OCD patients are specific to depression and anxiety disorders or OCD is essential. Yap et al. (2018) found that by controlling depression and anxiety, OCD patients had more emotional regulation difficulties than a control group. Another study that investigated emotion regulation difficulties in adolescent OCD patients, more emotional regulation difficulties were found in the OCD group than the healthy group (Yazici & Yazici, 2019).

Researchs examining the link between emotion regulation difficulties and obsession types are limited. However, considering the studies reporting that impulsivity is more common in OCD patients, especially in patients with sexual, religious, and aggressive obsessions (Sahmelikoglu Onur et al., 2016), emotion regulation difficulties may vary in patients with OCD according to their obsessions. Our study, after controlling for anxiety and depression variables, we investigated emotion regulation difficulties features and their link with obsession types by comparing healthy controls and OCD cases that were divided into two groups: one group for autogenous obsessions and the second group for reactive (contamination, symmetry-order) obsessions. We also aimed to reveal any relationship that might exist between emotional regulation difficulties and symptom severity in OCD patients.

METHODS

A total consecutive sample of 84 participants (n=39 sexual, religious, and aggressive obsessions, n=45 reactive obsessions), Turkish, aged 18-65 years, recently diagnosed and/or having been followed up with a diagnosis of OCD, were recruited from Bakirkoy Training and Research Hospital Outpatient

Clinic. Participants with a mental capacity insufficient for verbal communication, or comorbid neurological disorders were excluded from the study. Participants with other *DSM-5* comorbidities were included in the study group, provided that OCD was the primary disorder—in other words, causing significant distress and dysfunction and motivating the patient to seek treatment. Psychiatric diagnoses of the participants were evaluated by applying the Structured Clinical Interview Scale 5 (SCID-5) for DSM-5. The control group consisted of 40 participants aged 18-65 years without any psychiatric disorders according to the SCID-5, without neurological disorders, and sufficient mental capacity for verbal communication. The study protocol was approved by the Bakirkoy Training and Research Hospital Ethics Committee (Jan 7, 2020, protocol number 373). Written informed consent was obtained from all participants prior to enrollment. A sociodemographic data form, the Difficulties in Emotion Regulation Scale (DERS), the Beck Depression Inventory, and the Beck Anxiety Inventory were applied to all participants. Yale-Brown Obsessive Compulsive Scale (Y-BOCS) was used to determine the severity and types of OCD symptoms in the patient group.

Socio-demographic Data Form: This form was prepared by the researcher to obtain the basic demographic data of the participants such as age, gender,education level, marital status, occupation.

Structured Clinical Interview for *DSM-5* (SCID-5): This clinical diagnostic tool, applied by a professional interviewer, is a structured clinical interview scale that investigates the disorders in the *DSM-5* using diagnostic criteria. Originally developed by First et al. (2015), this tool was adapted to Turkish; Elbir et al. (2019) performed its validity and reliability study. For this research, the scale was used to confirm the diagnoses of participants to admit them to the study and to investigate the presence of additional psychiatric diagnoses.

Beck Depression Inventory (BDI): This scale was developed by Beck et al. (1961) and its Turkish validity and reliability studies were conducted by Hisli (1989)**.** In this study, it was used to determine the severity of depression in the participants.

Beck Anxiety Inventory (BAI): Beck et al. (1988) developed BAI, and Ulusoy et al. (1998) conducted Turkish validity and reliability studies. It was used to measure the severity of the anxiety symptoms of the participants in the study.

Difficulties in Emotion Regulation Scale (DERS): It is a self-report scale consisting of 36 items. It evaluates current and clinically relevant difficulties regarding emotion regulation. The participants were asked to evaluate the frequency of the expression presented to them using a 5-point Likert-type scale (1 = almost never, 5 = almost always). The participants were asked to evaluate the frequency of the expression presented to them using a 5-point Likert-type scale (1 = almost never, 5 = almost always). It consists of six subscale: 1) nonacceptance of emotional responses (nonacceptance), 2) difficulty engaging in goal-directed behavior (goals),3) impulse control difficulties (impulse), 4) lack of awareness of emotions (awareness),5) limited access to strategies for effective emotion regulation (strategies), 6) lack of emotional clarity (clarity) (Gratz & Roemer, 2004; Bardeen et al., 2012). The validity and reliability studies of the scale in our country were performed by Rugancı and Gençöz (2010). The Turkish version reveals a factor structure very similar to the original version, good values for temporal stability, internal consistency (Cronbach α=, 93) and good levels of external validity. In this study, the total DERS score obtained from all items and subscales were used, with higher scores indicating worse emotional regulation.

Yale-Brown Obsessive Compulsive Scale (Y-BOCS): This scale is used to measure the type and severity of OCD symptoms. Y-BOCS developed by Goodman (1989) and the validity and reliability studies in Turkish were conducted by Karamustafalıoğlu et al. (1993). It is a semi-structured scale and consists of 19 items. Although the scale consists of 19 items, only the first 10 are used to measure the severity of symptoms. There are 5 items each for obsessions and compulsions that are scored 0-4 points, for a maximum total score of 40. Total scores indicate different levels of psychopathology, as follows: 0-7: subclinical; 8-15: mild; 16-23: moderate; 24-31: severe; 31-40: very severe.

Statistical Analysis

Statistical analysis was performed using the SPSS 22.0 for Windows statistical software. Statistically significance was considered as p<0.05.

Descriptive statistical methods (median, standard deviation, frequency and ratio values) were used. The Kolmogorov-Smirnov test was used to assess the distribution of the variables. . In comparison of qualitative data,

four-sided and multiple-sided chi-square tests were used; Fisher's exact test was used when necessary. Quantitative independent data with normal distribution between OCD groups were compered using the independent samples t-test. One-way ANOVA and post hoc analyzes were applied to compare sociodemographic data and DERS scores of the groups. Spearman correlation analysis was used for correlation analysis between Y-BOCS Score and DERS Scores in the OCD groups.

RESULTS

The sample of the study consisted of 124 participant, including 39 OCD patients with (31.45%) autogenous obsessions, 45 (36.29%) OCD patients with reactive obsessions and 40 (32.26%) healthy controls. There was no statistically significant difference between the groups in terms of age, education, sex and marital status (p>0.05). There were more unemployed participants in OCD patients with reactive obsessions compared to controls (p<0.05). Demographic characteristics are shown in Table 1.

Clinical characteristics in OCD groups are shown in Table 2. The medication were as: 29 (74.4%) Selective serotonin reuptake inhibitors (SSRI), 9 (23.1%) SSRI+antipsychotic, 1 (2.6%) SSRI+antipsychotic+anxiolytic in autogenous obsessions; whereas 26 (57.8%) SSRI, 4 (8.9%) Serotonin norepinephrine reuptake inhibitors (SNRI), 13 (28.9%) SSRI+antipsychotic, 1 (2.2%) SSRI+Anxiolytic, 1 (2.2%)

antipsychotic in reactive obsessions. Comorbidity of psychiatric disease (life-long) were as 8 (57.1%) depression, 4 (28.6%) panic disorder, 1 (7.1%) Social anxiety disorder and 1 (%7.1) post traumatic stress disorder (PTSD) in autogenous obsessions whereas 13 (86.7%) depression, 1 (6.7%) panic disorder, and 1 (6.7%) PTSD in reactive obsessions. There was no statistically significant difference between the groups in terms of age of onset, Y-BOCS score, hospitalization, suicid attempt, medication and comorbidity of psychiatric disease (p>0.05).

ANOVA results to evaluate whether there is a difference in terms of DERS scores among groups are presented in Table 3. There were statistically significant differences between the groups in terms of DERS goal (f=5.771, p:0.004), strategy (f=120.003, p<0.01), non-acceptance (f=117.406, p<0.01), impulse (f=63.980, p<0.01), clarity (f=82.451, p<0.01), awareness (f=7.633, p=0.001) and total scores (f=123.446, p<0.01). It was revealed that OCD patients with reactive obsessions had higher scores than control group and lower scores than OCD patients with autogenous obsessions in terms of DERS strategy, non-acceptance, impulse, clarity and total scores (p<0.05). There was not statistically significant difference between patient groups in terms of goal and awareness scores. (Table 3)

A statistically significant positive correlation was observed between the Y-BOCS score and DERS goal, strategy, non-acceptance, impulse, clarity, total scores in the OCD group (p<0.05) (Table 4).

Table 1: Comparison of sociodemographic variables of groups										
		Autogenous obsessions (n=39)			Reactive obsessions (n=45)			HC (n=40)		f	p
		Mean ± SD/n-%			Mean ± SD/n-%			Mean ± SD/n-%			
Age		34.0	±	11.0	37.1	±	12.0	33.4	±	10.1	1.4	0.258
Education		10.6	±	3.7	10.0	±	3.4	11.4	±	2.0	2.1	0.129
Sex	Female	23		59.0%	34		75.6%	24		60.0%	1.641	0.198
	Male	16		41.0%	11		24.4%	16		40.0%		
Employment Status	Employed	21		53.8%	20		44.4%	19		47.5%	9.867	0.000
	Unemployed	18		46.2%	25		55.6%	21		52.5%		
Marital Status	Single	16		41.0%	13		28.9%	13		32.5%	0.298	0.743
	Married	20		51.3%	30		66.7%	24		60.0%		
	Divorced/Widow	3		7.7%	2		4.4%	3		7.5%		
BAI		5	±	1.9	3.7	±	1.9	4	±	2.5	2.9	0.061
BDI		5	±	1.7	3.8	±	1.8	5	±	3.2	3.0	0.053
One way Anova; HC, healthy control; SD, standard deviation; BAI, Beck anxiety inventory; BDI, Beck depression inventory. n: number of participants											

Table 2: Clinical characteristics of OCD groups

		Autogenous obsessions (n=39)			Reactive obsessions (n=45)					
		Mean ± SD			Mean ± SD				p	
Age of onset		23.9	±	7.4	24.3	±	7.5		p: 0.789	t
Y-BOCS Score		30.6	±	8.4	27.8	±	8.7		p: 0.139	t
		n		%	n		%	df	X^2/p	
Hospitalization	Present	4		10.3%	3		6.7%		p: 0.699	*
	Absent	39		89.7%	42		93.3%			
Suicid attempt	Present	5		12.8%	4		8.9%		p: 0.727	*
	Absent	34		87.2%	41		91.1%			
Medication	SSRI	29		74.4%	26		57.8%	1	X^2: 2.541	X^2
	Other	10		25.6%	19		42.2%		p: 0.111	
Comorbidity of any psychiatric disease (life-long)	Present	14		35.9%	15		33.3%	1	X^2: 0.215	X^2
	Absent	25		64.1%	31		66.7%		p: 0.643	
Type of comorbid psychiatric disease	Depression	8		57.1%	13		86.7%		p: 0.109	*
	Other	6		49.2%	2		13.3%			

t Student's t test/X2 chi square test; *Fisher's exact test; SD, standard deviation; SSRI, selective serotonin reuptake inhibitors; Y-BOCS, Yale Brown obsession compulsion scale. n:number of participants

Table 3: Comparison of DERS scores among OCD and HC groups

	Autogenous obsessions (n=39)			Reactive obsessions (n=45)			HC (n=40)			F	p	Post-hoc
	Mean ± SD			Mean ± SD			Mean ± SD					
Goal	15.9	±	2.3	15.3	±	1.8	14.5	±	1.7	5.771	0.004	1=2>3
Strategy	31.7	±	4.5	22.0	±	6.6	13.3	±	4.2	120.003	0.000	1>2>3
Non-acceptance	23.7	±	3.9	16.2	±	4.5	10.2	±	3.3	117.406	0.000	1>2>3
Impulse	24.8	±	6.8	16.6	±	5.0	11.0	±	4.3	63.980	0.000	1>2>3
Clarity	20.4	±	4.5	13.7	±	4.2	9.1	±	2.8	82.451	0.000	1>2>3
Awareness	17.7	±	3.7	16.8	±	3.0	14.9	±	3.1	7.633	0.001	1=2>3
Total	134.1	±	16.4	99.7	±	21.0	73.7	±	12.2	123.446	0.000	1>2>3

One way Anova, Post hoc, tukey; OCD, obsessive compulsive disorder; HC, healthy control; SD, standard deviation; 1, autogenous obsessions; 2, reactive obsessions obsessions; 3, control.

Table 4: Relationship between Y-BOCS score and DERS scores in the OCD group

DERS		Y-BOCS score
Goal	r	0.295
	p	0.006
Strategy	r	0.434
	p	0.000
Non-acceptance	r	0.394
	p	0.000
Impulse	r	0.350
	p	0.001
Clarity	r	0.295
	p	0.006
Awareness	r	0.022
	p	0.840
Total	r	0.395
	p	0.000

Spearman correlation, DERS, difficulties in Emotion Regulation Scale; Y-BOCS, Yale Brown obsession compulsion scale.

DISCUSSION

Our study focused on the association between obsession types and emotion regulation difficulties in patients with OCD. These patients displayed higher scores in all sub-dimensions of the DERS compared to the control participants despite the absence of any difference in anxiety and depression between groups. Moreover, participants having autogenous obsessions demonstrated increased levels in the strategy, non-acceptance, impulse, and clarity areas than both the controls and OCD patients with reactive obsessions. Interestingly, our findings differ in some points from previous studies regarding the relationship between obsession types and DERS subdimensions.

Higher scores for non-acceptance for the OCD group compared to the controls are consistent with the emotion regulation model for OCD. Gross's model exhibits a progression

from situation selection to direction of attention and then appraisal and response (Gross, 1998; Gross & John, 2003). Fergus at al. (2014) suggested that directing attention to suppress emotions could be less important than motivation in link to obsessive compulsive symptoms. From this perspective, the higher scores of non-acceptance in the OCD group compared to controls in the current study imply that compulsions can be viewed as a way to suppress or avoid experiencing emotions. Moreover, Stern et al.'s speculation that the motivation to avoid emotions might underlie OCD, in that compulsion may be used to reduce emotional distress engendered by an intrusive thought. Patients' poorer understanding of their emotions, reflecting a lack of emotional clarity, is consistent with our results that those with autogenous obsessions had higher clarity scores compared to OCD patients with reactive obsessions and controls (Stern et al., 2014). Consistent with this rationale, OCD patients tend to seek immediate relief through maladaptive avoidance behaviors while having difficulty remaining in control of behavior when suffering emotional distress. The tendency to act impulsively in response to emotional distress has been shown to associate with maladaptive behaviors as attempts to reduce or avoid negative emotional experiences (Cyders & Smith, 2008). Benatti et al. (2014) reported higher total Barratt impulsiveness scale (BIS) scores in OCD patients compared to controls. It was stated by Fineberg et al. (2010) that compulsive actions and impulsivity share common neural correlations and distinctions that overlap. Summerfield et al. (2004) compared OCD participants with and without tic related disorders in terms of obsession types. They noted that patients with OCD and comorbid tic-related disorders displayed a bigger ratio of religious, sexual, or aggressive obsessions as well as higher scores for impulsivity compared to OCD patients without comorbid tic-related disorders. Notably, likewise Summerfeld et al., in our study same OCD groups showed higher impulsivity scores compared to other OCD groups and HCs. Moreover, our findings indicated higher impulsivity scores in the patient group than the controls, according to past reports. Leckman et al. (2001) divided OCD patients into four groups according to their symptoms. The first group included participants with control compulsion and religious, sexual or aggressive obsessions. The second one consisted of participants with symmetry obsession and repeating rituals, counting compulsions, and ordering/arranging compulsions. The third group included participants with contamination obsessions and a cleaning compulsion. The fourth group consisted of participants with hoarding obsessions and compulsions. The results

suggested that OCD may be a spectrum of disorders that includes subgroups based on neurobiological points. Hasler et al. (2005) also mentioned the similarities of participants with religious, sexual, aggressive, and somatic obsessions in terms of concomitant psychiatric disorders and proposed that these obsession categories could be part of a common subtype. Higher impulsivity scores in patients with sexual, religious, or aggressive scores may support the idea of these obsessions sharing a common background.

We found significant positive correlations between measures of obsessive-compulsive symptoms (Y-BOCS) and subdimensions of DERS goal, strategy, non-acceptance, impulse, clarity, total scores in the total OCD sample. A similar relation noted in an another study investigating emotion regulation difficulties in patients with OCD and hoarding disorder (Fernández de la Cruz et al., 2013). Participants in both disease groups scored higher in all DERS subscale scores except the awareness subscale compare to healthy participants. In addition, the researchers noted a moderate relationship between increased OCD severity and greater emotional dysregulation. In contrast, no significant relationship was found between the severity of hoarding disorder and emotion regulation difficulties.

In terms of methodological limitations, the points below must be considered. Comparing OCD participants with HCs might have emphasized the difficulties in emotion regulation associated with lifelong psychiatric disorders. Moreover, the interpretation of the findings did not account for ongoing psychotherapy or pharmacotherapy. Lastly, self-report scales were used in the study, but the results could not be confirmed with more objective tests. It should be not forgotten, because OCD patients participating in this study are OCD members seeking help in the community, the results of the study may not be generalized for the whole OCD population.

CONCLUSIONS

In OCD participants, our results showed that difficulties in emotion regulation might probably be related with autogenous obsessions in this study. Our findings may have an impact on the neurobiology, treatment choice, and course of OCD. Additionally, objective researches, with higher number of participants in the sample groups and with different reactive obsession (other than contamination and symmetry-order obsessions) types are promising for the conceptualization of OCD.

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