Chronic Diseases Journal

DOI: 10.22122/cdj.v12i1.830 Published by Vesnu Publications

The Prevalence of Obsessive-Compulsive Disorder Symptoms and the Influential Factors in COVID-19 Patients in Kurdistan, Iran

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Original Article

Abstract

BACKGROUND: Among individuals with COVID-19, fear of contamination and compulsive handwashing are recognized as common symptoms. This study was conducted with the aim to investigate the prevalence of obsessive-compulsive disorder (OCD) symptoms among COVID-19 patients in Kurdistan, Iran, and identify potential influential factors.

METHODS: This cross-sectional study was conducted on 1,434 COVID-19 patients who were randomly selected from Tohid Hospital, a COVID-19 treatment center in Kurdistan province, between July and September 2021. Data were collected using the electronic questionnaire for the 'Maudsley Obsessive-Compulsive Inventory (MOCI). The collected data were analyzed using chi-square test and logistic regression modeling in SPSS software.

RESULTS: The study found that 35.8% of COVID-19 patients experienced OCD symptoms, with men showing a higher prevalence than women ($P < 0.001$). Patients with a lower education level were more likely to have OCD symptoms ($P = 0.001$). OCD symptoms were also more common among housewives or unemployed individuals ($P = 0.002$) and patients who paid more attention to their hygiene ($P = 0.001$). The study found no significant correlations between OCD symptoms and age, economic status, marital status, family history of COVID-19, history of hospitalization, and having or not having children ($P > 0.05$).

CONCLUSION: This study indicates that the prevalence of OCD symptoms among COVID-19 patients in Kurdistan, Iran is relatively high. Therefore, clinicians should provide specialized care to patients to address their psychological well-being along with treating COVID-19 symptoms.

KEYWORDS: Obsessive-Compulsive Disorder, COVID-19, Kurdistan, Iran

Date of submission: 08 May 2023, ***Date of acceptance:*** 17 Sep. 2023

Citation: Servatyari K, Yousefi F, Yousefi S. **The Prevalence of Obsessive-Compulsive Disorder Symptoms and the Influential Factors in COVID-19 Patients in Kurdistan, Iran.** Chron Dis J 2024; 12(1): 8-18.

Introduction

In late December 2019, a case of pneumonia with symptoms resembling viral pneumonia was confirmed in Wuhan city, located in Hubei province, China. The World Health Organization (WHO) named the virus COVID-19.[1] The current coronavirus pandemic not only poses a health emergency, but also presents a significant challenge to mental health.[2] The lack of definitive treatment and prevention methods, genetic changes causing unpredictability, and misinformation about the virus are some of the major concerns associated with this disease.[3]

The mental well-being of a community plays a crucial role in its overall prosperity, which is why governments need to pay special attention

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to it during this epidemic crisis.[4] A study by Servatyari et al. revealed that among COVID-19 patients in Kurdistan, the prevalence of stress, anxiety, and depression was 51.7% (95% confidence interval [CI]: 48.7-54.7), 64.3% (95% CI: 61.3-67.1), and 61.4% (95% CI: 58.4-64.2), respectively.[5] Moreover, emotional disorders and obsessive-compulsive disorder (OCD) have been observed to worsen during this pandemic.[6] Obsessions are intrusive thoughts or images that cause anxiety, while compulsions are behaviors performed to alleviate obsessive thoughts or reduce anxiety.[7] During the COVID-19 pandemic, OCD has become a major concern, especially considering that its prevalence used to be around 2-3% throughout an individual's lifetime before the COVID-19 outbreak.[8] Patients with OCD often experience difficulties in personal relationships and professional performance.[9] Fear of contamination and compulsive handwashing are among the most common symptoms of the disease. Although drug therapy and psychotherapy can help manage these issues, they tend to recur due to the stress triggered by external and environmental factors.[10]

Given the nature of COVID-19, it is expected that the prevalence of OCD will increase among diagnosed patients. In a study by Chakraborty and Karmakar, it was found that the current pandemic has exacerbated OCD symptoms in individuals who were already receiving treatment and follow-up for OCD before the coronavirus outbreak.[10] The worsening of OCD and its increased prevalence in patients with a history of OCD during this pandemic could be attributed to limited access to medications and regular medical follow-ups, leading to the relapse of the condition.[11] Washing and contamination OCD are among the most common types of disorders observed in these patients, and if left unaddressed, these psychological issues can impact not only specific communities, but also healthcare professionals and medical staff.[12]

Epidemiological studies play a critical role in identifying high-risk populations and providing necessary health interventions across various domains. Therefore, the objective of this study was to assess the prevalence of OCD symptoms and investigate influential demographic factors among COVID-19 patients in Kurdistan, Iran.

Methods

This cross-sectional, descriptive-analytical research was conducted on all patients diagnosed with COVID-19 in Kurdistan province between July and September 2021. Kurdistan province, located in the northwest of Iran, has an approximate population of 1.6 million and is predominantly Kurdish-speaking.

The data collection took place 1-2 months after the patient's diagnosis. The research team utilized a demographic checklist to collect information such as age, gender, occupation status, education level, marital status, history of hospitalization with a COVID-19 diagnosis, and family history of coronavirus infection. Additionally, the Maudsley Obsessive-Compulsive Inventory (MOCI) was employed to assess OCD symptoms.

To determine the sample size, Cochran's formula was applied, considering a P-value of 0.5, a d-value of 0.05, and a 95% confidence interval (CI). Consequently, a total of 400 subjects were determined as the required sample population. To estimate prevalence in both genders, the study aimed for the participation of 800 individuals. However, due to the consideration of potential non-response rates and the exclusion criterion of having a history of psychological disorders, the research team sent the questionnaire to 1600 cases, which was twice the primary sample size. Eventually, 1434 individuals (689 men, and 745 women) completed the questionnaire.

The inclusion criteria required participants to be residents of Kurdistan province and have a confirmed diagnosis of COVID-19 based on

laboratory and imaging criteria from the National Coronavirus Testing Program. The COVID-19 database in Kurdistan province is a part of the national registration system where each COVID-19 case (suspected and confirmed) is registered using a unique identification code (national number). The samples for this study were randomly selected from the confirmed cases (PCR positive). The exclusion criteria included unwillingness to participate, incomplete questionnaires, and absence of a definitive diagnosis of the disease. The questionnaire was administered within a three-month interval (beginning from the onset of COVID-19 positivity until three months after diagnosis).

To mitigate the potential risk of coronavirus transmission through paper materials, the research team opted not to use paper questionnaires or checklists. Instead, the data were collected online using electronic checklists and questionnaires. The research tools were distributed randomly among COVID-19 patients with positive PCR test results recorded in the National Infectious Disease Management Center.

Before completing the questionnaires, the research objectives were explained to the participants, and informed consent was obtained from them. The study protocol received approval from the Ethics Committee of the Kurdistan University of Medical Sciences (ethics code: IR.MUK.REC.1399.144).

Demographic and clinical data of the patients were collected using a separate checklist. To assess OCD symptoms, the MOCI was utilized. The MOCI was initially developed by Rachman and Hodgson in 1977.[13] It consists of 30 dichotomous items (True/False) divided into four subscales: checking (9 items), cleaning (11 items), slowness (7 items), and doubting (7 items). Although the MOCI has some limitations, such as using a True/False format and not evaluating other aspects of OCD like symmetry/order, it has been commonly employed in Iran with acceptable psychometric properties (r = 0.98).[14] The validity of the test has been confirmed in clinical and non-clinical projects.[1,9]

For scoring the MOCI items, each response that matches the questionnaire key is scored one, while responses that do not match are scored zero. Accordingly, the scores above 15 show the presence of OCD.

Based on the results of the study by Michie et al., different behaviors were suggested to reduce the risk of transmittion of the virus and disease. These behaviors include the following three subtitles: maintaining hygiene (frequent hand cleaning, using and disposing of tissues, and cleaning surfaces), avoiding touching (nose, mouth, and eyes; close contact greetings; and surfaces at risk of contamination), and practicing social distancing (avoiding crowds, maintaining personal distance, and isolating). According to the criteria mentioned above, if each person received at least 2 items in each subtitle and scored greater than or equal to 6 points out of 9, they were placed in the 'Severe Protection Care' category. On the other hand, if each person received at least 1 item in each subtitle and scored greater than or equal to 3 points out of 9, they were placed in the 'Moderate Protection Care' category. Finally, if each person scored less than 3 points out of 9, they were placed in the 'Mild Protection Care' category.[15]

Statistical analysis: Data analysis was conducted using descriptive statistics (mean, standard deviation, and frequency), logistic modeling, and chi-square test in SPSS software (version 23; IBM Corp., Armonk, NY, USA). A significance level of 0.05 was considered in the interpretation of the tests. The study protocol was approved by the Ethics Committee of the university (ethics code: IR.MUK.REC.1399.144). Informed consent was obtained from all the subjects, and they were assured of the confidentiality terms regarding their personal information. Furthermore, all the subjects were allowed to withdraw from the research at any given time.

Moreover, as explained in the method section, the questionnaires were filled out online, but in the information section of the checklist, there was an informed consent form for participation in the study, and those who did not wish to participate refused to participate in the study.

Results

A total of 1692 questionnaires were completed, 258 of which were excluded due to the lack of a definitive diagnosis of COVID-19. The average age of the patients was 31.44 ± 10.15 years. Among the total participants, 745 (52%) were women, and 689 (48%) were men. One important variable in this study was the history of psychological disorders, such as depression, anxiety, OCD, hyperactivity, and psychotic disorders. Table 1 presents the frequency distribution of OCD in patients with and without a history of psychological disorders.

In total, 514 COVID-19 patients (35.8%) were assessed based on the cutoff point of the questionnaire (OCD score > 15). Table 2 provides a summary of the frequency of OCD based on research variables and their significance in the subgroup of subjects without a history of psychiatric disorders. The chi-square test results showed that OCD symptoms were more prevalent in men compared to women (P < 0.001), as well as in housewives and unemployed patients compared to employed patients (P = 0.002). Additionally, OCD symptoms decreased with higher levels of education (P = 0.001), while the prevalence of OCD was higher in patients who paid more attention to their hygiene before the outbreak of COVID-19 (P = 0.001). Significant correlations were also observed between OCD symptoms in patients with a history of psychological disorders and the variables of gender (P = 0.001), occupation status (P = 0.032), and education level (P = 0.002).

The results of univariate logistic analysis (Table 3) revealed significant associations between OCD and the variables of gender (P < 0.001), education level (P < 0.001), occupation status (P < 0.001), and attention paid to personal hygiene before COVID-19 diagnosis (P < 0.001). However, no significant correlations were found between OCD and the variables of having/not having children (P = 0.760), history of hospitalization (P = 0.740), family history of coronavirus infection (P = 0.270), marital status (P = 0.740), and age (P = 0.290). Following the logistic modeling of the significant variables, significant associations were observed between the level of personal hygiene before COVID-19 diagnosis (P = 0.006) and the variables of gender (P < 0.001), occupation status (P = 0.002), and education level (P = 0.003).

Since the history of any psychological disorders may have a direct correlation with OCD frequency, a subgroup analysis was performed on 362 participants (25.2%) with a history of psychological disorders. The analysis aimed to evaluate the associations between OCD and the independent variables only in patients with COVID-19 (n = 1.072) who had no history of psychological disorders (Table 4).

According to the information presented in table 4, OCD symptoms in these patients were significantly correlated with the variables of gender (P < 0.001), education level (P < 0.001), occupation status (P = 0.004), and attention to personal hygiene before COVID-19 diagnosis (P = 0.060).

Table 1. Frequency of obsessive-compulsive disorder in COVID-19 Patients with and without Psychological Disorders in Kurdistan in 2020

Variable	Distribution	Total [n (%)]	With a history of psychological disorder [n (%)]	Without a history of psychological disorder [n (%)]
OCD	No	920 (64.2)	178 (49.2)	742 (69.2)
	Yes	514 (35.8)	184 (50.8)	330 (30.8)
	Total	1434 (100)	362 (100)	1072 (100)

OCD: Obsessive-compulsive disorder

Table 2. Frequency of obsessive-compulsive symptoms based on demographic and clinical characteristics in total studied patients and patients without a history of psychological disorders in COVID-19 patients in Kurdistan in 2020 (Chi-square)

Variable	OCD in total studied patients			OCD in patients without a psychological history		
	No [n (%)]	Yes [n (%)]	P	No [n (%)]	Yes [n (%)]	P
Sex						
Female	512 (68.7)	233 (31.3)	< 0.001	402 (73.9)	142 (26.1)	0.001
Male	408 (59.2)	281 (40.8)		342 (64.5)	188 (35.8)	
Job						
Employed and Retired	232 (72.3)	89 (27.7)	0.002	199 (75.1)	66 (24.9)	0.032
Unemployed and housewife	276 (63.3)	160 (36.7)		209 (69.0)	94 (31.0)	
Students	186 (64.4)	103 (35.6)		145 (70.4)	61 (29.6)	
Non-employee	226 (58.2)	162 (41.8)		191 (63.7)	109 (36.3)	
Education						
Diploma & lower	403 (58.6)	285 (41.4)	0.001	314 (64)	177 (36)	0.002
Associate and bachelor's degree	431 (69.1)	193 (30.9)		357 (73.6)	128 (26.4)	
Master's & higher	86 (70.5)	36 (29.5)		73 (74.5)	25 (25.5)	
Protection care						
Mild	528 (68.5)	243 (31.5)	0.001	40 (65.6)	21 (34.4)	0.140
Moderate	343 (59.2)	236 (40.8)		291 (61.4)	147 (33.6)	
Severe	49 (58.3)	35 (41.7)		413 (71.8)	162 (28.2)	
Economic status (income), each person Per month						
Less than 62 $	742 (63.1)	433 (36.9)	0.180	600 (68.1)	281 (31.9)	0.160
62-124 $	133 (67.5)	64 (32.5)		107 (73.3)	39 (26.7)	
More than 125 $	45 (72.6)	17 (27.4)		37 (78.7)	10 (21.3)	
Having children						
No	481 (63.8)	273 (36.2)	0.760	382 (70.5)	160 (29.5)	0.380
Yes	439 (64.6)	241 (35.4)		362 (68)	170 (32)	
Marital status						
Single	359 (63.7)	205 (36.3)	0.740	276 (72.1)	107 (27.9)	0.140
Married	561 (64.5)	309 (35.5)		468 (67.7)	223 (32.3)	
Patient in family						
No	44 (62.9)	266 (37.5)	0.250	373 (68.3)	173 (39.7)	0.540
Yes/Recovered	441 (66.3)	224 (33.7)		346 (70.8)	143 (29.2)	
Yes/Died	35 (59.3)	24 (40.7)		25 (64.1)	14 (35.9)	
Hospitalization						
No	842 (64)	473 (36)	0.740	680 (69)	305 (31)	0.570
Yes	78 (65.5)	41 (34.5)		64 (71.9)	25 (28.1)	

OCD: Obsessive-compulsive disorder

However, no significant associations were found between OCD symptoms and the variables of family history of coronavirus infection (P = 0.400), history of hospitalization (P = 0.600), marital status (P = 0.100), having/not having children (P = 0.300), and age (P = 0.500). The logistic modeling of the significant variables indicated significant correlations between OCD and the variables of gender (P = 0.002) and education level (P = 0.010) in the final model.

Discussion

This study was conducted with the aim to investigate the prevalence of OCD and the demographic factors affecting it among patients with COVID-19 in Kurdistan province. According to the results of the present study, the prevalence of OCD among patients diagnosed with COVID-19 in Kurdistan province, Iran, was found to be 35.8%. In our analysis, we accounted for the history of psychiatric disorders among the patients with COVID-19 as a confounding variable.

Table 3. Logistic regression modeling to assess the association between OCD and demographic and clinical variables in total studied patients in Kurdistan in 2020

Distribution	Patients variable	Un-adjusted		Adjusted	
		OR (95 CI)	P	OR (95 CI)	P
Sex	Female	1	-	-	-
	Male	1.5 (1.2-1.8)	< 0.001	1.68 (1.2-2.2)	< 0.001
Job	Employed and Retired	1	-	-	-
	Unemployed and housewife	1.5 (1.1-2.0)	0.001	1.6 (1.1-2.4)	0.007
	Students	1.4 (1.0-2.0)	0.036	1.3 (0.9-1.9)	0.130
	Non-employee	1.8 (1.3-2.5)	< 0.001	1.4 (0.9-1.9)	0.060
Education	Diploma & Less	1	-	-	-
	Associate and bachelor's degree	0.63 (0.5 – 0.8)	< 0.001	0.71 (0.5-0.9)	0.007
	Master's degree & higher	0.59 (0.4 – 0.9)	0.014	0.66 (0.4-1.0)	0.060
Protection care	Mild	1	-		
	Moderate	1.5 (1.0-2.4)	0.06	1.3 (0.8-2.0)	0.300
	Severe	1.5 (1.2-1.9)	< 0.001	1.4 (1.0-1.7)	0.006
Age		0.99 (0.98-1.05)	0.290		
Economic status (income),	Less than 62 $	1	-		
each person Per month	62-124 $	0.82 (0.6-1.1)	0.250		
	More than 125 $	0.64 (0.4-1.1)	0.130		
Having a child	No	1	-		
	Yes	0.96 (0.8-1.2)	0.760		
Marital status	Single	1	-		
	Married	0.96 (0.8-1.2)	0.750		
Patient in family	No	1	-		
	Yes/Recovered	0.84 (0.7-1.0)	0.140		
	Yes/Died	1.14 (0.6-1.9)	0.620		
Hospitalization	No	1			
	Yes	0.93 (0.6-1.4)	0.740		

OR: Odds ratio; CI: Confidence interval

The prevalence of OCD symptoms among patients with and without a history of psychiatric disorders was found to be 50.8% and 30.8%, respectively.

In a study conducted among the Canadian population, the prevalence of primary obsessive-compulsive symptoms during the COVID-19 pandemic was reported as 60.3%, with washing obsessions accounting for 53.8% of the cases.[16] The study concluded that the prevalence of OCD symptoms significantly increased during the COVID-19 pandemic compared to pre-pandemic rates reported for the sample population.[16] Another study by Yong and Keh reported that the prevalence of OCD among Singaporean students during the pandemic ranged from 5.7% to 7.1%.[17] Similarly, Al Hassani and Mufaddel found the prevalence of OCD symptoms (mild to severe) among the population of the United Arab Emirates to be 31.1%.[18] In the study by Shafighi et al., the prevalence of OCD among 300 Iranian COVID-19-recovered individuals was reported as 71%.[19]

In the study conducted by Zheng et al. on570 urban residents in Wuhan, the prevalence of OCD three months after the lifting of quarantine was found to be 17.93%.[20]

Individuals experiencing concerns about infecting themselves or their families, along with a fear of harming others, as well as those who overestimate threats, are more susceptible to the increased prevalence of OCD during the current pandemic. Hand washing and adherence to personal hygiene have been recommended by the WHO as primary preventive measures for the disease, and fear of contamination and excessive hand washing are regarded as significant OCD symptoms.[21]

Table 4. Logistic regression modeling to assess the association between OCD and demographic and clinical variables in COVID-19 patients without a history of psychological disorders in Kurdistan in2020

Distribution	Patients variable	Un-adjusted		Adjusted	
		OR (95 CI)	P	OR (95 CI)	P
Sex	Female	1		1	
	Male	1.5 (1.2-2.0)	0.001	1.7 (1.2-2.3)	0.002
Job	Employed and Retired	1		1	
	Unemployed and housewife	1.3 (0.9-1.9)	0.12	1.4 (0.9-2.2)	0.08
	Students	1.2 (0.8-1.9)	0.27	1.1 (0.7-1.7)	0.6
	Non-employee	1.7 (1.1-2.4)	0.004	1.2 (0.8-1.8)	0.3
Education	Diploma & Less	1		1	
	Associate and bachelor's degree	0.64 (0.5-0.8)	0.001	0.7 (0.5-0.9)	0.01
	Master's degree & higher	0.60 (0.3-0.9)	0.04	0.7 (0.4-1.1)	0.12
Protection care	Mild	1			
	Moderate	1.4 (0.8-2.4)	0.3	1.1 (0.6-2)	0.7
	Severe	1.3 (1.0-1.7)	0.06	1.2 (0.9-1.6)	0.2
Age		1.00 (0.99-1.01)	0.5		
Economic status (income), each person Per month	Less than 62 $	1			
	62-124 $	0.8 (0.5-1.1)	0.2		
	More than 125 $	0.6 (0.3-1.2)	0.2		
Having a child	No	1			
	Yes	1.1 (0.9-1.5)	0.3		
Marital status	Single	1			
	Married	1.2 (0.9-1.6)	0.1		
Patient in family	No	1			
	Yes/Recovered	0.9 (0.7-1.2)	0.4		
	Yes/Died	1.2 (0.6-2.3)	0.6		
Hospitalization	No	1			
	Yes	0.8 (0.5-1.4)	0.6		

OR: Odds ratio; CI: Confidence interval

Furthermore, past epidemic crises such as severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), and influenza have been associated with exacerbated OCD, particularly 6-12 months following the end of the outbreaks. The risk of developing OCD increases when disease control strategies involve repetitive behaviors. However, this condition often goes unnoticed during the active phase of pandemics due to the unknown nature of the disease and disruptions in medical services.[22]

Serwatyari et al. demonstrated that the frequency of coronavirus infections was high during this period in Kurdistan, Iran, due to various factors including low vaccination coverage, non-compliance with health protocols, inadequate medical services and facilities, as well as multiple virus mutations. The high infection and mortality rates caused significant stress among the population.[23]

Our findings demonstrate a higher prevalence of OCD in the Iranian community, especially in Kurdistan province, compared to other countries during the current pandemic. There were conflicting reports regarding the role of gender in the prevalence of OCD. In some studies, the prevalence of OCD was higher in men,[24] while in others, it was higher in women.[25] In the present study, the elevated prevalence of OCD among men might be due to the cultural and social conditions of the Iranian community, especially in Kurdistan province, as well as the high levels of stress among men due to the economic state of the country, unemployment, and home quarantine

during the epidemic. In the Iranian community, men are regarded as the main breadwinners of the family and tend to experience more pressure compared to women.

In this study, a significant correlation was observed between OCD and education level; higher education levels were associated with a decrease in OCD. This finding was in line with the results obtained by Massoudzadeh (2006), indicating a higher prevalence of OCD among individuals with lower education levels.[26] Furthermore, Khosravi and Naseri observed a higher prevalence of OCD in individuals with lower education levels compared to those with higher academic degrees.[27] In another study by Mohammadi et al. in Tehran province (Iran), the majority of the subjects with OCD had low education levels.[28]

Moreover, Khosravi and Naseri concluded that the prevalence of OCD was higher in housewives and those with low education levels in Jahrom (Iran), which was consistent with our findings.[27] This may be because individuals with higher education levels are more likely to realize that they need help and seek treatment for OCD compared to those with lower education. Therefore, they act quickly for their treatment in case of a problem, owing to a certain level of awareness.

The current research demonstrates a significant association between occupation status and overall OCD. The prevalence was lower in employees compared to unemployed subjects or housewives, which is consistent with previous studies in this regard. Most studies have reported a higher prevalence rate of OCD in unemployed subjects or housewives,[27] which could be justified by the fact that unemployed individuals and housewives have more time to think about diseases. This, in turn, leads to more obsessive thoughts and actions. However, employees have less time to think about corona. Another contributing factor in this regard might have been the lack of financial and unemployment issues for the employees, which could have prevented psychological disorders such as OCD. In a similar research, Schwartz concluded that individuals with good occupations had significantly lower OCD levels compared to unemployed subjects.[29]

In the current research, the prevalence of OCD was higher in patients who adhered to healthcare protocols completely and accurately before the disease diagnosis. This was the first study to mention this subject. Notably, the nature of the disease could be a predisposing factor for OCD due to the need for constant cleaning and adherence to personal hygiene. In the current research, no significant association was noted between the economic status of the patients and OCD. Massoudzadeh reported a higher prevalence of OCD in individuals with a poor economic status,[26] while Ercan et al. (2006-2007) reported no significant correlation between the income status (economic status) of the family and OCD prevalence.[30] This discrepancy could have several reasons, one of which was the poor economic status of 81.9% of the patients (below the poverty line), the moderate economic status of 13.7%, and the acceptable economic status of only 4.3% of the subjects. The lack of difference in terms of OCD may also be because Iranians are currently facing similar economic issues.

Some studies have reported that the prevalence of OCD is higher in single individuals than in married individuals. In the present study, OCD was observed to be an important contributing factor to marital status (single) as it disrupted the interpersonal communication of the patients.[31] However, no significant correlation was observed between OCD and marital status, which was in line with previous studies in this regard.[32]

The findings of the current research indicated no significant correlations between OCD symptoms and variables such as age, history of hospitalization due to COVID-19,

family history of coronavirus infection (recovered/dead), and having/not having children in patients with COVID-19 in Kurdistan province. This might be attributed to the current economic and cultural conditions of the Iranian community. Moreover, stress has been equally high in all population groups as a factor contributing to OCD, and no difference could be denoted in the OCD level of these groups.

It can have serious consequences if patients with OCD are not supported and treated. On the other hand, Rodriguez-Salgado et al. conducted a study showing that OCD patients have significantly decreased mean quality of life (QOL) scores.[33] Additionally, patients with comorbid depression and OCD appear to be at a greater risk for suicidal acts or drug addiction.[34,35]

In this study, standard questionnaires were utilized for self-reporting psychological disorder symptoms. A definitive diagnosis of psychiatric disorders requires a diagnostic interview conducted personally by psychiatrists and psychologists; merely discussing these problems through the questionnaire will not lead to convincing results. The authors are aware of the limitations of this study. One of the major limitations of the present study was the lack of access to all patients through social media and cyberspace. Another limitation was the absence of a definitive diagnosis of OCD in the subjects, focusing solely on assessing the OCD symptoms.

Additional limitations of the present study included errors due to respondent bias, possible misinterpretation of questions, and dishonesty. On the other hand, in-person interviews with patients by a psychiatrist were not possible due to the nature of the disease, and this type of data collection is considered safe. Therefore, it is recommended that a certain number of COVID-19 patients be followed up by a psychiatrist every month, and the results be compared with those of healthy individuals, enabling the determination of the role of COVID-19 in the emergence of OCD. Furthermore, it is suggested that face-to-face interviews within a larger statistical community be considered by researchers in future studies.

Conclusion

Given the high prevalence of OCD among COVID-19 patients and its associated risk factors, such as being male, unemployed or a housewife, and having low education, regular consultation of COVID-19 patients with psychiatrists and psychologists should mitigate the psychological consequences of the disease within society.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

This article was extracted from Dr. Karo Servatyari's master's thesis conducted at Kurdistan University of Medical Sciences. Hereby, we extend our gratitude to the Vice-Chancellor for the university's Research and Technology for the financial support of this study. We would also like to thank the patients for assisting us in this research project.

Financials support and sponsorship

This study was supported by the Kurdistan University of Medical Sciences. Furthermore, the University Research Council of Kurdistan University of Medical Sciences approved a fee for this study, which was used only for the data collection phase.

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