Validation of the Turkish version of the obsession with Covid-19 scale (OCS)

Obsession with Covid-19 scale

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Abstract

Aim: The validity and reliability of the obsession with the COVID-19 scale developed by Lee (2020) were tested in the USA, but there is no research on this matter in Turkey. Within this scope, the aim of the study is to determine the validity and reliability of the scale in Turkish.

Material and Methods: The Obsession with COVID-19 Scale (OCS) has been tested in Turkish individuals. Descriptive statistical analysis, t-tests and one-way analysis of variance (ANOVA) were used. Exploratory factor analysis (EFA) was performed to validate the OCS. Maximum likelihood method and confirmatory factor analysis were applied to the model obtained from EFA.

Results: The Turkish version of OCS was found to have consistent psychometric properties and construct validity.

Discussion: Developing valid screening tools across different cultures is vital for health practitioners and scientists during global infectious disease outbreaks.

Keywords

Coronavirus; Mental health; Obsession With COVID-19 Scale

Introduction

Humanity is in the middle of a pandemic causing instability in all areas of life. The World Health Organization announced the pandemic, which first emerged in Wuhan, China, in the final days of 2019. In the 13 months, since it was first announced, the pandemic has proven to have the deadliest power of the 21st century. The first case was announced in Turkey on March 11, 2020, and the total number of infected people was 4.820.591, with the number of the deceased reported to be 40.131 (available at: https://covid19.saglik.gov.tr/; 30.04.2021). In addition to increasing mortality rates worldwide, the unpredictable nature of the virus creates stressful environments that increase the risks of psychological disorders [1]. Countries worldwide apply full or partial lockdowns with practices such as social isolation, mask-wearing, social distancing and quarantine throughout the country to reduce the spread of the virus. Quarantine practices designed to decrease the spread of infectious diseases can cause feelings of loneliness, boredom, physical inactivity, and insecurity about food and finance in many individuals [2]. In other words, it is indicated that in the event of an infectious disease epidemic, a large proportion of people tend to experience clinically significant levels of fear and anxiety [3]. The high infection and mortality rates associated with COVID-19 have been reported to cause widespread fear and anxiety [4].

As the number of deaths and problems due to COVID-19 increases, the number of people experiencing long-term fear and anxiety also increases. While anxiety caused by COVID-19 was observed in 69.8% of Americans, there was a 37.7% increase in the number of prescribed anxiety medications, and a 75-fold increase was determined in the number of calls to the suicide helpline. Also, similar numbers related to the worry-fear-anxiety cases due to COVID- 19 have been reported outside the USA [5].

In the light of the data mentioned above, psychological conditions originating from COVID-19 have increased, one of which is the obsession with COVID-19. Obsession is characterized by unwanted and unpleasant thoughts, images, or impulses. Obsessive-compulsive individuals have fear of cleaning, contamination, and getting a disease. Thus, they now become the main theme of news and social media [6].

The determination of COVID-19 obsession level is vital to health care professionals. As a result, measurement tools are needed that will strengthen clinicians' and researchers' hands. Therefore, studies whose validity and reliability are tested in various cultures are significant. To close this gap in the literature, this study aims to verify the validity and reliability of the Turkish translation of the Obsession with COVID-19 Scale (OCS) using a large sample.

Material and Methods

Participants

The population of this research consists of people who are above 18 years old and live in Turkey. The questionnaire was distributed via google form and WhatsApp and expanded via snowball sampling. Data were collected for ten days. A total of 419 people participated in the study.

The Aim and Importance of the Study

Although there are many studies on the global pandemic, the number of studies conducted on obsessive-compulsive disorder caused by COVID-19 is limited. This study aimed to provide a valid and reliable scale to the national literature by conducting the Turkish validity and reliability study of the OCS.

Data Collection Tools

Obsession with the COVID-19 scale developed by Lee (2020) was used in the study [7]. The OCS is a 5-point Likert-type scale, consisting of 4 questions and one dimension. The scoring of the scale was as follows: 0=never;1=rare (less than a day or two); 2=a few days (3-5 days); 3=more than 7 days; and 4=almost every day in the last two weeks, where a total OCS score of ≥7 shows a relationship between coronavirus and dysfunctional obsession. High scores of a certain item or a high total scale score (≥7) show that the individual might have symptoms that require further evaluation and/or treatment. The original author stated that "no official permission is required for reproduction and use by others, beyond the proper citation of the COVID-19 and Obsession Scale in order to encourage its use in clinical evaluations and research", the author of the current study felt free to use the scale in this context. The study was approved by the Ministry of Health Scientific Research Platform on January 16, 2021. Finally, ethics committee permission was taken from the Social Sciences and Humanities, Ethics Committee of Dicle University with the number 66756. The data used in the study were collected via an online questionnaire between 17-22 January.

Results

Descriptive Findings

Two hundred twenty (52.5%) participants were female and 199 (47.5%) were male. The mean age was 29.9±8.82 years (range 18-69). Marital status of the participants was as follows: 37.5% (157) were married, 59.2% (248) were single, and 3.3% (14) were divorced. The average total household income was 72730±4872.7 Turkish Lira. The total household income ranged between 2.000-30.000 TL. Education levels were as follows: 21% (88) high school, 24.8% (104) vocational school or associate's degree, 31% (130) undergraduate, and 23.2% (97) graduate. Among the survey participants, 50.1% (210) lived in the Marmara Region, 12.2% (51) in the Central Anatolia Region, and 37.7% (158) in other regions. Among the participants, 80.9% did not contract coronavirus disease. In addition, 19.1% of the participants tested positive for COVID-19. Within the scope of the study, only whether the test result was positive or negative was examined. It was not checked whether the patients with positive tests were treated in the hospital or at home. However, 27.4% have lost a relative due to the coronavirus.

Findings Regarding Validity

Language Validity

The OCS English original was translated into Turkish by three different academics independently. Later, in line with the suggestions of an expert faculty member, the expressions that best explained each question in the questionnaire were adopted, and a single Turkish version was created, ensuring that translators paid attention to cultural, psychological, and

grammar differences in both languages. [8]. The Turkish draft was then translated back into English by a sworn translator to be compared with its English original. The expressions were found to be quite consistent. Finally, the Turkish version of the questionnaire was revised so that the Turkish expressions would match better with the original.

Structural Validity

To identify the structural validity of the OCS, first explanatory factor analysis and then confirmatory factor analysis were performed. Explanatory factor analysis is a method that aims to identify fewer factors using the relationships of variables in a data matrix [9]. SPSS 23 statistics program was used to perform explanatory factor analysis. In order to apply explanatory factor analysis, data must be collected at least five times the number of items in the scale [10]. As the number of items in OCS was 4, the total number of participants was (419) adequate. Within the study's scope, the KMO value found within the framework of EFA results assumptions was determined as 0.749 and is above the recommended value (0.60).[11].

According to the results of the factor analysis using principal components and Varimax factor rotation methods, a total of 4 questions in the scale were collected under one factor. One component explained 56.6% of the total variance. The OCS displayed a single-factor structure similar to the study by Lee (2020), who developed the scale. The factor loadings of the items of the scale, which consisted of a single factor and 4 items, varied between 0.671 and 0.834 (Table 1). Generally, load values of 0.60 and above are considered high [12].

The structural validity of the OCS was also tested with confirmatory factor analysis, which is a factor analysis used to test the compatibility of the factors determined by explanatory factor analysis with the factor structures determined by a hypothesis [9]. SPSS Amos 26 program was used for the confirmatory factor analysis. One factor and 4 items were included in the confirmatory factor analysis. The goodness of fit of the model obtained in the confirmatory factor analysis showed a significant x2 value (x2/df = .022; p <0.001) (Table 2). Other goodness indexes were as follows: RMSEA=0.000; GFI=1.000; AGFI=1.000; CFI=1.000; NFI= 1.000; TLI=1.016, and IFI=1.005.

All fit indexes were had acceptable values, showing that the single-factor model fit well. The single-factor structure was also supported by the confirmatory factor analysis. Path diagram of the confirmatory factor analysis and factor loads for the model are shown in Figure 1.

Findings Regarding Reliability

Cronbach alpha coefficient was calculated as 0.740. Since the alpha value should be at least 0.70 in social sciences, [13] our finding of 0.74 is within the range of reliability.

T-Tests, ANOVAs, and Correlations

In the independent samples t-test, there was a significant difference between females (M = 1.02; SD = 0.87) and males (M = 0.73; SD = 0.70) in the OCS scores (t = 3.638; p <0.05). There was also a statistically significant difference (t = 3.371; p <0.05) between participants diagnosed with COVID-19 (M = 1.19; SD = 1.02) and those without COVID-19 (M = 0.81; SD = 0.73). There was no significant difference between those who lost an acquaintance due to COVID-19 and those who did not in OCS scores (t = 0.699; p> 0.05). In Tukey's HSD test, no significant

Table 1. Explanatory Factor Analysis Results of Obsession with Coronavirus Scale

Items	Factor loadings
2. I had some disturbing thoughts that some people I saw might be infected with the coronavirus.	0.834
3. I couldn't stop thinking about coronavirus.	0.780
1. I had some disturbing thoughts as I might have infected with the coronavirus.	0.716
4. I had coronavirus dreams.	0.671

Kaiser-Meyer-Olkin:0.749
Barlett Sphericity Test Chi Square: 370,618
p<0.001
Total Variance Explained: 56.661

Table 2. Fit Indexes of the Model

Fit Indexes	Index values	Limit Values
x^2/sd	.022	≤5
p	<0.001	
Root Mean Square Error of Approximation (RMSA)	.000	≤0.10
Goodness Fit Index (GFI)	1.000	≥0.90
Adjusted Goodness Fit Index (AGFI)	1.000	≥0.90
Comparative Fit Index (CFI)	1.000	≥0.90
Normed Fit Index (NFI)	1.000	≥0.90
Tucker-Lewis Index (TLI)	1.016	≥0.95
Incremental Fir Index (IFI)	1.005	≥0.90

Table 3. Correlation Table

	1	2	3	4	5	6	7	8	9
Gender (1)	1								
Age(2)	0.274**	1							
Education (3)	0.046	0.464**	1						
The total household income (4)	0.019	0.230**	0.482**	1					
Marital Status (5)	-0.187**	-0.570**	-0,383**	-0.286**	1				
Have you caught Covid-19 disease? (6)	0.049	-0.034	-0.027	-0.086	0.034	1			
Have you lost any of your relatives due to Covid-19? (7)	-0.036	-0.003	-0.016	0.109*	0.070	0.001	1		
Region of Residence (8)	0.273**	0.187**	0.087	-0.026	-0.311**	-0.030	-0.107*	1	
OCS (9)	-0.175**	-0.031	0.108*	0.095	0.068	-0.153**	-0.069	-0.137**	1

*.Correlation is significant at the 0.05 level (2-tailed)
**.Correlation is significant at the 0.01 level (2-tailed)

difference was found in OCS scores in terms of age (F = 0.887; p> 0.05). Similarly, OCS scores did not differ significantly with regard to educational status, total household income and marital status. However, OCS scores differed significantly with respect to the region of residence of the participants (F = 3.029; p <0.05). Moreover, there was a significant difference between the participants residing in the Marmara Region and the Eastern Anatolia Region (p = 0.017). In correlation analysis, OCS scores were not correlated with gender (r = -.175, p <0.01), education status (r = .108, p <0.05) and contracting COVID-19 (r = -.158, p <0.05).
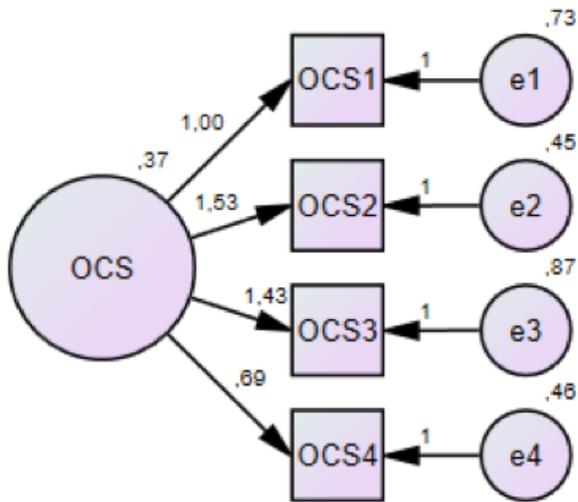
Figure 1. The Results of Confirmatory Factor Analysis of Obsession with Coronavirus Scale

Discussion

Anxiety, fear, and obsession caused by COVID-19 show an upward trend worldwide. For this reason, the effect of these conditions on mental health should be studied. In addition, it is important to investigate the effects of these conditions on the burden of mental illnesses. Thus, the validity and reliability of the Obsession with the COVID-19 Scale should be tested across cultures. The results of this study are considerably similar to the findings obtained in other studies. For example, our findings of validity and reliability are consistent with those reported by Ashraf et al. in the Urdu language (2020) [14], and by Choi et al. (2020) in the Korean language [15]. In the current study, obsession levels were high in 14.3% (n=60, ≥7) of the participants. Srivastava et al. (2020) [16] found that %13.47) of participants (n=270) had high levels of obsession with COVID-19. While the reliability coefficient of the items in the scale was 0.84-0.85 according to the results obtained by Lee (2020), it was calculated as 0.74 in this study.

Wang et al. (2020) found that people with high levels of psychological distress had more dreams about COVID-19 [17]. Moreover, high levels of obsession and anxiety about COVID-19 have been reported to have negative impacts on psychological dysfunction [18]. Some studies have also found increased obsessive-compulsive symptoms after COVID-19 [19-20]. Another study showed higher prevalence of depression, obsessive-compulsive disorder (OCD), panic, and general anxiety disorder during the COVID-19 pandemic than before

the COVID-19 pandemic [21]. Similarly, Tanir et al. (2020) found that the severity of OCS symptoms increased in more than half of the participants during the pandemic [22].

In the current study, the Obsession with the COVID-19 Scale was found to reliably describe dysfunctional obsession associated with the pandemic in the Turkish adult population. This study has some limitations. Participants were reached through online questionnaires, which was the only method due to the pandemic. Another limitation is the number of participants, it could have been larger. Nevertheless, the OCS was found to be a valid and reliable scale.

In conclusion, the OCS-Turkish showed good psychometric properties and construct validity. Developing such valid screening tools across different cultures is vital for health practitioners and scholars during similar global infectious disease outbreaks. It also helps in clinical studies and can be used as a reference by researchers in future studies.

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