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RESEARCH ARTICLE

Relation of quality of life with clinical and demographic features in patients with obsessive-compulsive disorder: the effect of insight and suicidality

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ABSTRACT

Objective: Obsessive-compulsive disorder (OCD) may affect the quality of life (QOL), family relations, professional performance, and relationships of the individual in many other areas. The evidence has emphasized the relevance of examining QOL as a critical outcome in mental health studies. This study aimed to examine possible effects of clinical and demographic features including insight and suicidality on the QOL in patients with OCD.

Method: The sample of this study consists of 80 patients diagnosed with OCD according to DSM-IV and 80 healthy volunteers. A sociodemographic and clinical data form and the World Health Organization Quality of Life brief form-Turkish version (WHOQOOL-BREF-TR) were administered to the participants. In addition, the patient group was assessed with the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) and the Hamilton Depression Rating Scale (HAM-D). Insight was evaluated by using the insight item of Y-BOCS and the Overvalued Ideas Scale (OVIS).

Results: The average scores for the physical health, psychological health, and social relationship domains of WHOQOOL-BREF-TR were lower in the patient group; however, there was no significant difference in the environmental health domain between the two groups. Negative correlations were found between the severity of the disease, age at illness onset and QOL subdomains. Besides, a history of suicide attempt had a statistically significant effect on all subscales of quality of life. Insight had no significant effect on any QOL subscale.

Conclusion: This study shows that the quality of life is affected in OCD and this is partly related to the severity of the disease and suicidality but not to insight. Considering the effects of quality of life in both the treatment and follow-up of this patient group, the importance of identifying the factors affecting the quality of life will be better understood in OCD patients. Further large-scale longitudinal studies are needed to clarify this issue.

Keywords: Insight, obsessive-compulsive, suicide, quality of life

INTRODUCTION

Obsessive-compulsive disorder (OCD) is a psychiatric disorder characterized by obsessions and compulsions harming individuals' academic and occupational functioning and their social and family relations, leading to disability. Obsessive-compulsive disorder is the sixth most common mental disorder with a reported lifetime prevalence of 2.5% in the general population (1).

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It has been found that OCD may affect a person's quality of life (QOL), family relations, professional performance, and relationships in many other areas (2-5). A recent meta-analysis found that OCD patients had lower QOL scores than healthy controls. It has also been reported that OCD has a common effect on the overall QOL and a broad impact on the results of occupational, social, emotional, and familial QOL (6). Sociodemographic factors such as advanced age, female gender, marital status, unemployment, low level of education, low social support, and poor economic status have been associated with impaired QOL in OCD patients. Furthermore, obsessive-compulsive symptoms, depressive symptoms, and substance abuse comorbidity are some clinical factors associated with a poor QOL (7-12).

Although several studies are suggesting that the QOL is related to the abovementioned clinical and demographic factors, there is no study simultaneously evaluating the relationship between QOL and demographic and clinical features including suicide and insight in OCD patients (2-4). Although thought to be a rare entity in OCD patients, more recent studies have found that suicidal behavior is much more common in these patients than had been claimed before (13,14). To date, few studies reported a significant association between suicide and a worse QOL in this population (12,15). On the other hand, poor insight has been reported in 15 to 36.0% of patients with OCD, and it has been suggested that this correlation might be associated with a specific clinical subtype that is characterized by an early onset, a greater severity of psychopathology, a higher comorbidity with schizotypal personality disorder, and an insufficient response to both pharmacological and psychological therapies (16-18).

Given the factors mentioned above, it is expected that poor insight is possibly related to a worse QOL in patients with OCD. However, there is no study addressing such a relationship between insight and QOL in OCD. Therefore, in this study, we aimed to identify clinical and demographic predictors of QOL and to explore specifically the potential effects of suicidality and insight on the QOL in OCD. We have tested the hypothesis that patients with OCD are likely to have a lower QOL than healthy controls. The other hypothesis we tested was whether some clinical features including suicide and insight in OCD patients would adversely affect the QOL.

METHOD

This was a cross-sectional study carried out with outpatients. The study sample comprised a total of 160 subjects, 80 of whom had been diagnosed with OCD according to DSM-IV at Usak University, Faculty of Medicine, Department of Psychiatry, while the other 80 subjects were age- and gender-matched healthy individuals agreeing to participate in the study. Written informed consent was obtained from all participants. The study was approved by the Local Ethics Committee of Usak University Medical Faculty.

Initially, 131 outpatients with a diagnosis of OCD were evaluated. Of these, 32 were excluded due to a comorbid axis I disorder, two were excluded because of cognitive impairment, and 17 due to the diagnoses of an axis II disorder or mental retardation. Consequently, 80 patients were included in the final sample. Patients aged between 18 and 45 years who fulfilled the diagnostic criteria of OCD were evaluated in terms of inclusion and exclusion criteria for the study at the psychiatry outpatient clinic of Usak University Medical Faculty. Patients who fulfilled the inclusion criteria were informed about the study and were requested to sign the informed consent form. The inclusion criteria for the patient group were as follows: fulfilling the criteria of OCD according to DSM-IV-TR, being at least a primary school graduate, and being aged between 18 and 45 years.

The inclusion criteria for the control group were: being aged between 18 and 45 years and agreeing to participate in the study. The exclusion criteria were mental retardation, presence of a neurological disease, alcohol or substance abuse or dependence in the last six months, any severe medical disorder or drug use that might affect the results, a history of head trauma or neuro-surgery, electroconvulsive therapy in the last six months, having any comorbid axis I or II diagnosis and a HAM-D score ≥7 (19,20).

All participants completed a sociodemographic form prepared by the researchers (O.E. and A.E.). Demographic and clinical data of the patients were collected during the psychiatric interview, which focused on sociodemographic features, clinical characteristics, and OCD and other psychiatric disorders diagnosed on the basis of the Structured Clinical Interview for DSM-IV, Clinical Version (SCID-I) (21,22). Patients were diagnosed with axis II disorders according to DSM-IV by a detailed psychiatric interview.

The authors designed a specific patient information form for this study, consisting of two parts. The first part included questions about the patients' sociodemographic features (e.g., age, educational, marital and occupational status, socioeconomic class, and accommodation). The second part consisted of questions about the clinical presentation of their illness:

age at onset, illness duration, number of hospitalizations, medication status, and presence of suicide attempts. Both parts were conducted by the same authors (O.E. or A.E.) via a clinical interview with patients and their relatives. This clinical information was also checked by reviewing patients' charts and files.

The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), HAM-D, YBOCS-Insight item and Overvalued Ideas Scale (OVIS) were administered to all patients, and the WHOQOL-BREF-TR QOL scale was filled in by all participants. The same interviewer (O.E.) performed all tests. The control group was formed by volunteers from among the hospital staff, university students, and their close social environment. In the control group, the same scales and instruments were used as in the patient group.

Yale-Brown Obsessive-Compulsive Scale (Y-BOCS): This scale was developed to evaluate the characteristics and the severity of the symptoms seen in patients with obsessive-compulsive disorder (23). In the evaluation of the scale, obsessions and compulsions are scored with five items and each item is scored between 0 and 4 points. The obsession and compulsion subscale scores are summed up, and a maximum total score of 40 points can be reached. Tek et al. (24) studied the validity and reliability of the Turkish version of the scale, demonstrating excellent inter-rater reliability for the Turkish version of the Y-BOCS.

Hamilton Depression Scale (HAM-D): This is a 17-item test used to measure the severity of depression. It was developed by Hamilton (19) and is still the most commonly used scale to measure the severity of depression. The Turkish validity and reliability study was conducted by Akdemir et al. (20).

World Health Organization Quality of Life brief form-Turkish version (WHOQOL-BREF-TR): QOL was assessed with the WHOQOL-BREF (25). This scale consists of 26 items and four domains: physical health, psychological health, social relationships, and environmental health. It also includes two general items: QOL and general health items. The questionnaire uses closed-ended questions scored on a five-point Likert-type scale to which the subjects respond. It evaluates how the person perceives the concrete and physical effects resulting from the disease and measures the relations of the disease with physical activity, social relations, and the environment. The answers reflect the severity and frequency of irritations, the patient's perception and the capacity to respond to these nuisances. The validity and reliability of the Turkish form were studied by Eser et al. (26). The Turkish version of the WHOQOL-BREF (WHOQOL-BREF-TR) consists of 27 questions, one more than in the original version. A Turkish validation study reported that Cronbach's alpha ranged from 0.53 to 0.83 between domains. Pearson correlations for test-retest reliability were r=0.62 for physical health, r=0.40 for psychological health, r=0.30 for social relationships, and r=0.25 for the environment domain.

The Overvalued Ideas Scale (OVIS): This scale was developed by Neziroglu et al. in 1999 (27) to measure the level of insight in OCD patients. OVIS consists of 11 items that measure the severity, precision and rationality of a belief, the minimum and maximum severity of that belief within the last week, the degree of sharing the same belief with different people and the reason for sharing it (or not), the effectiveness of compulsion in preventing the negative consequences of the belief, and the level of resistance to the belief and insight. Items are rated between 1 and 10. The OVIS score is the average score obtained from all items. Calculated scores on the OVIS range from 0 to 10, with higher scores representing more overvalued ideas. The overvalued idea is accepted as a reliable indicator of poor insight, and with an OVIS score equal to or higher than six, a patient is considered to have "OCD with poor insight" (27-29). The OVIS total score was measured to evaluate insight dimensionally. On the other hand, the insight item of the Y-BOCS was used to assess the level of individuals' insight into their symptoms continuously (range from 0 to 4) and to determine the correlation coefficients between their QOL and insight. Therefore, we did not use the insight item of the Y-BOCS to group the patients according to insight status (poor vs. good).

Statistical Analysis

The data obtained from the study groups were analyzed using SPSS for Windows 16.0. The data obtained by measurement are expressed as mean±standard deviation, and the data obtained by counting are expressed as a percentage. Variable distribution was assessed using Shapiro Wilks test and $p<0.05$ was accepted as statistically significant. We found that all variables were normally distributed. Student's t-test was used to compare age, duration of education, age at illness onset, QOL scale results, and for a comparison between the patient and control groups; the Chi-Square test was used to compare the groups regarding categorical variables. The statistical significance level was accepted at $p<0.05$. In the patient and control groups, the relationship between the QOL scale subscale scores and numeric variables was examined with

Pearson's correlation test. The effects of age, gender, marital status, duration of education, age of onset of the disease, history of suicide attempt, insight, and duration of illness in the patient group were evaluated using the general linear model.

RESULTS

Sociodemographic and Clinical Findings

There was a statistically significant difference between the patient and the control group regarding employment status. Most patients with OCD (87.5%) were unemployed ($p<0.05$). A comparison of the patient and the control group in terms of some sociodemographic characteristics is presented in Table 1.

The mean age at onset of the disease was 20.63±7.27 years, and the mean disease duration was 7.88±4.72 years. In the patient group, the mean Y-BOCS-obsession score was 14.90±4.20, the mean Y-BOCS-compulsion score was 14.87±4.08, and the mean Y-BOCS-total score was 29.3±8.55. Thirteen patients (16.3%) in the patient group had a history of suicide attempt, while only three patients (3.6%) were hospitalized (Table 1). All patients were using an antidepressant medication from the Selective Serotonin Reuptake Inhibitors (SSRIs) alone or in combination with an antipsychotic.

According to types of obsession and compulsion, 61 (76.3%) of patients had contamination obsession, 36 (45.0%) symmetry obsessions, 17 (23.0%) aggression obsession, 11 (13.8%) religious obsessions, 10 (12.5%) sexual obsessions, 12 (15.0%) had other obsessions, 6 (7.5%) collection obsessions, and 6 (7.5 %) had doubt obsession. In addition, cleaning compulsion was determined in 58 (72.5%) of the patients, repetition-control compulsion in 53 (66.3%), counting compulsion in 22 (27.5%), ordering compulsion in 27 (33.8%), other compulsions in 14 (17.5%), and hoarding compulsion in 3 (3.8%) patients.

The QOL of the patient group was significantly lower in the total score and the subscores of physical health, psychological health, and social relations ($t=-5.82$, $p<0.001$; $t=-5.01$, $p<0.001$; $t=-3.84$, $p<0.001$, respectively). These differences remained significant after controlling for age, gender, and education ($F=65.78$, $p<0.001$; $f=36.19$, $p<0.001$; $f=39.04$, $p<0.001$ and $F=36.68$, $p<0.001$, respectively) (Table 2).

The Relationship Between the Clinical Features and the QOL Scale in the Patient Group

We conducted a correlation analysis to investigate the relationship between the clinical and demographic variables and the QOL subscale scores (Table 3). There were significant correlations between the physical health subscore of the QOL, age, education level, age at illness onset, and the severity of obsessions and compulsions. Significant correlations were found between psychological health of QOL, age, education, age at illness onset, and the severity of obsessions and compulsions. There were significant correlations between the social relationship subscore of the QOL, age, education level, age at illness onset, and the severity of obsessions and compulsions. Significant correlations were found between environmental health of QOL, age, education, age at illness onset, and the severity of obsessions. Finally, there were significant correlations between the total score of QOL, age, education level, age at illness onset, and the severity of obsessions and compulsions. On the other hand, there were significant correlations between the physical health subscore of QOL and age and between education and social relationship subdomains of QOL for the control group ($r=-0.311$, $p=0.005$ and $r=-0.272$, $p=0.015$, respectively).

We next conducted a General Linear Model Analysis to investigate the effects of clinical and demographic variables on QOL subscores as dependent variables in patients with OCD. Age, years of education, age at illness onset, duration of illness, and Y-BOCS scores were continuous independent variables, whereas suicidal status, insight level, gender, occupation, and marital status were dichotomous categorical independent variables. Total and subscores of WHOQOL-BREF-TR were dependent variables. According to the general linear model analysis result in the patient group, gender, occupation, and marital status did not have a significant effect on QOL scores, whereas age and education had statistically significant effects on the physical, psychological, and social relationship subscales of QOL ($f=7.98$, $p=0.006$; $f=11.45$, $p=0.001$ and $f=11.26$, $p=0.001$, respectively). Importantly, the history of suicide attempt had statistically significant effects on all subscales of the QOL scale ($f=4.08$, $p=0.047$; $f=11.07$ $p=0.001$; $f=8.57$, $p=0.005$; $f=5.6$ $p=0.021$ and $f=9.18$, $p=0.003$, respectively). The severity of obsession significantly contributed to environmental and total scores, whereas the severity of compulsion had no significant effect on any subscore of QOL. According to the OVIS scores, 26 of the patients were found to have poor insight. Poor insight did not significantly contribute to any QOL subscores. Finally, age at illness onset had a significant predictive role on physical, psychological, and total scores of QOL ($f=8.57$, $p=0.005$; $f=11.90$, $p=0.001$ and $f=7.17$, $p=0.003$, respectively) (Table 4).

Table 1: Sociodemographic features of patients and healthy controls

	Patient (n=80)		Control (n=80)				
	Mean/n	SD/%	Mean/n	SD/%	χ^2/t test	df	p
Gender							
Female	56	70.0%	47	58.8	2.207	1	0.127
Male	24	30.0%	33	41.2			
Age (years)	28.55	7.90	31.67	6.85	-2.67	158	0.08
Education (years)	11.18	3.42	12.82	3.55	-2.97	158	0.06
Marital status							
Married	37	46.3%	48	60.0%	3.04	1	0.08
Single	43	53.8%	32	40.0%			
Occupation							
Yes	10	12.5%	48	60.0%	30.44	1	<0.001
Place of residence							
Urban	28	80.0%	12	82.9%	0.211	1	0.646
Rural	7	20.0%	68	17.1%			
Economical level							
Low	69	86.3%	65	81.3%	0.735	1	0.391
High	11	13.8%	15	18.7%			
Suicide attempt							
No	67	16.3%	--	--	NA	NA	NA
Yes	13	83.7%	--	--	NA	NA	NA
Insight							
Poor	26	32.5%	---	--	NA	NA	NA
Good	54	67.5%	--	--	NA	NA	NA
Age at illness onset	20.63	7.27	--	--	NA	NA	NA
Duration of disease	7.88	4.72	--	--	NA	NA	NA
Hospitalization							
No	77	96.2%	--	--	NA	NA	NA
Yes	3	3.8%	--	--	NA	NA	NA
Medication status							
AD alone	51	63.7%	--	--	NA	NA	NA
AD+Typical AP	7	8.7%	--	--	NA	NA	NA
AD+Atypical AP	22	27.6%	--	--	NA	NA	NA
Y-BOCS-Obsession	14.90	4.20	--	--	NA	NA	NA
Y-BOCS-Compulsion	14.87	4.08	--	--	NA	NA	NA
Y-BOCS-Total	29.3	8.55	--	--	NA	NA	NA
Y-BOCS-Insight	1.85	1.18	--	--	NA	NA	NA
HAM-D	1.62	0.83	--	--	NA	NA	NA

Y-BOCS: Yale-Brown Obsessive-Compulsive Scale, HAM-D: Hamilton Depression Rating Scale, SD: Standard deviation, NA: Not applicable, AD: Antidepressant, AP: Antipsychotic, χ^2: chi-squared test, t test: Student's t-test

DISCUSSION

QOL is an essential indicator for clinical outcome in all psychiatric disorders including OCD. In the present study, we found that the QOL of OCD patients was impaired and adversely affected by the severity of psychopathology, age, age at illness onset, and suicidality, but there was no relationship between

Table 2: Comparison of patient and control group in terms of the quality of life subscales

WHOQOOL-BREF-TR	Patient (n=35)		Control (n=35)					Mancova		
	Mean	SD	Mean	SD	t	df	p	F	df	p
Psychical health	58.64	19.74	79.56	10.84	-8.31	158	<0.001	65.78	1	<0.001
Psychological health	50.19	21.17	70.18	10.97	-7.49	158	<0.001	36.19	1	<0.001
Social relationships	51.19	23.30	73.25	17.47	-6.77	158	<0.001	39.04	1	<0.001
Environmental health	62.29	15.26	65.60	12.61	-1.49	158	0.137	1.534	1	0.217
Total	55.57	16.99	70.51	10.76	-6.64	158	<0.001	36.68	1	<0.001

WHOQOOL-BREF-TR: World Health Organization Quality of Life brief form-Turkish version, MANCOVA: Multivariate Analysis of Covariance (F and p values after controlling for age, gender and education)

Table 3: Correlations between the clinical and demographic variables and quality of life in patients with obsessive-compulsive disorder

Variables	Psychical health		Psychological health		Social relationships		Environmental health		Total	
	r	p	r	p	r	p	r	p	r	p
Age	-0.421	<0.001	-0.234	0.037	-0.053	0.643	-0.332	0.003	-0.352	0.001
Education (years)	0.338	0.002	0.305	0.006	0.044	0.697	0.261	0.019	0.312	0.005
Age at illness onset	-0.412	<0.001	-0.288	0.010	-0.091	0.424	-0.395	<0.001	-0.383	<0.001
Duration of disease	-0.084	0.461	0.045	0.689	0.052	0.647	0.052	0.650	-0.004	0.971
Y-BOCS-Obsession	-0.416	<0.001	-0.300	0.007	-0.334	0.002	-0.244	0.029	-0.361	<0.001
Y-BOCS Compulsion	-0.390	<0.001	-0.222	0.048	-0.263	0.018	-0.149	0.187	-0.284	0.011
Y-BOCS-Insight	-0.172	0.128	-0.211	0.060	-0.162	0.152	-0.137	0.227	-0.206	0.066

Y-BOCS: Yale-Brown Obsessive-Compulsive Scale

Table 4: The multivariate effects of clinical and demographic features on the subscores of quality of life in patients with obsessive-compulsive disorder

	Psychical health		Psychological health		Social relationships		Environmental health		Total	
	F (df=5)	p	F (df=5)	p	F (df=5)	p	F (df=5)	p	F (df=5)	p
Age	7.977	0.006	11.454	0.001	2.297	0.134	2.980	0.089	6.588	0.012
Gender	1.725	0.193	0.004	0.949	1.392	0.242	0.129	0.721	0.027	0.870
Education	0.641	0.426	1.649	0.203	11.262	0.001	2.979	0.089	3.707	0.058
Occupational status	0.199	0.657	1.291	0.260	3.590	0.062	2.339	0.131	2.335	0.131
Age at illness onset	8.570	0.005	11.904	0.001	2.491	0.119	3.390	0.070	7.172	0.009
Y-BOCS-obsession	2.637	0.109	3.722	0.058	2.657	0.108	5.867	0.018	5.578	0.021
Y-BOCS-compulsion	0.399	0.530	2.257	0.138	0.038	0.846	3.082	0.084	1.980	0.164
Poor insight	0.091	0.764	0.028	0.867	0.143	0.707	0.687	0.410	0.042	0.839
Suicide	4.077	0.047	11.072	0.001	8.568	0.005	5.593	0.021	9.175	0.003

The table shows F ratios and p values from general linear model analysis; F df=5. Current age, years of education, age at illness onset, and Y-BOCS scores were continuous variables, Gender, occupational status, suicide history, and insight status (poor vs. good) were dichotomous categorical predictor variables, and QOL subscores were dependent variables. Significant F ratios are shown in bold type, Y-BOCS: Yale-Brown Obsessive-Compulsive Scale

insight, duration of disease and the decrease in QOL. However, it is essential to note that suicidality had significant effects on all subscales of QOL.

When we compared the QOL subscores of the patient and the control group in our study, we found that the mean score of physical health, psychological health and social relations domains of the patient group were lower than in the control group. The difference between the groups in terms of the environmental domain score was not statistically significant. In a recent study, it was shown that OCD patients had lower scores than healthy controls in all

areas of QOL except for the physical health domain score (15). Another study also showed that OCD patients had a QOL in the physical health domain similar to that of healthy controls, whereas they showed worse social functioning and psychological domain scores (30). The WHOQOL-BREF-TR scale assesses the home environment, physical safety, and security, financial resources, and access to health services, spending leisure time, physical environment and transportation in the environmental health domain. In other studies evaluating the QOL in OCD patients, similar results were found in the environmental domain compared to healthy controls (31,32). Because this group of patients ensures adequate control over the home environment, physical safety, and security, it is expected that there will be no deterioration with OCD in this area of the QOL.

We found that age and education had statistically significant effects on the physical, psychological, and social relationship subscales of QOL, respectively. It has been reported that age had an effect on QOL domains in OCD patients, with some studies reporting a negative impact (11,33), whereas others did not report an association (10,11). Higher education level indicated a positive association with QOL in patients with OCD in some studies (11), although other studies did not find the same relationship (10). In our study, there was no significant relationship between gender and QOL scores. However, in the literature it has been reported that women have significantly worse QOL scores. This deterioration in the QOL in women has been associated with the presence of comorbid depression and anxiety disorders being more frequent in female patients. Since we did not include cases with comorbid psychiatric disorders, this may explain the difference in our results (6,10). In the present study, there was no relationship between disease duration and QOL. We also found that age at illness onset had a significantly predictive role on physical, psychological and total scores of QOL. In this respect, our findings support previous literature findings (10).

On the other hand, a recent study reported that the QOL measure of Short Form-36 (SF-36) domain scores did not differ among OCD patients according to the age of disease onset. However, illness duration had a significant negative correlation with the SF-36 domains General Health, Bodily Pain, Role-Physical and the Role-Functioning (15). These differences may be due to sampling size and composition, psychometric tools used and the exclusion of comorbid conditions in this study.

On the other hand, we found that patients with a history of previous suicide attempt had significantly worse QOL scores in all subscales. In a limited number of studies in the literature, the relationship between some subscales of QOL and suicide attempt has been reported (15). A recent study found that OCD patients with suicidality had significantly lower SF-36 scores, especially in the Mental Health domain, followed by Vitality, General Health, Role-Emotional, Social Functioning, and Bodily Pain. The same study reported that suicidality was significantly increased by the relative risk of impairment in the Role-Functioning domain and by the relative risk for impairment in the Vitality domain. However, the previous studies used a different instrument [SF-36] and had a different sample composition (including comorbid conditions), which limits the comparison with our study (15). However, the very small sample of suicidal patients (n=13) and the use of a retrospective evaluation of suicidal attempts can limit the power of our findings. Nonetheless, in clinical terms, these findings highlight the need for careful assessment of OCD patients with poor QOL in terms of suicidal thoughts.

In the present study, another important finding is that there is no relationship between insight and QOL in OCD. We hypothesized that patients with poor insight would have significantly worse QOL scores. However, we did not find any association between the two variables when evaluating insight as both categorical (OVIS) and numerical (Y-BOCS-11) measures. This finding is surprising and contrary to our hypothesis. To date, there is no literature data regarding the relationship between insight and QOL in OCD patients, and therefore it is difficult to comment on this finding at this time. Possibly, in patients with poor insight, the symptoms are perceived to be less severe and distressing compared to those with good insight; therefore, patients with poor insight experience lower distress, anxiety, and impairment in QOL secondary to obsessive symptoms. However, for clarification it is necessary to investigate this relationship between insight and QOL in a longitudinal study with a larger sample.

We found that the scores on all QOL subscales had a significant relationship with the severity of obsessions. As the severity of the obsessions increased, the QOL scores in our patients decreased. In addition, there was a significant correlation between all subscales except environmental health and compulsion severity. In a multivariate model, however, there was no significant effect of compulsions on any subscale of QOL, whereas

obsessions had significantly contributed to environmental health and total scores of QOL. A recent study reported that total, obsessive and compulsive subscales of Y-BOCS had the most robust relationship with the mental health and emotional roles of QOL. However, in this study, the use of different quality-of-life scales and failure to exclude other physical and mental comorbid diseases may be explanations for this difference in outcome compared to our study (15). Whereas some studies have shown that both obsession and compulsion severity scores independently predicted QOL in some or all domains (34,35), others found that only obsessive symptoms predicted QOL in patients with OCD (10,36). This may be related to the differences between patients in their perception of symptoms. Some researchers have claimed that individuals with OCD perceive their obsessions to be more debilitating than their compulsions, as the nature of obsessions is intrusive and uncontrollable, anxiety-inducing and distressing, whereas compulsions are perceived as a way to diminish this anxiety (36,37).

The present study needs to be considered in the light of the following limitations. First, only patients using medications from the SSRI group were present in the study, and homogeneity could not be achieved due to the use of different drugs. In our study, since all patients were using the same drug group, this condition also provided homogeneity within the patient group. Another limitation of our study is that the sample size was small, as the participants were selected from a single center. In our study, the presence of comorbid psychiatric disorders other than OCD was considered as an exclusion criterion; hence, the potential adverse effects of depressive disorder and other diseases were excluded. Having such a sample, however, suggests that these findings are unique to OCD and are not produced by other comorbidities. On the other hand, we did not use a structured interview nor any instrument to exclude axis II comorbidity, which is another critical limitation. Finally, this is a cross-sectional study; accordingly, the longer-term relations between QOL and clinical features were not evaluated.

Despite the limitations mentioned above, this study shows that QOL is affected in OCD, which is partly related to the severity of the disease, age at illness onset, and suicidality, but not to insight. Considering the importance of QOL in both the treatment and the follow-up of this patient group, the importance of identifying the factors affecting the QOL will be better understood in OCD patients. Further large-scale and longitudinal studies are needed to clarify this issue.

Contribution Categories		Author Initials
Category 1	Concept/Design	A.E.E., O.E.
	Data acquisition	A.E.E., O.E.
	Data analysis/Interpretation	O.E.
Category 2	Drafting manuscript	A.E.E., O.E.
	Critical revision of manuscript	A.E.E., O.E.
Category 3	Final approval and accountability	A.E.E., O.E.
Other	Technical or material support	N/A
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REFERENCES

1. Ruscio AM, Stein DJ, Chiu WT, Kessler RC. The epidemiology of obsessive compulsive disorder in the National Comorbidity Survey Replication. Mol Psychiatry 2010; 15:53-63.[CrossRef]
2. Tenney NH, Denys DA, van Megen HJ, Glas G, Westenberg HG. Effect of a pharmacological intervention on quality of life in patients with obsessive-compulsive disorder. Int Clin Psychopharmacol 2003; 18:29-33. [CrossRef]
3. Niederauer KG, Braga DT, Souza FP, Meyer E, Cordioli AV. Quality of life in individuals with obsessive-compulsive disorder: a review. Braz J Psychiatry 2007; 29:271-278. (Portuguese)
4. Moritz S, Rufer M, Fricke S, Karow A, Morfeld M, Jelinek L, Jacobsen D. Quality of life in obsessive-compulsive disorder before and after treatment. Compr Psychiatry 2005; 46:453-459.
5. Macy AS, Theo JN, Kaufmann SC, Ghazzaoui RB, Pawlowski PA, Fakhry HI, Cassmassi BJ, IsHak WW. Quality of life in obsessive compulsive disorder. CNS Spectr 2013; 18:21-33. [CrossRef]
6. Coluccia A, Fagiolini A, Ferretti F, Pozza A, Costoloni G, Bolognesi S, Goracci A. Adult obsessive-compulsive disorder and quality of life outcomes: a systematic review and meta-analysis. Asian J Psychiatr 2016; 22:41-52. [CrossRef]
7. Hollander E, Kwon JH, Stein DJ, Broatch J, Rowland CT, Himelein CA. Obsessive-compulsive and spectrum disorders: overview and quality of life issues. J Clin Psychiatry 1996; 57(Suppl.8):3-6.
8. Albert U, Maina G, Bogetto F, Chiarle A, Mataix-Cols D. Clinical predictors of health-related quality of life in obsessive-compulsive disorder. Compr Psychiatry 2010; 51:193-200. [CrossRef]
9. Mancebo MC, Greenberg B, Grant JE, Pinto A, Eisen JL, Dyck I, Rasmussen SA. Correlates of occupational disability in a clinical sample of obsessive-compulsive disorder. Compr Psychiatry 2008; 49:43-50. [CrossRef]

10. Eisen JL, Mancebo MA, Pinto A, Coles ME, Pagano ME, Stout R, Rasmussen SA. Impact of obsessive-compulsive disorder on quality of life. Compr Psychiatry 2006; 47:270-275. [CrossRef]

11. Fontenelle IS, Fontenelle LF, Borges MC, Prazeres AM, Range BP, Mendlowicz MV, Versiani M. Quality of life and symptom dimensions of patients with obsessive compulsive disorder. Psychiatry Res 2010; 179:198-203. [CrossRef]

12. Velloso P, Piccinato C, Ferrao Y, Aliende Perin E, Cesar R, Fontenelle L, Hounie AG, do Rosario MC. The suicidality continuum in a large sample of obsessive-compulsive disorder (OCD) patients. Eur Psychiatry 2016; 38:1-7. [CrossRef]

13. Torres AR, de Abreu Ramos-Cerqueira AT, Torresan RC, de Souza Domingues M, Hercos AC, Guimaraes AB. Prevalence and associated factors for suicidal ideation and behaviors in obsessive-compulsive disorder. CNS Spectr 2007; 12:771-778.

14. Angelakis I, Gooding P, Tarrier N, Panagioti M. Suicidality in obsessive compulsive disorder (OCD): a systematic review and meta-analysis. Clin Psychol Rev 2015; 39:1-15. [CrossRef]

15. Velloso P, Piccinato C, Ferrao Y, Perin EA, Cesar R, Fontenelle LF, Hounie AG, do Rosario MC. Clinical predictors of quality of life in a large sample of adult obsessive-compulsive disorder outpatients. Compr Psychiatry 2018; 86:82-90. [CrossRef]

16. Catapano F, Perris F, Fabrazzo M, Cioffi V, Giacco D, De Santis V, Maj M. Obsessive-compulsive disorder with poor insight: a three-year prospective study. Prog Neuropsychopharmacol Biol Psychiatry 2010; 34:323-330. [CrossRef]

17. Tolin DF, Maltby N, Diefenbach GJ, Hannan SE, Worhunsky P. Cognitive-behavioral therapy for medication nonresponders with obsessive-compulsive disorder: a wait-list-controlled open trial. J Clin Psychiatry 2004; 65:922-931. [CrossRef]

18. Bellino S, Patria L, Ziero S, Bogetto F. Clinical picture of obsessive-compulsive disorder with poor insight: a regression model. Psychiatry Res 2005; 136:223-231. [CrossRef]

19. Hamilton M. Development of a rating scale for primary depressive illness. Br J Soc Clin Psychol 1967; 6:278-296. [CrossRef]

20. Akdemir A, Orsel S, Dag I, Turkcapar H, Iscan N, Ozbay H. Validity, reliability and clinical use of the Hamilton Depression Rating Scale. Journal of Psychiatry Psychology Psychopharmacology 1996; 4:251-259. (Turkish)

21. First MB, Spitzer RL, Gibbon M. Structured Clinical Interview for DSM-IV Axis I Disorders (SCID) Clinician Version. Washington, DC: American Psychiatric Press, 1997

22. Corapcioglu A, Aydemir O, Yildiz M, Esen A, Koroglu E. Structured clinical interview for DSM-IV (SCID-IV), Turkish version. Ankara: Hekimler Yayin Birligi, 1999. (Turkish)

23. Goodman WK, Price LH, Rasmussen SA, Mazure C, Fleischmann RL, Hill CL, Heninger GR, Charney DS. The Yale-Brown Obsessive Compulsive Scale. I. development, use, and reliability. Arch Gen Psychiatry 1989; 46:1006-1011. [CrossRef]

24. Tek C, Ulug B, Rezaki G, Tanriverdi N, Mercan S, Demir B, Vargel S. Yale-Brown Obsessive-Compulsive Scale and US National Institute of Mental Health Global Obsessive Compulsive scale in Turkish: reliability and validity. Acta Psychiatr Scand 1995; 91:410-413. [CrossRef]

25. WHOQOL Group. Development of the World Health Organization WHOQOL-BREF quality of life assessment. The WHOQOL Group. Psychol Med 1998; 28:551-558. [CrossRef]

26. Fidaner H, Elbi H, Fidaner C, Eser SY, Eser E, Goker E. Measuring quality of life, WHOQOL-100 and WHOQOL-BREF. Psychiatry Psychology Psychopharmacology (3P) Journal 1999; 7(Suppl.2):5-13. (Turkish)

27. Neziroglu F, McKay D, Yaryura-Tobias JA, Stevens KP, Todaro J. The Overvalued Ideas Scale: development, reliability, and validity in obsessive-compulsive disorder. Behav Res Ther 1999; 37:881-902. [CrossRef]

28. Tumkaya S, Karadag F, Oguzhanoglu NK, Tekkanat C, Varma G, Ozdel O, Atesci F. Schizophrenia with obsessive-compulsive disorder and obsessive-compulsive disorder with poor insight: a neuropsychological comparison. Psychiatry Res 2009; 165:38-46.

29. Neziroglu F, Pinto A, Yaryura-Tobias JA, McKay D. Overvalued ideation as a predictor of fluvoxamine response in patients with obsessive-compulsive disorder. Psychiatry Res 2004; 125:53-60.

30. Koran LM, Thienemann ML, Davenport R. Quality of life for patients with obsessive-compulsive disorder. Am J Psychiatry 1996; 153:783-788. [CrossRef]

31. Kivircik Akdede BB, Alptekin K, Akvardar Y, Kitis A. Quality of life in patients with obsessive compulsive disorder: relations with cognitive functions and clinical symptoms. Turk Psikiyatri Derg 2005; 16:13-19. (Turkish)

32. Besiroglu L, Uguz F, Saglam M, Yilmaz E, Agargun MY, Askin R. Factors associated with quality of life in obsessive compulsive disorder. Anatolian Journal of Psychiatry 2007; 8:5-13. (Turkish)

33. Kugler BB, Lewin AB, Phares V, Geffken GR, Murphy TK, Storch EA. Quality of life in obsessive-compulsive disorder: the role of mediating variables. Psychiatry Res 2013; 206:43-49. [CrossRef]

34. Rodriguez-Salgado B, Dolengevich-Segal H, Arrojo-Romero M, Castelli-Candia P, Navio-Acosta M, Perez-Rodriguez MM, Saiz-Ruiz J, Baca-Garcia E. Perceived quality of life in obsessive-compulsive disorder: related factors. BMC Psychiatry 2006; 6:20.

35. Jahangard L, Fadaei V, Sajadi A, Haghighi M, Ahmadpanah M, Matinnia N, Bajoghli H, Sadeghi Bahmani D, Lang U, Holsboer-Trachsler E, Brand S. Patients with OCD report lower quality of life after controlling for expert-rated symptoms of depression and anxiety. Psychiatry Res 2018; 260:318-323. [CrossRef]

36. Stengler-Wenzke K, Kroll M, Riedel-Heller S, Matschinger H, Angermeyer MC. Quality of life in obsessive-compulsive disorder: the different impact of obsessions and compulsions. Psychopathology 2007; 40:282-289. [CrossRef]

37. Hauschildt M, Jelinek L, Randjbar S, Hottenrott B, Moritz S. Generic and illness-specific quality of life in obsessive-compulsive disorder. Behav Cogn Psychother 2010; 38:417-436.