



## Research Paper

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# Comparative clinical and neuropsychological characteristics in schizophrenia and schizophrenia-obsessive compulsive disorder patients

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### ABSTRACT

This study aimed to determine schizophrenia patients accompanied by Obsessive Compulsive Disorder (OCD), schizophrenia patients not accompanied by OCD in terms of socio-demographic, clinical and neuropsychological characteristics. A total of 73 patients aged 18-65 years were included and 29 patients followed up with a diagnosis of schizophrenia according to DSM-IV, alongside 44 patients with a diagnosis of schizophrenia-OCD. Patients diagnosed with schizophrenia and diagnosed with schizophrenia and OCD (Y-BOCS  $\geq 8$ ) based on DSM-IV diagnostic criteria. The inclusion criteria was; patients who have been stable in terms of clinical condition and treatment for at least 3 months. Patients without a history of head trauma, neurological disease, mental retardation, alcohol and substance use disorder, and serious general medical disease. In this study, it was found that schizophrenia-OCD association was seen at a higher rate in male patients, and the schizophrenia-OCD group had some worse clinical features (more severe negative, positive and general psychopathology symptoms, more susceptibility to extrapyramidal side effects, more severe disease, higher numbers and doses of antipsychotics and additional medication) and poorer quality of life. There was no significant difference between the two groups in terms of all other socio-demographic characteristics, characteristics of the disease, clinical characteristics, and social and neuropsychological functionality. The findings of the study showed that schizophrenia-OCD might be comorbidity or a sub-type of schizophrenia, which does not have severe clinical or neuropsychological symptoms. However, schizophrenia-OCD patients experience more depression and anxiety which are related to poorer quality of life.

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## INTRODUCTION

Obsessive Compulsive Disorder (OCD) and schizophrenia are among the oldest known psychiatric disorders (Abramovitch et al., 2012). Both the presence of OC symptoms in schizophrenia and the presence of psychotic symptoms in OCD has led to the thought that there is a close relationship between both diseases (Bottas et al., 2005). OC symptoms can be seen in almost half of schizophrenia patients. Some researchers have suggested that the

presence of some overlapping symptoms in OCD and schizophrenia may be due to the similarities in neurological circuits, anatomical structures and neurotransmitters shown for each disorder (Camisuli and Sportiello, 2016). Reports of psychotic-themed obsessions in schizophrenic patients further complicate the clinical distinction (Hawco et al., 2017).

In early cross-sectional studies, the rate of OC symptoms

in schizophrenia was found between 1% and 3.5%, and it was stated that OC symptoms appeared before or simultaneously with the onset of schizophrenia (Bhat et al., 2017). In recent epidemiological studies, the presence of OC symptoms in schizophrenia has been reported at rates varying between 10% and 52% (Krüger et al., 2000). In the first study conducted for DSM-IV diagnosis, 37 patients with chronic schizophrenia were included and it was stated that 16 (43.2%) of them showed OC symptoms and 11 patients (29.7%) were diagnosed with OCD (Frías et al., 2014).

In another study conducted with DSM-IV, again OCD was detected in 25% of 52 schizophrenic patients, and it was suggested that there was a more favorable prognosis with OCD and schizophrenia in patients with both OC symptoms and schizophrenia (Tumkaya et al., 2009). When the lifetime prevalence of each disorder (2-3% for OCD; 1% for schizophrenia) and the rates of comorbidity are compared, it is seen that the coexistence frequency of these two diseases is higher than the total prevalence of each disease in the general population (Dittrich and Johansen, 2013). This difference suggests that the coexistence of two diseases is not a coincidence (Nedeljkovic et al., 2009).

In addition, numerous studies have been conducted comparing schizo-obsessive patients with patients with only schizophrenia in terms of neurocognitive profile (Kazhungil et al., 2017). In most studies, more neuropsychological disorders were found in the schizo-obsessive group (Martin et al., 2008). The first neuropsychological study conducted with schizo-obsessive patients revealed that these patients showed delayed nonverbal memory and cognitive transition abilities and performed worse in terms of visual-spatial abilities compared to pure schizophrenia patients (Cavallaro et al., 2003). In a systematic review and meta-analysis study, results showed that it was hypothesized that schizophrenia patients with OCS/OCD have more deficits in executive functions than schizophrenia patients without OCS/OCD. As a result of the study, it was observed that schizophrenia patients with OCD/OCS had the worse ability to abstract thinking than patients without OCD/OCS (Devi et al., 2015; Üçok et al., 2011). Schizophrenia patients with OC symptoms had longer hospitalizations than schizophrenia patients without OC symptoms, although similar antipsychotic doses were used for both groups, combined treatments with benzodiazepine and antidepressants were used more frequently, they had lower levels of functionality, especially in terms of self-care and social competence, has been found to be weaker (Borkowska et al., 2003; Kim et al., 2009).

In another study, it was found that the age of onset of OC symptoms is significantly earlier than the onset of psychotic symptoms; when first episode schizophrenia patients are evaluated, this period was approximately 3 years; it was reported that the first psychotic symptoms started earlier in the schizo-obsessive group when compared with schizo-

obsessive patients and another group of schizophrenia patients who did not have appropriate OC symptoms in terms of age, gender and hospitalization (Shin et al., 2008). In addition, there was no difference between schizo-obsessive patients and schizophrenia patients without OC symptoms/disorders in terms of positive, negative and disorganized schizophrenia symptoms; again, in a study comparing the schizo-obsessive patient group and the OCD patient group in terms of clinical and demographic characteristics, it was shown that there was no difference between the two groups in terms of the frequency and severity of OC symptoms (Devulapalli et al., 2008).

This study aimed to determine schizophrenia patients accompanied by OCD and schizophrenia patients not accompanied by OCD in terms of socio-demographic, clinical and neuropsychological characteristics.

## MATERIALS AND METHOD

### Method

A total of 73 patients were included in the study, 29 patients followed up in the Erciyes University Faculty of Medicine Psychiatry outpatient clinic with a diagnosis of schizophrenia according to DSM-IV, and 44 patients with a diagnosis of schizophrenia-OCD. We selected patients aged between 18 and 65 years; patients diagnosed with schizophrenia and diagnosed with schizophrenia and OCD (Y-BOCS  $\geq 8$ ) according to DSM-IV diagnostic criteria. The inclusion criteria was; patients who have been stable in terms of clinical condition and treatment for at least 3 months. Patients without a history of head trauma, neurological disease, mental retardation, alcohol and substance use disorder, and serious general medical disease. The local ethics committee approval was obtained for the study protocol.

### Materials

The following scales were used to obtain data; (1) Case Report Form for Socio-demographic and Clinical Features, (2) SCID-I Form for DSM-IV Axis I Disorders, (3) PANSS, (4) The Yale-Brown Obsession Compulsion Scale (YBOC-S), (5) Clinical Global Follow-up Scale (CGI-Severity, CGI-Recovery), (6) Calgary Depression Scale in Schizophrenia, (7) Extrapyramidal Symptoms Rating Scale, (8) Social Functioning Scale, (9) Quality of Life Scale for Schizophrenia Patients, (10) Stroop Test, Trail-Making Test-B, and Wechsler Memory Scale-Revised Sub-Test.

We developed case report form for socio-demographic and clinical features to collect the data on patients' past records in clinic, gender, marital status, education level, socio-economic status, working status, disease onset age, total number of hospitalization and duration, the age at

which the first psychotic finding appears, Motor-vocal tic, deficit syndrome. PANSS is used to evaluate positive and negative symptoms, general psychopathology and measure the level of these symptoms in schizophrenia. It consists of 30 items in total. It includes a seven-point rating for violence. 18 of these 30 items were adapted from the Brief Psychiatric Rating Scale, and 12 from the Psychopathology rating scale. 7 of the items contained positive symptoms, 7 of them negative symptoms, and 16 of them include general psychopathology symptoms.

Y-BOCS was used to measure the severity of obsessive-compulsive symptoms, to evaluate the clinical course and the results of the treatment. This scale includes a symptom checklist with a total of 74 questions. According to the extent to which each symptom takes the patient's time, affects his normal life, causes subjective discomfort, how much active resistance the patient has and how much he can control; It gets scores ranging from 0-4. According to the Y-BOCS scale, the highest score that patients can get for GOS and GCS is 20. The highest score that the overall total patients can get is 40.

CGI-Severity, CGI-Recovery scale has been developed to evaluate the course of all psychiatric disorders at all ages for clinical research purposes. CGI is a three-dimensional scale (disease severity: CGI-SI, improvement: CGI-GI, drug side effect severity: CGI-EI) and was filled during a semi-structured interview conducted by the physician to evaluate the treatment responses of people with psychiatric disorders. It is a scale that can be used to evaluate the severity of the illness, recovery level and side effects of drug in people with mental illness.

The Calgary Depression Scale consists of 9 items evaluated in a four-point Likert type. These items include depressive mood, hopelessness, feelings of worthlessness, guilt-related thoughts, pathological guilt, morning depression, early awakening, suicide and observed depression symptoms.

The Extrapyramidal Symptoms Assessment Scale is a scale consisting of 22 questions in 4 sections used to evaluate and measure extrapyramidal side effects in subjects using neuroleptics. Social Functioning Scale was filled by both the patient and a family member living with the patient. It consists of six sub-areas: social occupation/social withdrawal, interpersonal behavior, antecedent social activities, leisure activities, independence, and work/occupation. The high total scores obtained from each subscale suggest that there is a positive trend in functionality.

Quality of Life Scale for Schizophrenia Patients scale aims to measure the richness of the patients' personal experiences, the quality of their interpersonal relationships, and the productivity level in professional roles. The scale consists of 4 sub-dimensions and 21 questions in total, and there were three sections for each item. The minimum score of the scale is 0 and the maximum score is 126.

Stroop Test provides information about many cognitive

processes such as selective attention, focused attention, response inhibition, interference control, and information processing speed. Trail-Making Test-B evaluates attention speed, motor speed, visual scanning, mental flexibility, persistence, response inhibition and susceptibility to interference. Wechsler Memory Scale-Revised Sub-Test provides measurements of attention and concentration, which are closely related to memory processes. Using the 21 points obtained from the test, two summary scores, known as general memory and attention/concentration, were also calculated.

## DATA ANALYSIS

SPSS 22.0 program was used to analyze the data. The statistical analysis, such as Chi-square for categorical variables to compare frequencies and independent t-test for numerical variables to compare the means of the groups was conducted. Also, Mann-Whitney U test was used to compare the groups. Statistical significance was accepted as  $p = 0.05$ .

## RESULTS

When the two patient groups were compared in terms of socio-demographic characteristics, a statistically significant difference was found between the two patient groups only in terms of gender. While the rate of male patients in the schizophrenia group was found to be significantly higher than the schizophrenia-OCD patient group, the rate of female patients was significantly lower ( $p = 0.000$ ). There was no significant difference between the two groups in terms of all other socio-demographic characteristics.

Table 1 shows that there was no statistically significant difference between the two patient groups in terms of the characteristics of the disease. The presence of OCD in 3 patients in the schizophrenia-OCD group was remarkable, although it was not statistically significant, in terms of family psychiatric diagnoses. There was no statistically significant difference between the two groups in terms of cigarette consumption.

When compared in terms of psychopharmacological treatment, it was observed that significantly more patients in the schizophrenia-OCD group used clozapine, amisulpride, aripiprazole, haloperidol, antidepressants, biperiden, and diazepam as shown in Table 2.

When the PANNS total score and subscale scores were compared, a statistically significant difference was found between the two groups. PANNS total score ( $p = 0.000$ ), positive symptoms subscale score ( $p = 0.000$ ), negative symptoms subscale score ( $p = 0.02$ ) and general psychopathology subscale score ( $p = 0.000$ ) were found to be significantly higher in the schizophrenia-OCD group as shown in Table 3.

**Table 1:** Comparison of the socio-demographic characteristics of the study groups.

	Schizophrenia	Schizophrenia +OCD	Statistic	P Value
<b>Gender</b>				
Female	18	8	X <sup>2</sup> =14,682	<b>P=0,000*</b>
Male	11	36		
<b>Age</b>	36,27 (SD:10,84)	33,11 (SD:10,18)	U=524,5	P=0,200
<b>Total Education Time</b>	10,48 (SD: 4,20)	11,31 (SD:3,06)	U=621,0	P=0,841
<b>Total Working Time</b>	4,51 (SD:6,3)	5,09 (SD:7,5)	t=-0,343	P=0,733
<b>Monthly Income</b>	867 (SD:959,05)	772 (SD:453,59)	U=524,5	P=0,563

**Table 2:** Comparison of the two groups in terms of drug used for therapies.

	Schizophrenia		Schizophrenia +OCD		Total	
	N	Ave. Dosage	N	Ave. Dosage	N	Ave. Dosage
Clozapine	11	218,18 mg	33	262,87mg/g	44	249 mg/g
Amisulpride	5	550 mg/g	13	615,384mg/g	18	632 mg/g
Aripiprazole	8	13,12mg/g	22	22,5 mg/g	30	20,33 mg/g
Risperidone	6	4 mg/g	8	4,75 mg/g	14	4,37 mg/g
Olanzapine	5	11mg/g	8	14,37mg/g	13	13,07 mg/g
Paliperidone	5	7 mg/g	2	6 mg/g	7	6,75 mg/g
Zuclophenixole	3	2 mg/g	5	20,3 mg/g	8	7,87 mg/g
Haloperidol	0		4	20 mg/g	4	20 mg/g
Quetiapine	2	25mg/g	3	216,66mg/g	5	140 mg/g
Sertraline	5	125mg/g	7	157,14mg/g	12	133,33mg/g
Citalopram	5	20 mg/g	1	20 mg/g	6	20mg/g
Escitalopram	3	10mg/g	1	20 mg/g	4	12,5mg/g
Fluoxetine	0		4	40mg/g	4	40 mg/g
Fluvoxamine	0		11	209mg/g	11	209 mg/g
Clomipramine	0		5	165 mg/g	5	154,1 mg/g
Paroxetine	0		6	35mg/g	6	35 mg/g
Biperiden	8	3 mg/g	14	4,14mg/g	22	3,72mg/g
Na Valproate	4	1000mg/g	6	1166 mg/g	10	1100 mg/g
Diazepam	0		3	3,3 mg/g	3	3,3 mg/g

**Table 3:** Comparison of the two groups in terms of PANNS total score and subscale scores.

PANSS	Schizophrenia	Schizophrenia +OCD	Statistic	P Value
Positive symptoms	12,68 (SD:5,78)	18,65 (SD:5,81)	U=227,0	<b>P=0,000*</b>
Negative symptoms	20,55 (SD:8,13)	25,70 (SD:5,48)	t=-3,236	<b>P=0,02*</b>
General psychopathology	34,00 (SD:8,89)	44,97 (SD:9,05)	U=208,0	<b>P=0,000*</b>
PANNS total score	66,37 (SD:20,51)	89,79 (SD: 16,76)	U=180,0	<b>P=0,000*</b>

A statistically significant difference was found between the two groups in terms of CGI-S (Disease Severity), CGI-R (Improvement) and the Extrapyramidal Side Effect Scale. In the schizophrenia-OCD group, the mean score of CGI-S and CGI-R scales and the mean score of the Extrapyramidal Side

Effect Scale were found to be significantly higher ( $p = 0.01$  and  $p = 0.036$ ) as shown in Table 4.

Table 5 shows that there was no statistically significant difference between the two groups in terms of Social Functioning Scale and its subscales. Social work ( $p = 0.366$ ),

**Table 4:** Comparison of two groups in terms of CGI-S / R, CGI-Drug Side Effects, Calgary Depression Scale Extrapyramidal Symptoms Assessment Scale.

	Schizophrenia	Schizophrenia+OCD	Statistic	P Value
CGI- (severity of disease)	3,44 (SD:1,12)	4,36 (SD:1,08)	U=355,0	<b>P=0,001*</b>
CGI (improvement)	2,48 (SD:0,91)	2,79 (SD:0,85)	U=468,5	<b>P=0,034*</b>
CGI- (drug side effect severity)	1,48 (SD:0,70)	1,79 (SD:0,90)	U=521,0	P=0,141
Calgary Scale	3,93 (SD:4,21)	5,86 (SD:4,73)	U=475,0	P=0,066
Extrapyramidal Scale	4,13 (SD:3,07)	5,72 (SD:3,13)	t=-2,134	<b>P=0,036*</b>

**Table 5:** Comparison of the two groups in terms of the total score and subscale scores of the Quality of Life Scale in Schizophrenia.

	Schizophrenia	Schizophrenia+OCD	Statistic	P Value
Interpersonal relationships	23,34 (SD:7,63)	16,85 (SD:7,21)	t=3,637	<b>P=0,001</b>
Personal activity	11,31 (SD:3,30)	8,97 (SD:2,69)	t=3,270	<b>P=0,002</b>
Mental signs	12,13 (SD:3,31)	10,38 (SD:3,09)	t=2,286	P=0,025
Professional role	13,72 (SD:5,08)	11,11 (SD:4,89)	U=414,0	P=0,020
Total	60,86 (SD:17,23)	47,38 (SD:15,43)	t=3,449	<b>P=0,001</b>

interpersonal functionality ( $p = 0.478$ ), antecedent social activities ( $p = 0.563$ ), leisure time assessment ( $p = 0.637$ ) and independence level performance ( $p = 0.995$ ). However, when the Quality of Life Scale in Schizophrenia was compared in terms of total score and subscale scores, a statistically significant difference was found between the two groups. Quality of Life Scale total score and subscale scores in schizophrenia were significantly higher in the schizophrenia-OCD group (interpersonal relationship  $sp = 0.001$ , personal activity  $p = 0.002$ , mental sign  $sp = 0.025$ , professional role  $p = 0.020$ ).

When the neuropsychological characteristics were evaluated, there was no statistically significant difference between the two groups in terms of REY Auditory-Verbal Memory Test scores ( $p = 0.802$ ,  $p = 0.819$ ,  $p = 0.943$ ). No statistically significant difference was found between the two groups in terms of Stroop Test durations ( $p = 0.736$ ,  $p = 0.725$ ,  $p = 0.731$ ). In the Verbal Fluency Test, there was no statistically significant difference between the two groups in terms of total word count ( $p = 0.391$ ). There was no statistically significant difference between the two groups in terms of the total duration of the Trail Making test ( $p = 0.838$ ). There was also no statistically significant difference between the two groups in terms of Wechsler Memory Scale total durations ( $p = 0.910$ ,  $p = 0.648$ ) as shown in Table 6.

## DISCUSSION

The current study determined that there was a significant difference between the two patient groups in terms of gender distribution. In the schizophrenia + OCD group, it was found that the number of female patients was

significantly lower and the number of male patients was significantly higher. Although there are studies in the literature reporting that obsessive-compulsive symptoms are significantly higher in men (Henry, 2006) and women (Patel et al., 2010), many studies have not found gender difference in terms of obsessive-compulsive symptoms (de Haan et al., 2013). There are studies in the literature reporting that adult OCD shows an equal distribution in men and women, as well as studies reporting higher frequency in women. The result of this study is consistent with the results of the study which reported that obsessive-compulsive symptoms are more common in male schizophrenia patients (Schirmbeck et al., 2013).

Previous studies have reported that the rates of work and marriage are lower in schizophrenia patients accompanied by obsessive-compulsive symptoms compared to patients with schizophrenia without accompanying symptoms (van den Heuvel et al., 2005). Conversely, the study found that schizophrenia patients with comorbid OCD exhibited better occupational functionality (Cavedini et al., 2010). In this study, no significant difference was found between the two patient groups in terms of marital and employment status. In this study, no significant difference was found between the two patient groups in terms of total education time. The study by Devi et al. (2015) reported that the education level of schizophrenia patients accompanied by obsessive-compulsive symptoms was lower (Devi et al., 2015), while many other studies reported that there was no significant relationship between OCD and education duration in schizophrenia patients accompanied by obsessive-compulsive symptoms (Üçok et al., 2011).

In this study, no significant difference was found between the two patient groups in terms of the age of onset of psychotic symptoms. While some studies in the literature

**Table 6:** Comparison of the neuropsychological characteristics of the two groups with the Mann-Whitney U test and independent-t test results.

	Schizophrenia	Schizophrenia+OCD	Statistic	P Value
<b>REY Auditory-Verbal Memory Test</b>				
total learning score	39,10 (SD: 10,83)	38,85 (SD:11,25)	U=384,0	P=0,802
late recall score	14,70 (SD:5,36)	15,07 (SD:6,21)	t=0,819	P=0,819
recognition points	12,45 (SD:2,35)	12,37 (SD:2,59)	U=395,0	P=0,943
<b>Stroop Test</b>				
time to read colored words	38,00 sec (SD:13,70)	40,09 sec (SD:23,14)	U=378,5	P=0,736
time to say the color of colored words	106,10 sec (SD:49,54)	97,46 (SD:41,84)	U=368,0	P=0,725
stroop effect	68,15 sec (SD:43,18);	60,69 sec (SD:35,31)	U=368,5	P=0,731
<b>The Verbal Fluency Test</b>				
total number of words	27,60 (SD:11,19)	26,95 (SD:12,87)	U=569,5	P=0,391
<b>Trail Making test</b>				
total time	202,17 sec (SD:196,59)	167,92 sec (SD: 113,46)	U=367,5	P=0,838
<b>Wechsler Memory Scale</b>				
instant memory score	8,35 (SD:4,90)	8,46 (SD:4,45)	U=383,0	P=0,910
delayed spontaneous recall scores	2,10 (SD:1,16)	2,02 (SD:1,04)	U=344,5	P=0,648

have shown that psychotic symptoms appear at a significantly earlier age in schizophrenia patients accompanied by OCD (Whitney et al., 2004), some studies have shown that there is no significant difference between the two groups (Kim et al., 2003). In this study, no significant difference was found between the two patient groups in terms of total number of hospitalizations and length of hospital stay. While some studies in the literature reported that the number of hospitalizations in schizophrenia patients with accompanying obsessive-compulsive symptoms was not significantly different, some studies reported that hospitalization time was longer in this patient group.

In this study, no significant difference was found between the two patient groups in terms of schizophrenia subtypes. In the literature, there are studies reporting that paranoid and undifferentiated schizophrenia subtypes are more common in patients with schizophrenia accompanied by obsessive-compulsive symptoms (Patel et al., 2010). In this study, the detection of vocal-motor tic disorder in 2 patients in the schizophrenia group accompanied by OCD seems to be a remarkable finding, although it is not significant.

When compared in terms of psychopharmacological treatment, it was observed in the study that clozapine, amisulpride, aripiprazole, haloperidol, antidepressants, biperiden and diazepam were used in the schizophrenia-OCD group. It has been reported that the prevalence of obsessive-compulsive symptom is higher in schizophrenia patients using atypical antipsychotics compared to schizophrenia patients using typical antipsychotics

(Cavallaro et al., 2003).

In the literature, clozapine use has been found to be associated with obsessive-compulsive symptoms that begin later, especially in schizophrenia patients (Devi et al., 2015). In this study, the use of more clozapine in the schizophrenia-OCD group may have caused obsessive-compulsive symptoms to appear in this group or to exacerbate existing obsessive-compulsive symptoms. However, in the schizophrenia-OCD group, obsessive-compulsive symptoms appeared before psychotic symptoms in more than half of the patients (52.4%). Therefore, it was assumed that the higher use of clozapine in the schizophrenia-OCD group was associated with greater disease severity. The use of more amisulpride, aripiprazole, antidepressants and anxiolytics in this group also supports this view. It is thought that especially antidepressant drugs are used to treat obsessive-compulsive symptoms (Cammissuli and Sportiello, 2016). In our study, more biperiden use was observed in the schizophrenia-OCD group. This result is consistent with the results of the study suggesting that this patient group is more susceptible to extrapyramidal side effects and has more basal ganglia damage (Hawco et al., 2017).

In this study, when the Positive and Negative Symptom Scale (PANSS) total score and positive symptoms, negative symptoms and general psychopathology subscale scores were compared, a significant difference was found between the two patient groups. PANNS total scale score and all subscale scores were found to be significantly higher in patients with schizophrenia accompanied by OCD. Some studies reported that positive symptoms, especially in

structural thought disorder and delusion sub-scores, are more severe in schizophrenia patients accompanied by obsessive-compulsive symptoms, in some other studies, no significant difference was found in the severity of positive symptoms in schizophrenia patients accompanied by obsessive-compulsive symptoms (Bhat et al., 2017).

In this study, a significant difference was found between the two groups in terms of the total scores of the Clinical Global Impression Scale-Severity and Improvement subscales. It was found that the severity of the disease was higher in the patient group accompanied by OCD. There was no significant difference between the two groups in terms of side effect severity scores. These results appear to be consistent with the total PANSS score, supporting a more severe clinical picture in the schizophrenia-OCD group. In the literature, there are studies reporting that there is no significant difference between the two groups in terms of Clinical Global Impression Scale scores, as well as studies reporting that the schizophrenia-OCD group shows a worse clinical picture according to the Clinical Global Impression Scale scores (Shin et al., 2008).

In this study, the severity of depressive symptoms was not found to be significantly different between the two patient groups in terms of Calgary Depression Scale in Schizophrenia. Although not significant, the severity of depression was found to be higher in patients with schizophrenia accompanied by OCD. The average prevalence of depression in schizophrenia has been reported to be 25% (Devulapalli et al., 2008). In a study by Dittrich and Johansen (2013), it was found that 38% of depressive symptoms were seen together with schizophrenia symptoms, 33% in the pre-illness and first attack period, and 29% in the chronic period (Dittrich and Johansen, 2013). While many studies reported that depressive symptoms were more severe in schizophrenia patients accompanied by obsessive-compulsive symptoms, some studies reported no significant difference in the severity of depressive symptoms in schizophrenia patients accompanied by obsessive-compulsive symptoms (Frías et al., 2014).

In this study, a significant difference was found between the two patient groups in terms of the presence and severity of Extrapyrimal Symptoms. It has been observed that schizophrenia patients accompanied by OCD are more sensitive to extrapyramidal side effects. Based on the assumptions about basal ganglia in the physiopathology of OCD and schizophrenia, it has been suggested that schizophrenia patients with obsessive-compulsive symptoms show a more severe basal ganglia pathology and have an increased risk of extrapyramidal involvement (Bottas et al., 2005).

In this study, no significant difference was found between the two patient groups in terms of Social Functioning Scale total score and subscale scores. However, a significant difference was found between the two patient groups in terms of the total score of the Quality of Life Scale in Schizophrenia, and the total scale scores were found to be significantly

Schizophrenia, and the total scale scores were found to be significantly higher in the schizophrenia patient group. Schizophrenia patients with OCD have significantly lower quality of life. There are studies in the literature reporting that patients with obsessive-compulsive symptoms accompanying schizophrenia have worse quality of life, as well as studies reporting that there was no difference between the two groups. The poor quality of life in the schizophrenia-OCD group may be explained by the fact that the symptoms of positive, negative and general psychopathology are more severe.

When the content of the obsessions and compulsions detected by the Yale-Brown Obsessive Compulsion Scale in schizophrenia patients accompanied by OCD was evaluated, it was found that contamination (50%), symmetry (40.9%) and aggression (36.8%) obsessions were more frequent, washing and Compulsions such as cleaning (43.2%), repetitive-ritualistic behaviors (47.7%) were found to be more frequent. These results seem to be in line with the results of the study by Sahoo et al. (2018) (Sahoo et al., 2018). The findings of the study showed that the most common obsessions in schizophrenia patients are contamination, aggression and somatic; they reported that the most common compulsions were washing/cleaning (Kazhungil et al., 2017).

There have been many studies comparing schizophrenia patients accompanied by OCD and patients with only schizophrenia in terms of neurocognitive profile (Cavedini et al., 2010). In most studies, more neuropsychological disorders were found in the group accompanied by OCD. The first neuropsychological study conducted with this group of patients revealed that these patients showed a delayed non-verbal memory and cognitive transition abilities and performed worse in terms of visual-spatial abilities compared to patients with schizophrenia (Abramovitch et al., 2012). Studies on this subject in the literature are quite contradictory. While the majority of the studies reported more impairment in cognitive functions in the schizophrenia-OCD group; cognitive flexibility, visual memory impairment, executive dysfunction have been shown. Some studies reported that the schizophrenia-OCD group performed better in cognitive functions (Martin et al., 2008). The results of this study are consistent with studies which reported that there is no significant difference between the two groups (Whitney et al., 2004).

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