Obsessive-Compulsive Disorder During the Initial Stage of COVID-19 Pandemic

Effect of Contamination Symptoms and Poor Insight on Obsessive-Compulsive Disorder Exacerbation

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Abstract: We aimed to investigate the effect of the COVID-19 pandemic on the symptom severity and dimensions of obsessive-compulsive disorder (OCD) and how patients with different levels of insight have been impacted by the pandemic. This study included 58 patients with OCD. The Yale-Brown Obsessive Compulsive Scale (Y-BOCS)–Obsession, Y-BOCS–Compulsion, and Y-BOCS–Total scores during the pandemic were significantly higher than the prepandemic scores ($p = 0.001$, $p < 0.001$, $p = 0.002$, respectively). Compared with the pre-COVID-19 period, severity of OCD symptoms increased in 39.7% patients, remained the same in 44.8% patients, and reduced in 15.5% patients during the pandemic. The obsession with contamination, Brown Assessment of Beliefs Scale (for insight assessment) score, and time spent following the news/data about COVID-19 were significantly associated with an increase in OCD severity. In patients with contamination obsessions as well as poor insight, close monitoring and facilitating access to treatment may reduce the negative impact of the COVID-19 pandemic.

Key Words: Obsessive-compulsive disorder, coronavirus disease, insight, contamination, washing

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The outbreak of coronavirus disease (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was declared a pandemic by the World Health Organization (WHO) in December 2019 (WHO, 2020). In Turkey, the first case was reported on March 11, 2020.

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Ethical procedures: Informed consent was obtained from all participants.

This study was approved by the Ethical Commission of Balikesir University (decision number 2020/110).

In countries affected by the pandemic, important negative situations have occurred in economic and social life, including social isolation, increased unemployment rate, overloading of the health system, and difficulty in accessing health care services for patients without COVID-19. Pandemics have been shown to significantly increase psychological stress (Wang et al., 2020). Endogenous and exogenous stressors (financial and professional difficulties, interpersonal crises, and mental illness), biological factors, and psychological factors have a synergistic role on suicide (De Berardis et al., 2018; Orsolini et al., 2020). Furthermore, psychosocial difficulties and environmental stressors during pandemics may also cause an increase in suicidal behaviors. Patients with obsessive-compulsive disorder (OCD) are sensitive to psychological distress, and their symptoms may be exacerbated in cases of external stress such as a pandemic (Cordeiro et al., 2015; Pozza et al., 2020).

The transmission of SARS-CoV-2 from people and contaminated surfaces by direct contact and the need to strictly follow the hygiene rules to prevent transmission create a challenging environment for patients with OCD. Information on the prevalence of COVID-19, its contagion, prevention measures, and the number of daily sick and dead people has been constantly conveyed on television and social media platforms. The following recommendations have been made by the WHO, the Centers for Disease Control and Prevention, and the Ministry of Health of the Republic of Turkey to protect people from infection with SARS-CoV-2: "To protect yourself and others against COVID-19, clean your hands regularly and thoroughly," "Wash your hands often with soap and water for at least 20 seconds, especially after you have been in a public place," "If soap and water are not readily available, use a hand sanitizer that contains at least 60% alcohol. Cover all surfaces of your hands and rub them together until they feel dry," "Clean and disinfect surfaces frequently, especially those that are regularly touched such as doors, handles, and faucets" (CDC, 2021; Republic of Turkey Ministry of Health, 2021; WHO, 2021). In addition to continuous exposure to COVID-19-related publications, these strong recommendations by health authorities and governments may exacerbate the symptoms of patients with OCD, especially in those with contamination-type obsessions and washing-type compulsions. Furthermore, the pandemic may affect the general phenotype of the disease and the symptom severity of OCD (Fontenelle and Miguel, 2020; Tanir et al., 2020). Investigation of the effect of the COVID-19 pandemic on different symptom dimensions may help to reveal the effect of the pandemic on the phenomenology of OCD.

Patients with OCD and poor insight can be categorized into a specific clinical type that is associated with more severe symptoms, worse response to behavioral therapy and medication, and increased level of disability (Bellino et al., 2005; Kishore et al., 2004; Nissen and Parner, 2018). Moreover, low levels of insight may negatively affect patients' ability to modify their irrational beliefs (Kashyap et al., 2012). In addition, patients with more pronounced irrational beliefs and less insight may be more affected by the aspects of the pandemic that are considered particularly challenging for patients with OCD.

Few studies have investigated the effect of the COVID-19 pandemic on patients with OCD, and previous studies on this topic have reported controversial results, indicating a need to accumulate more data (Zaccari et al., 2021). Some previous studies have reported an increase in the severity of OCD during the COVID-19 pandemic (Benatti et al., 2020; Davide et al., 2020; Matsunaga et al., 2020; Tanir et al., 2020). In addition to this increase in symptom severity, new obsessions and compulsions have been shown to occur in 6% to 13% patients (Davide et al., 2020; Matsunaga et al., 2020; Tanir et al., 2020). In contrast, other studies have shown that the symptoms of patients diagnosed with OCD did not intensify after the pandemic, with no new type of obsessions and compulsions recorded; in fact, obsessive-compulsive symptoms and functionality improved in most patients (Chakrabort and Karmakar, 2020; Schwartz-Lifshitz et al., 2021).

However, the existing studies have several limitations. Some studies included only patients with contamination OCD symptoms (Chakrabort and Karmakar, 2020) or only those presenting to the emergency department with OCD (Matsunaga et al., 2020). Moreover, in some studies, the patients were evaluated using a nonvalidated self-rated questionnaire developed by the researchers or without a face-to-face interview. In other studies, the change in symptom severity was evaluated without making a direct comparison with the data of the patients before the pandemic (Benatti et al., 2020; Jelinek et al., 2021; Littman et al., 2020; Nissen et al., 2020).

Therefore, this study aimed to investigate the effects of the acute period of the COVID-19 pandemic on disease severity, obsession-compulsion types, and different symptom dimensions in patients who were followed up at a specific OCD outpatient clinic of a tertiary hospital. In addition, this study aimed to investigate how patients with different levels of insight were affected by the pandemic and the effect of the level of insight on the change in disease severity. We hypothesized that OCD severity would increase during the acute phase of the COVID-19 pandemic, and this increase would be associated with contamination-type obsessions and poor insight.

METHODS

Participants and Procedure

This cross-sectional study enrolled patients with OCD aged 18 to 65 years who were followed up at a specific OCD outpatient clinic of Balıkesir Atatürk Training and Research Hospital, Balıkesir, Turkey. Patients who did not volunteer to participate in the study; patients with psychotic disorders, bipolar affective disorder, and alcohol/substance use disorders (diagnosed according to The Structured Clinical Interview for *DSM-5* Disorders, Clinician Version [SCID-5-CV]); patients with mild cognitive impairment, dementia, mental retardation, and organic mental disorders; patients with severe neurological disorders (*i. e.*, cerebrovascular incident, brain injury, multiple sclerosis, history of frequent seizures in the past 3 months) that could affect the scale scores; patients with any visual/auditory disabilities that interfered with psychiatric evaluation and prevented the application of scales; and illiterate patients were excluded from the study. Only patients aged 18 to 65 years who were diagnosed with OCD and had a stable medical condition for at least 3 months at the last evaluation before the COVID-19 pandemic were included. After scanning the medical records of the patients followed up in the OCD outpatient clinic, 71 patients who met the eligibility criteria were identified. After excluding 3 patients who could not be reached by phone, 2 patients who moved to a different city, 1 patient who did not want to participate in the study, and 7 patients who had missing prepandemic data (missing data on Yale-Brown Obsessive Compulsive Scale [Y-BOCS] scores in one patient, Dimensional Obsessive Compulsive Scale [DOCS] scores in one patient, Brown Assessment of Beliefs Scale [BABS] scores in two patients, and Beck Anxiety Inventory [BAI] scores in three patients), 58 patients were finally included. The SCID-5-CV (Elbir et al., 2019; First et al., 2016) was administered by an experienced psychiatrist at the first admission to the outpatient clinic for the evaluation of OCD and comorbid psychiatric diagnoses. Patient evaluation was performed with face-to-face interviews following the hygiene and distance rules between July 1 and August 15, 2020. Data obtained from this interview and the last clinical data obtained from the medical records before March 11, 2020 were compared. Data on sociodemographics and obsession and compulsion types (determined based on Y-BOCS Symptom Checklist [Y-BOCS-SC]; obsession, compulsion, and total scores [Y-BOCS]; obsessive-compulsive dimension scores [DOCS], BABS score for insight assessment, Beck Depression Inventory [BDI] scores, and BAI scores) were obtained from the patients' medical reports and face-to-face interviews. Data on previous exposure to SARS-CoV-2, remote working, and the time spent following the news/data about COVID-19 from social media or television (preoccupation about COVID-19) were also obtained from face-to-face interviews.

Informed consent was obtained from all participants. This study was performed in accordance with the ethical principles of the Declaration of Helsinki. This study was approved by the Ethical Commission of Balikesir University (decision number 2020/110).

Measures

Yale-Brown Obsessive Compulsive Scale

The Y-BOCS is a semistructured clinician-administered interview that assesses the severity of OCD symptoms over the previous week. The Y-BOCS consists of 10 items: 5 items assess the severity of obsessions and 5 items assess the severity of compulsions. Each item was scored from 0 to 4. Total severity score is obtained with the sum of 10 items. Total score ranges between 0 (none) and 40 (most severe). A total score of 16 or higher indicates clinically significant OCD symptoms (Goodman et al., 1989; Samanta et al., 2013). The Turkish adaptation, validity, and reliability study was conducted by Karamustafalıoğlu et al. (1993).

Dimensional Obsessive Compulsive Scale

The DOCS is a self-report questionnaire consisting of 20 items assessing obsessive-compulsive symptom dimensions. This scale evaluates OCD in four different dimensions: (1) contamination, (2) responsibility for harm or mistakes, (3) incompleteness, and (4) unacceptable thoughts. For each dimension, there are five items scored between 0 (none) and 4 (severe). These items are (a) time spent with the symptoms, (b) avoidance behavior, (c) distress experienced, (d) impairment/deterioration in functionality, and (e) difficulty in coping with the symptoms. Scores range between 0 and 20 for each dimension. A high score in any dimension indicates that the symptoms related to this dimension are severe (Abramowitz et al., 2010). The Turkish version of DOCS demonstrates sound psychometric properties (Şafak et al., 2017).

Brown Assessment of Beliefs Scale

The BABS is a reliable and valid instrument for assessing insight in a number of psychiatric disorders including OCD. The semistructural scale is administered by clinician and was designed to determine insight depending on the power of belief. The BABS consists of seven items. Each item is scored between 0 and 4. The total score (0: delusional–24: excellent insight) is obtained by adding the first six items. A higher score indicates weakened insight, and if the total score is 12 or higher and 3 or more points are obtained from the first item, the patient is considered to have poor insight (Eisen et al., 1998). The Turkish version of BABS demonstrates excellent psychometric properties (Özcan et al., 2013).

Statistics

The research data were evaluated using the Statistical Package for Social Sciences for Windows v. 22.0 (SPSS Inc, Chicago, IL).

TABLE 1. Sociodemographic and Clinical Data of Patients (*n* = 58)

	Mean ± SD/*n* (%)
Age, y	32.1 ± 10.0
Sex (women)	31 (53.4)
Marital status (married)	31 (53.4)
Years of education	12.8 ± 3
Working status	
Working	42 (72.4)
Not working	9 (15.5)
Student	7 (12.1)
Remote working status (yes)	19 (32.8)
Self/first-degree relative/friend known to have had COVID-19 (yes)	6 (10.3)
Preoccupation about COVID-19, min/d	73.8 ± 50.6
OCD age of onset, y	19.3 ± 6.1
Level of insight	
Poor	8 (13.8)
Good	50 (86.2)
Psychiatric medication	
Antidepressants (AD)	40 (69.0)
AD + antipsychotics (AP)	14 (24.1)
AD + AP + benzodiazepines	4 (6.9)
Clinically significant OCD symptoms	
Y-BOCS ≥16	26 (44.8)
Change in OCD symptom severity compared with the pre-COVID-19 pandemic period (Y-BOCS-T scores during the pandemic − Y-BOCS-T scores before the pandemic)	
Increased	23 (39.7)
No change	26 (44.8)
Decreased	9 (15.59)

Descriptive statistics are presented as mean ± SD, frequency distribution, and percentage. The Kolmogorov-Smirnov test was used to evaluate whether the data conformed to a normal distribution. The Mann-Whitney *U* and Wilcoxon signed-rank tests were used to analyze continuous variables. The chi-square and Fisher's exact tests were used for categorical variables, and the McNemar test was used for repeated measurements of the same group. Binary logistic regression analysis was used to determine the variables associated with the increase in OCD severity after the COVID-19 pandemic. The statistical significance level was set at $p < 0.05$.

RESULTS

This study included 58 patients diagnosed with OCD. Thirty-one (53.4%) patients were women, and the mean patient age was 32.1 ± 10.0 years. The mean duration of preoccupation about COVID-19 (the time spent following the news/data about COVID-19 from social media or television) was 73.87 ± 50.67 min/d. The sociodemographic and clinical data of the patients are presented in Table 1.

More than one-third of the patients (*n* = 23, 39.7%) had an increase in OCD severity during the pandemic, as measured by the Y-BOCS total score, compared with before the pandemic. During the pandemic, the OCD severity in 26 (44.8%) patients remained the same as that before the pandemic. The symptom severity decreased in nine (15.5%) patients during the pandemic compared with before the pandemic (Table 1). During the pandemic, a new type of obsession occurred in two patients

(contamination type and symmetry type). Furthermore, there was an increase in the proportion of patients with poor insight and those with clinically significant OCD symptoms (Y-BOCS-T score ≥16) during the pandemic compared with before the pandemic, but the increase was not statistically significant (Table 2).

The Y-BOCS-O, Y-BOCS-C, and Y-BOCS-T scores were significantly higher during the pandemic than before the pandemic ($p = 0.001$, $p > 0.001$, and $p = 0.002$, respectively). There was an increase in the DOCS "contamination," "responsibility for harm or mistakes," and "completeness dimension" scores during the pandemic compared with before the pandemic, but this increase was statistically significant only in the contamination dimension ($p = 0.004$, $p = 0.750$, and $p = 0.192$, respectively). The BABS-T score was

TABLE 2. Comparison of the Clinical Data of Patients Before and During the COVID-19 Pandemic (*n* = 58)

	Before COVID-19 Pandemic, Mean ± SD/*n* (%)	Acute Stage of COVID-19 Pandemic, Mean ± SD/*n* (%)	*p*
Type of obsessions			
Contamination	30 (51.7)	31 (53.4)	1.000[a]
Aggressive	6 (10.3)	6 (10.3)	1.000[a]
Sexual	8 (13.8)	8 (13.8)	1.000[a]
Hoarding	3 (5.2)	3 (5.2)	1.000[a]
Religious	14 (24.1)	14 (24.1)	1.000[a]
Symmetry	23 (39.7)	24 (41.4)	1.000[a]
Somatic	4 (6.9)	4 (6.9)	1.000[a]
Miscellaneous	8 (13.8)	8 (13.8)	1.000[a]
Type of compulsions			
Cleaning/washing	29 (50.0)	30 (51.8)	1.000[a]
Repeating	9 (15.5)	9 (15.5)	1.000[a]
Arranging/ordering	19 (32.8)	20 (34.5)	1.000[a]
Counting	17 (29.3)	17 (29.3)	1.000[a]
Hoarding	3 (5.2)	3 (5.2)	1.000[a]
Miscellaneous	14 (24.1)	14 (24.1)	1.000[a]
Y-BOCS-Total	16.8 ± 5.8	18.2 ± 6.8	**0.002**[b]
Y-BOCS-Obsession	8.8 ± 2.6	9.5 ± 3.2	**0.001**[b]
Y-BOCS-Compulsion	8.0 ± 3.3	8.9 ± 3.9	**<0.001**[b]
DOCS (OCD dimensions)			
Contamination	8.1 ± 6.0	8.8 ± 6.2	**0.004**[b]
Responsibility for harm or mistakes	8.3 ± 6.4	8.6 ± 6.0	0.750[b]
Unacceptable thoughts	6.2 ± 6.3	6.0 ± 5.9	0.255[b]
Incompleteness	5.4 ± 5.8	5.6 ± 5.4	0.192[b]
BABS-Total	7.99 ± 3.7	9.01 ± 3.4	**0.026**[b]
Insight			
Poor	11 (19.0)	13 (22.4)	0.625[a]
Good	47 (81.0)	45 (77.6)	
Clinically significant OCD symptoms			
Y-BOCS ≥16	26 (44.8)	31 (53.4)	0.227[a]
BAI	15.3 ± 9.4	16.18 ± 8.5	**0.018**[b]
BDI	15.5 ± 9.3	16.3 ± 9.7	**0.001**[b]

%: Column percentage.

[a] McNemar test.

[b] Wilcoxon signed rank test.

Statistically significant results are in bold.

significantly higher during the pandemic than before the pandemic ($p = 0.026$) (Table 2).

Various sociodemographic and clinical data of patients with and without an increase in OCD severity during the COVID-19 pandemic were compared. In the patient group with increased OCD severity, the rate of contamination obsession, washing compulsion, and poor insight was significantly higher than that in the patient group without an increase. The BABS-T score, daily preoccupation about COVID-19, and BAI scores during the pandemic were significantly higher in patients with an increase in OCD severity than in those without an increase in OCD severity ($p < 0.001$, $p < 0.001$, and $p = 0.048$, respectively; Table 3).

After univariate analyses, binary logistic regression analysis was performed to determine the parameters associated with an increase in OCD severity during the pandemic. Although an increase in OCD symptom severity was accepted as the dependent variable, obsession of contamination, BABS-T score, preoccupation about COVID-19, and BAI score during the COVID-19 were included in the model as independent variables. Our model was valid (Hosmer and Lemeshow test $X^2 = 1.935$, $df = 7$, $p = 0.963$), and binary logistic regression was

TABLE 3. Comparison of Sociodemographic and Clinical Data of Patients With and Without Increased OCD Symptom Severity ($n = 58$)

	Patients With Increased OCD Symptom Severity Mean ± SD/n (%)	Patients Without Increased OCD Symptom Severity Mean ± SD/n (%)	p
Age	34.2 ± 9.4	30.7 ± 10.4	0.079[a]
Sex (women)	13 (37.1)	22 (62.9)	0.629[b]
Marital status (married)	13 (37.0)	18 (58.1)	0.704[b]
Years of education	13.0 ± 3.24	12.6 ± 2.9	0.608[a]
Remote working (yes)	7 (36.8)	12 (63.2)	0.760[b]
Type of obsessions			
Contamination	21 (70.0)	9 (30.0)	**<0.001[b]**
Aggressive	2 (33.3)	4 (66.7)	0.552[b]
Sexual	1 (12.5)	7 (87.5)	0.903[b]
Hoarding	1 (33.3)	2 (66.79	0.656[b]
Religious	3 (21.4)	11 (78.6)	0.901[b]
Symmetry	11 (47.8)	12 (52.2)	0.302[b]
Somatic	2 (50)	2 (50)	0.522[b]
Miscellaneous	5 (62.5)	3 (37.5)	0.151[b]
Type of compulsion			
Cleaning/washing	21 (72.4)	8 (27.6)	**<0.001[b]**
Repeating	4 (44.4)	5 (55.6)	0.513[b]
Arranging/ordering	10 (52.6)	9 (47.4)	0.159[b]
Counting	6 (35.3)	11 (64.7)	0.662[b]
Hoarding	1 (33.3)	2 (66.7)	0.656[b]
Miscellaneous	4 (28.6)	10 (71.4)	0.330[b]
Insight			
Poor	10 (90.9)	1 (9.1)	**<0.001[b]**
Good	13 (27.7)	34 (72.3)	
Clinically significant OCD symptoms			
Y-BOCS ≥16	13 (50.0)	13 (50.0)	0.147[b]
Psychiatric medication			
Antidepressants (AD)	17 (42.5)	23 (57.5)	0.746[b]
AD + antipsychotics (AP)	5 (35.7)	9 (64.3)	
AD + AP + benzodiazepines	1 (25.0)	3 (75.0)	
OCD age of onset, y	20.4 ± 6.9	18.6 ± 5.5	0.468[a]
Time spent following the news about COVID-19 (min/d)	101.1 ± 37.3	51.5 ± 22.6	**<0.001[a]**
Self/first-degree relative/friend known to have had COVID-19			
Yes	3 (50)	3 (50)	0.673[b]
No	20 (38.5)	32 (61.5)	
BABS-Total	11.47 ± 2.87	5.65 ± 1.92	**<0.001[a]**
BAI during COVID-19	19.56 ± 10.84	13.98 ± 5.81	**0.048[a]**

%: Row percentage.

[a] Mann-Whitney U test.

[b] Chi-square test.

Statistically significant results are in bold.

TABLE 4. Regression Analysis for the Predictors of an Increase in Y-BOCS

Variables	Wald	*p*	Exp (B)	95% CI for Exp (B)
Contamination obsession[a]	4.040	**0.044**	4.917	1.097–15.260
BABS-Total	5.198	**0.023**	2.572	1.142–5.793
Time spent following the news about COVID-19, h/d	4.726	**0.030**	1.076	1.007–1.149
BAI during COVID-19	0.020	0.887	0.981	0.752–1.279

Exp (B): odds ratio.

95% CI, 95% confidence interval.

[a] Reference, absence: 0; presence: 1.

Statistically significant results are in bold.

significant overall (Omnibus test X^2 = 64.586, df = 4, p < 0.001). Among the variables included in the model, obsession with contamination, BABS-T score, and daily preoccupation about COVID-19 predicted increase in disease severity during the pandemic (Table 4).

DISCUSSION

In this study, obsessions, compulsions, and general disease severity were significantly increased during the pandemic compared with before the pandemic. During the COVID-19 pandemic, no new type of obsession or compulsion emerged in all patients, except in two patients. Among the obsessive-compulsive symptom dimensions, only the contamination dimension score significantly increased during the pandemic compared with before the pandemic. In the patient group with poor insight, the proportion of patients with an increase in OCD symptom severity was significantly higher than that in the patient group with good insight. Moreover, obsession with contamination, BABS-T score, and time spent following news/data about COVID-19 (preoccupation about COVID-19) were predictors of the increase in OCD severity during the initial stage of the pandemic.

Similar to our results, various studies investigating the acute effect of the COVID-19 pandemic on OCD symptom severity have reported an increase in obsessions, compulsions, and general disease severity during the pandemic compared with those before the pandemic (Davide et al., 2020; Jelinek et al., 2021; Tanir et al., 2020). Patients with preexisting psychiatric disorders are more sensitive to stress during the pandemic period and are at higher risk of exacerbation of symptoms (Banerjee, 2020). Treatment-related factors, such as the difficulties experienced by patients in reaching health care facilities during the pandemic, possible disruptions in medical and psychological treatments, and stressors such as social and economic strain, and uncertainty resulting from quarantine and social isolation may have caused an increase in symptoms. In addition, symptoms of psychological strain, such as fear of contamination with SARS-CoV-2, traumatic stress related to COVID-19, economic difficulties that may occur because of COVID-19, COVID-19-related compulsive checking, and reassurance behaviors, have been observed in individuals during the pandemic. This cluster of symptoms has been described as COVID stress syndrome (Taylor et al., 2020). The increase in OCD symptom severity during the pandemic is associated with symptoms of COVID stress syndrome (Khosravani et al., 2021).

In this study, the proportion of patients with worsening symptoms was 39.7%. In previous studies, the proportion of patients with increased symptoms varied between 10% and 72% (Benatti et al., 2020; Davide et al., 2020; French and Lyne, 2020; Jelinek et al., 2021; Littman et al., 2020; Matsunaga et al., 2020; Nissen et al., 2020). This variation may be a result of differences in the selected patient population, use of different and nonvalid measurement tools, and lack of prepandemic data for some of the participants. Contrary to these results, which reported an increase in the severity of OCD,

there was no increase in symptoms in a large proportion of patients with OCD during the pandemic (Carmi et al., 2021; Chakrabort and Karmakar, 2020; Schwartz-Lifshitz et al., 2021). The inconsistency between these results with data from other studies investigating the impact of the COVID-19 pandemic on patients with OCD can be attributed to several factors such as nonsignificant interruption of medical treatment due to the pandemic, continuation of psychotherapy through telepsychiatry, patients staying away from possible triggers during complete lockdown, and patients sharing their concerns with their families. In our study, a new type of obsession and compulsion that did not exist before the COVID-19 pandemic emerged in only two patients, and it was found that there was no phenomenologically significant change in OCD symptoms. This supports the data indicating that OCD symptoms have long-term stability in adults and that there may be changes in symptom severity rather than symptom type over time (Mataix-Cols et al., 2002).

In this study, contamination obsession during the prepandemic period were associated with an increase in OCD severity. In two previous studies investigating the effect of the COVID-19 pandemic on OCD, contamination obsessions before the pandemic were associated with an increase in the severity of OCD symptoms during the pandemic (Alonso et al., 2021; Davide et al., 2020). Patients with contamination obsession and washing compulsion are in a unique situation during this pandemic. Hygiene-related dysfunctional beliefs are associated with increased severity of OCD; examples of such beliefs include "other people now understand how dangerous germs and viruses are," "coronavirus is the result of people being careless about hygiene," and "I believe that the coronavirus is uncontrollable." Such beliefs are significantly more common in patients with OCD with contamination obsessions and washing compulsions than in those without such symptoms during the COVID-19 pandemic (Jelinek et al., 2021). Furthermore, cleaning, viral transmission from people and surfaces, frequent hand washing, and disinfectant use have been the focal points of daily life during the COVID-19 pandemic. This compelling situation may play a role in increasing the symptoms of this sensitive patient group, who have contamination-related fears, difficulty in controlling their excessive hand washing and cleaning behaviors, and very prominent dysfunctional beliefs about hygiene.

In this study, the amount of time spent by patients following news/data about COVID-19 (preoccupation about COVID-19) was associated with an increase in OCD severity. Tanir et al. (2020) reported that, similar to our findings, time spent following news/data about COVID-19 was associated with an increase in disease severity. In addition, there are case reports associated with an increase in the severity of the disease due to media reports about COVID-19 (French and Lyne, 2020; Kumar and Somani, 2020). Restricting the time that OCD patients spend following the news about COVID-19 on television or social media, or suggesting that they only get information from certain sources, might be beneficial in preventing the increase in disease symptoms.

In this study, poor insight was associated with increased OCD symptom severity. In addition, when insight was evaluated as a spectrum, the insights of the patients were affected by the COVID-19 pandemic. In the study conducted by Nissen et al. (2020), the effect of the COVID-19 pandemic on adolescent patients with OCD was investigated. It was concluded that poor baseline insight was associated with an increase in disease severity, whereas good insight was protective against OCD symptom worsening. Patients with poor insight have stronger irrational beliefs and are less able to resist obsessions and compulsions (Kamaradova et al., 2015). In addition, repeated warnings about hygiene during the pandemic may strengthen the irrational beliefs of patients with OCD with poor insight (Silva et al., 2020).

Our study has several limitations. First, this was a cross-sectional study conducted during the acute phase of the pandemic and reflects the short-term effects of the pandemic. Therefore, it does not provide sufficient information about the long-term consequences of the pandemic on patients with OCD. Second, other factors may have contributed to the increase in patient symptoms. In addition, the increase in disease symptoms may have resulted from the natural course of the disease. The first two limitations make it difficult to establish a precise causal relationship. Comorbid personality disorders were not evaluated in this study, so the possible impact of personality disorders on the results of this study could not be examined. This study included patients who were followed up at a specific OCD outpatient clinic of a tertiary care facility with severe symptoms; therefore, the results are not generalizable to the entire OCD patient population. Prospective longitudinal studies involving a larger population of patients with OCD are needed to reveal the long-term impact of the COVID-19 pandemic on patients with OCD and to establish a more precise causal relationship.

One of the strengths of our study is that it was designed by excluding the limitations of previous studies. The prepandemic data of the patients followed up with the diagnosis of OCD are available, and the effect of the pandemic was evaluated by comparing them with the previous data. The evaluation process was performed through face-to-face interviews and using standardized and valid measurement tools. To the best of our knowledge, our study is the first study in the adult population to investigate the impact of the COVID-19 pandemic on patients with OCD with varying degrees of insight.

CONCLUSIONS

There was an increase in symptom severity in patients with OCD during the acute period of the COVID-19 pandemic. Contamination obsession, BABS-T score, and daily preoccupation with COVID-19 were associated with an increase in the severity of OCD. Patients with contamination obsessions and washing compulsions, and those with poor insight are at a greater risk of worsening disease. Clinicians should be aware that there may be an increase in disease severity in this high-risk group during the pandemic. Booster psychotherapy sessions can be planned for OCD patients with cleaning obsessions and poor insight. In addition, psychoeducation can be given to patients to avoid excessive efforts to access information about disease (COVID-19) (*i.e.*, dwelling on information related to disease, excessive talking about the disease and its consequences, reassurance-seeking from significant others). It is expected that this kind of psychoeducation will have a positive effect on the quality of life of patients, since it is known that the worry process increases anxiety and reduces problem-solving skills. Many patients experience difficulties in accessing healthcare during the pandemic, and routine follow-up may also be disrupted. Treatment via digital methods provides positive results for patients with OCD (Patel et al., 2018; Wootton, 2016). Digital methods (telepsychiatry/online cognitive behavioral therapy) may also be practicable for routine control and for planning medical treatments or psychological interventions, when accessibility to health institutions is not possible because of lockdown, transportation facilities, pandemic-associated causes, or OCD-related concerns with respect to visiting hospitals.

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