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TURKISH ADAPTATION OF THE PERCEIVED STIGMA SCALE AFTER COVID-19

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Abstract

Social disapproval and devaluation of an individual or a group, called stigmatization, has become even more common with COVID-19, includes discriminatory and hostile attitudes towards the person/persons or place who have been diagnosed with the disease. This social discrimination may contribute to delay in diagnosis and treatment. To prevent this, stigmatization process can be assessed through valid assessment instruments. The objective of this study was to analyze the psychometric properties of COVID-19 Infection Stigma Scale (CISS) for measuring the social stigma among patients with COVID-19 in the Turkish sample. The participants are 364 male and 612 female aged between 18-70 who were diagnosed with COVID-19. The data obtained from the COVID-19 Infection Stigma Scale, Stigmatization Scale, Coronovirus Anxiety Scale and Hospital Anxiety and Depression Scale were analyzed by using Exploratory Factor Analysis, Confirmatory Factor Analysis, Correlation Analysis and Discriminant Analysis for validation. The results revealed that, the adapted Perceived Stigma Scale is reliable and valid measurement instrument in Turkish sample.

Keywords: *Stigmatization, COVID-19, perceived stigma scale, adaptation.*

1. Introduction

Stigmatization refers to the social disapproval and devaluation of an individual or a group due to certain characteristics (Bos et al., 2013). Stigma, which is widely discussed in research, is associated with race, sexual identity, psychological disorders, obesity and diseases (Özmen & Erdem, 2018; Pettit, 2008). In the field of health, it is stated that the stigmatization process, which includes discriminatory or hostile attitudes, occurs during and after the emergence of infectious diseases (Fischer et al., 2019). It is known that social stigma has been experienced due to diseases such as HIV/AIDS, SARS, ebola, and tuberculosis seen to date (Kimera et al., 2020; Köseoğlu Örnek and Sevim, 2022; Villa, 2020). Recently, with the spread of the COVID-19 virus, the problem of social stigma associated with the disease has once again attracted attention (Bhanot et al., 2021; Dağ et al., 2021; Ertem, 2020; Imran et al., 2020; Şimşek Arslan and Taşdemir, 2021). Şahan (2021) reveals the theme of stigma in his interviews with individuals who were quarantined in the early stages of the COVID-19 epidemic. Yaşar and Avcı (2020) draw attention to the fact that individuals aged 65 and over are stigmatized as potential virus carriers by the society because they are included in the risk group. Behaviors such as preventing health workers from using public transport, physical violence, social exclusion, dismissal, avoiding the use of the street where the person with COVID-19 is present, leaving a woman with a diagnosis of childbirth alone by her family are some of the attitudes that reflect the stigma associated with the disease (Adom et al., 2021; Tükel, 2020; Villa, 2020).

Due to the fear of stigma, individuals have difficulty in displaying the necessary health behaviors, delay in seeking treatment or refuse treatment, so there is difficulty in epidemic control (Dağ et al., 2021). The stigmatized individual may feel loneliness, guilt, or shame over time due to discriminatory attitudes. In addition, it is stated that feelings such as hopelessness, anxiety, helplessness, anger towards the environment can be felt towards the future. These negative effects and the stigmatization process are among the factors that threaten psychological health (Ertem, 2020). Teksin et al. (2020) showed that perceived stigma in healthcare professionals is positively related to depression and anxiety and negatively related to problem focused coping, emotion focused coping and psychological well-being. Given the prevalence and negative effects of the stigma process, researchers have developed various measurement tools to examine the process (eg. King et al., 2007; Ritsher et al., 2003). Ersoy and Varan (2007) arranged

the Turkish adaptation of the Internalized Stigma Scale in Mental Illnesses. The Stigma Scale was developed by Yaman and Güngör (2013) to measure the tendency of psychological stigma. In the current study, it is aimed to study Turkish validity and reliability of the *COVID-19 Infection Stigma Scale* which was developed by Elgohari et al. (2021) to measure the perceived social stigma after Covid-19. It is thought that fear and stigma can be prevented with awareness of stigma and correct information sharing during the epidemic (Dağ et al., 2021).

2. Method

2.1. Participants

The population of the study is of people diagnosed with COVID. There had been two phases of the sampling process for validity and reliability measures. In the first phase, sample consists of 976 people, 37.3% (n=364) of them were male and 67.2% (n= 612) were female. The mean age is 28.91, and the standard deviation is 110.91. While 8.5% of the people were hospitalized due to COVID, 29.9% of them lost a relative due to COVID. 85.5% of the participants have been vaccinated against COVID-19, and 71% of those who have been vaccinated stated that they had 2 doses of vaccine. In the second phase, the sample consisted of 372 people randomly selected from the first sample group 21 days after the first data collection process. This sample was used for conducting the test-retest method, 60.5% of this sample was female and 39% was male. The mean age of the sample is 28.58, and its standard deviation is 10.54.

2.2. Materials

Personal Information Form Participants' demographic information was obtained through questions about their age, gender, grade, and marital status as well as their health status, such as their chronic diseases, vaccination status, and covid related hospitalization.

COVID-19 Infection Stigma Scale The scale was developed by Elgohari et al. (2021) for measuring the social stigma among patients with COVID-19 in Egypt. It consisted of 14 items, four-point Likert-type scale. Cronbach's alpha coefficient for scale reliability is reported as 0.82 for the total score at original study. The results of the reliability score of the scale is 0.87 for Turkish sample.

Stigmatization Scale The scale, which measures psychological stigmatization tendency, was developed by Yaman and Güngör (2013) consists of 22 items and of four sub-dimensions, includes discrimination and exclusion, labeling, psychological health and prejudice. Cronbach Alpha reliability coefficient of total score was reported as .84 at original study.

Coronavirus Anxiety Scale The scale was originally developed by Lee (2020). The Turkish adaptation was made by Akkuzu et al. (2020). It is a five-point Likert type and consists of five items. The reliability coefficient has been found 0.81 for the Turkish sample.

Hospital Anxiety and Depression Scale, is a likert type scale which was developed by Zigmond and Snaith (1983) to measure the level and severity of depression and anxiety in patients. Its Turkish adaptation was made by Aydemir et al. (1997). The scale consists of 14 items as four-point Likert-type and scored between 0-3. In the adaptation study, the Cronbach-Alpha coefficient was found to be 0.78 for the depression sub-scale and 0.85 for the anxiety sub-scale.

2.3. Procedure

The study was approved by the Ethical Committee of Fatih Sultan Mehmet Vakif University, All participants completed the scales both online and face-to-face method during the COVID-19 pandemic on a voluntary basis. There was no difference between the mean scores of the two groups, the data sets were combined and a reliability and validity study were carried out with total observation.

3. Results

3.1. Validity study

3.1.1. Translation and back-translation. Translation validity was ensured by translating and back-translating the scale items. As a result of all the feedbacks, the translation has been compared with the original scale, and the final form was created with the translation that best represents each item.

3.1.2. Statistical analyses. Construct validity (exploratory and confirmatory factor analysis) and discriminant validity were examined in the study. The reliability study was examined with the Cronbach alpha coefficient and test-retest method. In addition, the differences between the item average scores of the lower 27% and upper 27% groups, which were formed according to the total scores of the test, were tested with the help of the Independent Samples t-Test. When the score distributions of the scales were examined, the distributions were assumed to be normal, since the skewness and kurtosis values were in the range of ±2, the coefficient of variation was below 30%, and the median values and mean values were

close. Parametric tests were preferred in the study. Descriptive statistics of the scores obtained from the scales used in the study are given in Table 1.

Table 1. Descriptives statistics for scores.

Variable	n	Min	Max	Mean	Std. Dev.	Median	IQR
COVID-19 Infection Stigma Score	976	14,00	51,00	16,71	4,77	15,00	3,00
Stigmatization Score	976	22,00	106,00	49,11	11,99	48,00	15,00
Coronavirus Anxiety Score	976	4,00	23,00	6,35	2,51	5,00	2,00
Anxiety Score	976	2,00	18,00	11,22	2,97	11,00	5,00
Depression Score	976	3,00	16,00	9,17	2,07	9,00	2,00

3.1.3. Factor analysis results. Adequate sample size was tested by using Kaiser Meyer-Olkin measure of sampling adequacy which was 0.90. Also, Bartlett's test of sphericity was 5008,509, and p value <0.001 indicate highly statistical significant relationship between items.

Table 2. Result of extraction of the component factor and rotated component matrix.

Items		Component 1	Component 2
Initial Eigenvalues	Total	5,683	1,095
	% of variance	29,385	19,029
	Cumulative %	29,385	48,414
Item 1		0,272	**0,647**
Item 2		0,381	**0,387**
Item 3		**0,495**	0,404
Item 4		**0,690**	0,219
Item 5		0,039	**0,512**
Item 6		**0,600**	0,354
Item 7		**0,452**	0,403
Item 8		0,290	**0,677**
Item 9		**0,569**	0,360
Item 10		0,283	**0,729**
Item 11		0,250	**0,787**
Item 12		**0,771**	0,174
Item 13		0,189	**0,726**
Item 14		**0,674**	0, 287

When the sub-dimensions of the scale were examined, it was observed that the items were collected in two dimensions. For these sub-dimensions in the original scale, it was stated that the first dimension addressed the treatment of the person himself, and the other dimension addressed the treatment of people such as coworkers and neighbors.

Confirmatory factor analysis was performed to test the number of factors obtained in the exploratory factor analysis and to determine the suitability of the factor structure for the sample. According to the results, the factor structure of the goodness-of-fit statistics showed a high agreement with the original scale. (χ^2=912.02; p<0.001; χ^2/sd=76; GFI=0.92; AGFI=0.90; CFI=0.83; RMSEA=0.106).

3.1.4. Criterion related validity. The results of the correlation analyses performed to test the criterion-related validity showed that COVID-19 Infection Stigma Scale have a significant linear positive correlation with Hospital Depression Anxiety Scale anxiety sub-dimension (r=0.236; p<0.001), and depression sub-dimension (r=0.109; p<0.01). COVID-19 Infection Stigma Scale also showed significant linear positive correlations with COVID Anxiety Scale scores (r=0.494; p <0.001) and with Stigma Scale scores (r=0.224; p<0.001).

3.1.5. Item validity by comparing the lower-ultimate 27% group means

Table 3. Comparing the lower-ultimate 27% group means.

Variable	Grups	n	Mean	Standar Deviation	t	df	p
COVID-19 Infection Stigma Scale	Lower	263	16,75	5,09	-0,072	524	0,943
	Ultimate	263	16,78	4,60			

The total scores obtained in the examination of the discrimination of the scale items were ordered from low to high. The first 27% (n=263) and the last 27% (n=263) of the ranking were compared.

As a result of the test, it was observed that there was a statistically significant difference between the low score average and the high score average obtained from the scale (t(524)=-0.072; p>0.05.)

4. Reliability analysis

In examining the reliability of the COVID-19 Infection Stigma Scale, the Cronbach-Alpha internal consistency coefficient was found to be 0.876. Guttman Split Half coefficient, examining the consistency between the two halves of the scale, was calculated as 0.793. The correlation coefficient (r=0.578;p<0.001) was found to be statistically significant as a result of the test-retest application performed with 372 individuals with an interval of 21 days. At this point, it was concluded that the findings obtained for reliability were sufficient.

Table 4. Reliability statistics.

Items	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item 1	19,168	0,613	0,863
Item 2	21,259	0,271	0,880
Item 3	20,837	0,609	0,867
Item 5	21,502	0,497	0,872
Item 6	19,601	0,644	0,862
Item 7	18,539	0,606	0,865
Item 8	18,939	0,679	0,860
Item 9	19,223	0,581	0,865
Item 10	18,597	0,658	0,861
Item 11	20,429	0,506	0,869
Item 12	19,857	0,543	0,867
Item 13	19,168	0,613	0,863
Item 14	21,259	0,271	0,880

The reliability was analyzed and determined using Cronbach's alpha coefficient. The coefficients if excluded the item and the total alpha of the scale dimensions are displayed in Table 3. Cronbach's alpha was considered good because all items had alpha more than 0,70.

5. Discussion

The objective of the study was to test the psychometric properties of the COVID-19 Infection Stigma Scale among a Turkish sample of COVID-19 patients. The scale was considered to be a very good tool for measuring stigma because of very good reliability, strong convergent validity, strong external consistency, and strong internal consistency. Further verification, such as using confirmatory factor analysis, was a strength for the scale where all items had r values more than 0.30 which means that there is no need to exclude any of them. The scale showed favorable psychometric properties which sustains the validity and reliability of the scale. The COVID-19 Infection Stigma Scale can stimulate the advancement of operational research and the development of strategies to reduce the stigma related to COVID-19.

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