



## Examining the Level of Metacognitive Obsessive and Intellectual-practical Beliefs during the COVID-19 Epidemic

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### Abstract

**Background:** Currently, the world community is experiencing one of the biggest health crises in recent decades. The psychological consequences of Corona can include a range of feelings of loneliness, boredom, and aggressiveness to anxiety and mental distress. This study aimed to investigate the level of obsessive and practical metacognitive beliefs during the COVID-19 pandemic.

**Methods:** This descriptive-analytical study was conducted cross-sectionally on 416 people who were referred to corona testing centers using the available sampling method. The data was collected using three depression, anxiety and obsession, and intellectual-practical questionnaires. After collecting the data, it was entered into SPSS 18 and analyzed with descriptive and analytical statistics.

**Results:** The results of this study showed that 61% of the participants had moderate anxiety, 20% had moderate depression, and the mean obsessive-compulsive score was  $68.9 \pm 19.8$ . The results of linear regression also showed that depression can predict the occurrence of practical obsessions.

**Conclusions:** The results of the present study showed that people with obsessive-compulsive disorder were greatly affected during the COVID-19 pandemic. Also, anxiety is a common disorder among those who refer to corona testing centers in Shiraz city, and more than half of those who refer to these centers are suffering from anxiety disorder.

**Keywords:** Anxiety, Obsession, Depression, COVID-19.

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## Introduction

Currently, the world community is experiencing one of the biggest health crises in recent decades. In December 2019, the coronavirus or nCoV-2019 was detected, the origin of which was China and the speed and scope of its spread was so high that it quickly involved the whole world so that after the wide spread of this virus, the world health organization declared the spread of the new virus as the sixth cause of the public health emergency around the world which seriously threatens not only China but all countries.<sup>1</sup>

The implementation of various protocols to prevent disease, including the use of masks, reducing social interactions, banning road traffic, etc., are among the policies that are

considered in this protocol. However, the implementation of these policies, despite the positive consequences in the prevention of COVID-19, brings considerable negative consequences in the mental health of individuals and ultimately societies. One of these systems was the application of quarantine, the consequences of which have been analyzed in several studies, based on surveys conducted by an online form of quarantined Canadian citizens, a high prevalence of psychological distress, post-traumatic stress disorder symptoms, and depression have been reported.<sup>2</sup> Decreased income level, separation from others, feeling bored during quarantine and labeling, rejection by others, and poor financial support after quarantine are associated with depressive symptoms.<sup>3</sup> The American psychological association reports that social distancing during quarantine brings many health risks, and it leads to sleep disorder, cardiovascular system disorder, weak immune system, depressive symptoms and impaired executive function.<sup>4</sup>

The high speed of the spread of the disease, the increase in the number of deaths and the spread of false news through social media, television channels, and news agencies, the fear of death, the occurrence of job and financial problems, the reduction of family relationships, the fear of contracting the disease are important factors that seriously threaten people's mental health.<sup>5</sup> Prolonging these concerns threatens the possibility of increasing the risk of serious and debilitating mental illnesses, including mood or anxiety disorders, trauma-related disorders, and obsessive-compulsive disorder.<sup>6</sup> The psychological consequences of COVID-19 can include a range of feelings of loneliness, boredom, and aggression to anxiety and mental distress.<sup>1</sup> Also, the perceived threat of this disease can cause severe psychological inconsistencies such as depression, anxiety, and stress. People with obsessive-compulsive disorder are more directly affected by the spread of COVID-19 than other people with mental disorders.<sup>7</sup> Obsessive thoughts are intrusive and repetitive thoughts, feeling, beliefs, or sensations, and on the other hand, an obsession is a self-conscious, measured, repetitive behavior such as counting, avoiding, or revising. Normally, obsessive thinking increases a person's anxiety, while performing an obsessive action decreases a person's anxiety. Accordingly, when a person resists doing it, his anxiety increases. Both obsessive thoughts and actions can be very time-consuming and significantly interfere with the person's routine and performance.<sup>8</sup>

Due to the fact that the COVID-19 is still one of the most important and dangerous challenges in the life of the individual and the society in the world and in Iran, and has taken many victims so far, and on the other hand, the fear of contracting the disease and its consequences is very important. Especially the obsessive beliefs that have become very strong in this epidemic and have destructive effects on people's mental and physical health. Therefore, the necessity of studying as one of the important concepts in the field of mental health in the situation that COVID-19 has involved humanity is quite noticeable, and the present study was also conducted in order to investigate the level of obsessive, intellectual and practical metacognitive beliefs in the COVID-19 epidemic.

## Materials and Methods

This descriptive-analytical study was carried out in a cross-sectional way on 416 people who were referred to the 16-hour COVID-19 test centers in Shiraz using the available sampling method. At the beginning of the work, a series of entry and exit criteria were set. The entry criteria were 1- all person were referred for COVID-19, and the exit criteria were 1- the person does not want to participate in the study. The required sample size, according to a similar study,<sup>9</sup> and considering the assumptions of 20% prevalence, 20% relative error, and 95% predicted confidence level, using the formula of as well as correcting the finite population using the calculation formula of were determined 416 people. A checklist including demographic information (age, gender, education, occupation, and marriage) and three questionnaires were used to collect data. The first questionnaire is the Obsessive Thoughts assessment questionnaire (OBQ-20) which contains 20 questions which are taken from the original form of OBQ-44. The present questionnaire evaluates and diagnoses the dimensions of pathogenesis in the field of cognition in obsessive, intellectual-practical patients. The respondent is requested to choose the extent of his agreement or disagreement with each of the options that are ranked on a scale of 1-7.<sup>10</sup> The second questionnaire of the STAI questionnaire is a self-assessment tool for determining situational anxiety which includes two psychometric scales with two distinct concepts related to anxiety. The first 20 questions of this questionnaire are related to real anxiety, which is a characteristic of the emotional situation resulting from the conscious and mental understanding of the feeling of tension, fear, restlessness, worry, and high activity of the autonomic nervous system which is often a variable and a function of situational stress that has been used in this research and people are asked to report the level of emotions at the time of implementing the questionnaire. The intensity of mental anxiety is determined by a four-point Likert scale (very low, low, high, and very high). A score of 20 to 31 indicates mild anxiety, a score of 32 to 42 indicates moderate to low anxiety, a score of 43 to 53 indicates moderate to high anxiety, a score of 54 to 64 indicates relatively severe anxiety, a score of 65 to 75 indicates severe anxiety, and a score of 76 to 80 indicates very severe anxiety. The internal consistency of the situational anxiety scale is very high. The alpha coefficient of the situational scale is 0.90, and the test-retest reliability of the situational anxiety scale is this, because the test is sensitive to changes in anxiety as a result of situational stress.<sup>11</sup>

The third BDI-13 questionnaire is the Beck depression questionnaire which was first introduced in 1961 by Beck and his colleagues. The initial version of this questionnaire has 21 items, and in the following years, the version with 13 items was used. This questionnaire, like the 21-item questionnaire, has 4 options, and the subject must choose one of them. Also, based on the obtained scores, each person can be placed in one of the depression classes. Cronbach's alpha of the questionnaire is 0.88. Also, the factor analysis showed that this questionnaire has two subscales with the names of negative feelings towards oneself and unpleasantness, and the obtained score can be scored as 0 to 3 (normal), 4 to 7 (mild), 8 to 11 (mild to moderate), 12 to 15 (moderate), and 16 to 39 (severe) in terms of depression.<sup>12</sup>

In this study, it was tried that the people who came to participate in the study to reduce contact with other people until the completion of the questionnaire were present in the healthcare room by maintaining the standard physical distance. The questions were asked by a trained health care provider to the person participating in the study. The time required to fill out the questionnaire was considered to be 10 to 15 minutes. It should be noted that training on how to fill out the questionnaire was given to health care by psychologists and project managers.

After collecting the questionnaires and processing the information and coding required for data analysis, it was entered into the SPSS 18 software. Analyzing information using descriptive statistical methods, including calculating the central indices, dispersion, frequency and frequency distribution of the variables in the research, and the statistical test of multiple linear regression analysis to predict the dependent variable of the research based on the dependent variables was used.

## Results

The results showed that out of 416 investigated people (60.34), 251 were women and (39.66) 165 were men. The average age of the participants was  $12.44 \pm 37.5$  years. Most of the participants (271) were married (65.1%), had a job (181) (43.5%) and had university education (221) (54%). there was a significant relationship between the age variable and the obsession caused by COVID-19, and there was no significant relationship between the other variables (Table 1). The results showed that most of the participants (212) (61.6%) had mild to high anxiety (Table 2), and most of the people also had normal depression (2396) (59.8%) (Table 3).

The average score of obsessions caused by COVID-19 was  $68.9 \pm 19.8$ . The results showed significant relationship between depression and obsession ( $P\text{value}=0.01$ ), and between depression and anxiety ( $P\text{value}=0.003$ ). Also, there was a significant relationship between obsession and anxiety ( $P\text{value}=0.01$ ). The results of the multiple linear regression test showed the model has the ability to fit ( $P\text{value}=0.336$ ) but the standardized effect coefficient equal to 0.005 showed that the available independent variables are only five thousandths of the predictive variables of obsession caused by COVID-19. Except for depression, none of the variables in the model predict obsession caused by COVID-19.

**Table 1. Demographic characteristics of the people participating in the study**

| Variable       |                             | Frequency (percentage) | Pvalue |
|----------------|-----------------------------|------------------------|--------|
| Age            | Mean and standard deviation | 37.5±12.44             | 0.04   |
| Sex            | Man                         | 165(39.66)             | 0.44   |
|                | Woman                       | 251(60.33)             |        |
| Marital status | Married                     | 271(65.1)              | 0.92   |
|                | Single                      | 145(34.9)              |        |
|                | Free                        | 181(43.5)              | 0.69   |
| Job            | Employee                    | 114(27.4)              |        |
|                | Housewife or unemployed     | 121(29.1)              |        |
|                | University                  | 221(54.00)             | 0.511  |
| Education      | Diploma                     | 160(39.1)              |        |
|                | Elementary                  | 28(6.8)                |        |

**Table 2. Examining the state of anxiety of the participants in the study**

| Variable | Various levels | Frequency | Percentage |
|----------|----------------|-----------|------------|
| Anxiety  | Mild           | 10        | 2.9        |
|          | Mild down      | 109       | 31.5       |
|          | Gentle high    | 212       | 61.3       |
|          | Very low       | 14        | 4          |
|          | Severe         | 1         | 0.3        |
|          | Total          | 346       | 100        |

**Table 3. Examining the depression status of the participants in the study**

| Variable   | Various levels   | Frequency | Percentage |
|------------|------------------|-----------|------------|
| Depression | Normal           | 239       | 59.8       |
|            | Mild             | 73        | 18.3       |
|            | Mild to moderate | 45        | 11.3       |
|            | Medium           | 19        | 4.8        |
|            | Severe           | 24        | 6          |
|            | Total            | 400       | 100        |

## Discussion

The pathogenic features of this virus and home quarantine following its rampant spread can severely affect people's mental health and expose them to psychological disorders such as anxiety, fear, depression, and negative thoughts. Therefore, in such a high-risk situation, it is necessary to identify people prone to psychological disorders in order to guarantee the mental health of society with appropriate psychological solutions and techniques.<sup>13</sup> This study aimed to examine the level of metacognitive beliefs, thoughtful, and practical obsession during the COVID-19 epidemic.

The results of this study showed that 61% of clients have mild anxiety. The results of a study conducted in China showed that the prevalence of anxiety disorder in the general Chinese population is 35%.<sup>14</sup> The results of a study that was conducted in Yazd in 2012 (before the spread of COVID-19) showed that the prevalence of anxiety in the general population is 15%<sup>15</sup> which is very different from the findings of our study. Taking into account the demographic and geographic differences between the compared groups, it seems that the increase in the prevalence of anxiety in the patients of COVID-19 centers in Shiraz can be related to the spread of COVID-19. In another study conducted in Malair, the results showed that the prevalence of moderate anxiety in nurses is 33%<sup>16</sup> that the

difference is probably related to the differences between the compared groups. Mostly, anxiety about the virus causes obsessive fear of contamination in some people with obsessive-compulsive disorder and causes these people to become agitated. For these people, the COVID-19 becomes exactly what they think about it.<sup>7</sup>

The results of our study showed that the mean obsession score of the study participants was 68.9. Studies have shown that about 2% of people are seriously involved in mental and practical obsessions. However, milder symptoms may have a much higher prevalence in the community. Patients with obsessive-compulsive disorder have a variety of symptoms, including soiling or cleaning, hoarding, checking, symmetry, and obsessive rituals. However, according to research by the American psychological association, the fear of contamination is often associated with appropriate rituals to reduce exposure to contaminated sources. Considering that observing personal hygiene and maintaining social distancing are one of the most important methods to prevent the spread of COVID-19. The risk of developing practical obsessions and hoarding during the 2019 COVID-19 pandemic is considered very likely. In fact, this pressure and stress, which is the necessary background for suffering from practical obsessions, has caused problems and disrupts their normal life process.<sup>17-19</sup>

The results of a systematic review showed that people with and without an OCD diagnosis before the pandemic generally experienced a worse outlook for OCD symptoms during the COVID-19 pandemic. To prevent symptom disorder and the development of new cases, careful monitoring of patients with obsessive-compulsive disorder and education of the general public is necessary.<sup>20</sup> Another study conducted in Germany found that most participants with obsessive-compulsive disorder were negatively affected by the COVID-19 pandemic. Rapid interventions for obsessive-compulsive disorder are needed to prevent long-term deterioration.<sup>21</sup> In a study conducted by Bagheri et al., the results showed that there is a possibility of psychological disorders such as thought-practice obsessions during the COVID-19. Karimi et al., study also showed that intellectual and practical obsessions are time-consuming and disrupt the natural process of people's progress, and on the other hand, cause dysfunction for people. But in general, it seems that people with obsessive-compulsive disorder are one of the most vulnerable groups during the COVID-19 pandemic and have been affected. Also, it seems that there are many factors that predict obsessive-compulsive disorder that have not been investigated in this study.

From other results of the study, it can be stated that depression predicts the obsession caused by COVID-19 to some extent. This finding has been confirmed by other studies. The results of a study conducted in North Khorasan showed that there is a relationship between depression and obsession caused by COVID-19.<sup>22</sup> Psychological studies also confirm this relationship. The results of a study conducted to investigate the relationship between obsessive-compulsive symptoms and the spectrum of obsessive-compulsive disorders, depression, anxiety, and stress showed that there is a significant relationship between depression and obsessive-compulsive disorder, and depression can predict obsessive-compulsive disorder.<sup>23</sup>

One of the strengths of this study is the absence of such a study at the city and province level, and that too on an important issue such as depression, anxiety, and obsession, because people definitely had problems due to the quarantine and their obsession with hygiene. The limitations of this study are the self-reporting of the research tools, which causes bias, the cross-sectional nature of the research, and the lack of pre-coronavirus data in any of the individuals, which suggests that objective indicators such as behavioral and physiological observations should be used to diagnose the disease. Examining other disorders that may be affected by the consequences of Corona

On the other hand, due to the prevalence of obsession during pandemic diseases, it is very common that years after the disease, this obsession may be transferred to future generations. Thus it is necessary to take intervention and preventive measures to control and reduce mental and practical obsessions by psychologists and counselors. The results of the present study showed that people with obsessive compulsive disorder were greatly affected during the COVID-19 pandemic and anxiety is a common disorder among patients, and more than half of those who refer to these centers have anxiety disorders. The results also showed that depression can predict the disorder and obsession.

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## Conflict of Interest

The authors declare that they have no conflict of interest.

## References

1. Lai C-C, Shih T-P, Ko W-C, Tang H-J, Hsueh P-R. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The Epidemic and the Challenges. *International Journal of Antimicrobial Agents* 2020;55:105924. doi:10.1016/j.ijantimicag.2020.105924
2. Hawryluck L, Gold WL, Robinson S, Pogorski S, Galea S, Styrar R. SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging Infectious Diseases* 2004;10:1206-16. doi:10.3201/eid102.040760
3. Wu P, Liu X, Fang Y, Fan B, Fuller CJ, Guan Z, et al. Alcohol abuse/dependence symptoms among hospital employees exposed to a SARS outbreak. *Alcohol & Alcoholism* 2008;43:706-12. doi:10.1093/alcalc/agn073
4. Novotney A. The risks of social isolation, American psychological association. Retrieved July 2019;22:2020.
5. Fard SA, Saffarinia M. The prediction of mental health based on the anxiety and the social cohesion that caused by Coronavirus. *Social Psychology Research Quarterly* 2020;9:129-41.
6. Fiorillo A, Gorwood P. The consequences of the COVID-19 pandemic on mental health and implications for clinical practice. *European Psychiatry* 2020;63. doi:10.1192/j.eurpsy.2020.35
7. Fineberg NA, Van Ameringen M, Drummond L, Hollander E, Stein D, Geller D, et al. How to manage obsessive-compulsive disorder (OCD) under COVID-19: A clinician's guide from the international college of obsessive compulsive spectrum disorders (ICOCS) and the obsessive-compulsive and related disorders research network (OCRN) of the European college of neuropsychopharmacology. *Comprehensive Psychiatry* 2020;100:152174.
8. Marshall Rio J. Understanding motivation and emotion. Mohammadi SY(Persian) Tehran: Virayesh Publication. 2017.
9. Zoghi L, Yosefi Rad E, Dehghan Monazam AA. The relationship between illness perception and obsessive beliefs with the mediation of public health in patients referred for corona diagnosis. *Educational Psychology Quarterly* 2020;16:215-28. [Persian]. doi:10.22054/jep.2020.53270.3040
10. Carr AT. Compulsive neurosis: A review of the literature. *Psychological Bulletin* 1974;81:311.
11. Khanipour H, Mohammadkhani P, Tabatabayi Barzaki S. Thought control strategies and anxiety streak: predictors of patient-like worry in a non-clinical sample 2011;5:173-8.
12. Kovacs M, Garrison B. Hopelessness and eventual suicide: A 10-year prospective study of patients hospitalized with suicidal ideation. *American Journal of Psychiatry* 1985;1:559-63.
13. Shahyad S, Mohammadi MT. Psychological impacts of Covid-19 outbreak on mental health status of society individuals: A narrative review. *Journal of Military Medicine* 2020;22:184-92.
14. Huang Y, Zhao N. Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: A web-based cross-sectional survey. *Psychiatry Research* 2020;288:112954. doi:10.1016/S1474-4422(20)30456-7
15. Fallahzadeh H, Momayyezi M, Nikokaran J. Prevalence of depression, anxiety and stress in Yazd (2013). *Tolooebehdasht* 2016;15:155-64.
16. Ariapooran S, Amirmanesh M. Depression, anxiety and suicidal ideation of nurses in the outbreak of COVID-19: The role of demographic variables. *Journal of Arak University Of Medical Sciences* 2020;23:2439. doi:10.32598/JAMS.23.COV.4093.1
17. Benatti B, Albert U, Maina G, Fiorillo A, Celebre L, Girone N, et al. What happened to patients with obsessive compulsive disorder during the COVID-19 pandemic? A multicentre report from tertiary clinics in northern Italy. *Frontiers in Psychiatry* 2020;11:720. doi:10.3389/fpsy.2020.00720

18. Chakraborty A, Karmakar S. Impact of COVID-19 on obsessive compulsive disorder (OCD). *Iranian Journal of Psychiatry* 2020;15:256-9. doi:10.18502/ijps.v15i3.3820
19. Shafraan R, Coughtrey A, Whittal M. Recognising and addressing the impact of COVID-19 on obsessive-compulsive disorder. *The Lancet Psychiatry* 2020;7:570-2. doi:10.1016/S2215-0366(20)30222-4
20. Linde ES, Varga TV, Clotworthy A. Obsessive-compulsive disorder during the COVID-19 Pandemic-A systematic review. *Front Psychiatry* 2022;13:806872.
21. Jelinek L, Moritz S, Miegel F, Voderholzer U. Obsessive-compulsive disorder during COVID-19: Turning a problem into an opportunity? *Journal of Anxiety Disorders* 2021;77:102329. doi:10.1016/j.janxdis.2020.102329
22. Rashedi V, Roshanravan M, Borhaninejad V, Mohamadzadeh M. Coronavirus anxiety and obsession and their relationship with depression and activities of daily living in older adults. *Salmand: Iranian Journal of Ageing* 2022;17:186-201. doi:10.32598/sija.2022.1857.2
23. Golestani M, Nezami A. Investigating the relationship between obsessive-compulsive disorder (ocs) symptoms with obsessive compulsive disorder (ocsd) and depression anxiety and stress. *Medical Journal Of Mashhad University Of Medical Sciences* 2022;64.