

Transcultural Adaptation and Validation of the Fear of COVID-19 Scale into Mexican-Spanish

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Annotation

The new coronavirus, SARS-CoV2, causing the disease known as COVID-19, has repercussions at mental health level of the population.

Aim: To validate into Mexican-Spanish the Fear of COVID-19 Scale.

Methods: A cross-sectional study was conducted for transcultural validation and for psychometric properties in adults over 20 years of age. Using the international guidelines by Beaton and Guillemin; as well as Cronbach's alpha and Pearson's correlation coefficients.

Results: In a total of 438 people who agreed to carry out the survey, a suitable transcultural validation was obtained as well as psychometric properties of the scale were assessed obtaining a Cronbach's Alpha of 0.85 and a correlation coefficient of 0.2662 to 0.6906.

Conclusion: A Spanish language validated instrument was obtained which is suitable to be used for the early detection of fear in the face of the COVID-19 pandemic and to be able to implement actions for the prioritization of psychological and even psychiatric care.

Keywords: Validation Studies, Fear, COVID-19, Health Care, Mexico.

Introduction

The pandemic caused by the new coronavirus, SARS-CoV2, causing the disease known as COVID-19, is spreading to more than 192 countries, with 146,079,735 confirmed cases of COVID-19, including 3,096,110 deaths [1]. In the Americas there are 60,006,538 confirmed cases with 1,456,405 deaths; while in Mexico there are 2,323,430 confirmed cases and 214,504 deaths [1]. The above data are cumulative cases reported up to April 24, 2021 [2].

The mental health problems caused by the panic towards COVID-19, are expected and associated with the collective measures of social isolation trying to diminish the conveyance of the disease, it is necessary to have relevant actions to identify the fear of catching the disease or dying from it. Therefore, it is necessary manage to contain and attend the mental disorders that population might present due to the health contingency of the

COVID-19 pandemic, since it has been a source of debate, mainly among healthcare workers, due to previous experiences of other populations where healthcare workers have been exposed, sick and even dying.

A brief instrument was developed and validated to capture an individual's fear of COVID-19, being timely and important, as by measuring an individual's fear of COVID-19, appropriate programs can be established to manage this fear. The Fear of COVID-19 Scale (FCV-19S by its English initials), was developed in Iranian population by Ahorsu et al, and it contains 7 items, with robust psychometric properties such as the diagnostic test of internal consistency with a Cronbach's Alpha of 0.82, with a stable one-dimensional structure; although it does not have sensitivity or specificity of the test [3].

This scale uses a five-item Likert-type scale for each answer, has

a minimum score for each question of 1 and a maximum of 5; and the total score of the scale is calculated by adding up the score of each question (with a range from 7 to 35), the higher the score the greater the fear of COVID-19 [3]. The objective of the present study was to validate the Fear of COVID-19 Scale (FCV-19S) into Mexican-Spanish.

Materials and Methods

A cross-sectional study was conducted to perform the transcultural validation of the FCV-19S.

Inclusion criteria: Individuals aged 20 years or older, of either gender who agreed to answer the scale.

Exclusion criteria: Inconsistencies in responses and patterns by category.

Validation phases: Validation of the process had two phases according to the international guidelines, the first one consisted in the transcultural validation of the FCV-19S into Mexican-Spanish and; the second one was to performed a validation of some of the psychometric properties and diagnostic test of the instrument.

Phase 1: Transcultural validation of the FCV-19S.

In accordance with the international guidelines of transcultural validation of instruments proposed by Guillemin et al and Beaton et al, consisting of five phases [4, 5]. The first phase consisted in seeking the authorization of the FCV-19S correspondence author. Once the author's authorization was obtained, two initial translations were made from the original language (English) of the FCV-19S into the target language (Mexican-Spanish), by independent, blinded native Spanish translators. Each of the translators provided a written report of the translation, identifying words, phrases and concepts that represented a challenge for the translation, giving the basis for the decision making of the used words. The second phase was the synthesis of the translations integrating the two initial translations into a final Mexican-Spanish version. An expert examined both translations and made a written report which was reviewed by two epidemiologists with areas of expertise in clinimetrics and public health; obtaining the final version of the FCV-19S into Mexican-Spanish. The third phase consisted of the retro-translation of the final Mexican-Spanish version of the FCV-19S into English, by two blinded, independent translators, both with English as a native language. In the fourth phase translations were submitted for evaluation by the experts. The fifth phase consisted in verifying the construct validity and semantics related to the original version, through the pilot test of the FCV-19S with 40 patients, from which written informed consent was obtained, and where it was verified that the instrument was understandable and obtaining a final Mexican-Spanish version.

Phase 2: Validation of the psychometric properties of the FCV-19S.

For this phase a Cronbach's Alpha coefficient was performed to

measure the reliability of the measurement scale, thus a Pearson's correlation was used. The statistical analysis was performed using the statistical program R Project for Statistical Computing [6].

Ethical issues: Authors declare that they do not have any conflict of interests in the development of the present work. The present research has not received any specific aid from the public sector agencies, commercial sector or non-profit entities. Moreover, the ethical aspects of the Helsinki declaration of 1975 were followed. Informed consent forms were obtained for the application of the FCV-19S. Our study was authorized by the Ethics and Research Committee of the Mexican Social Security Institute (IMSS by its initials in Spanish) in Jalisco Borough, with registration number R-2020-1306-070.

Results

The process for transcultural validation of instruments was carried out according to the stipulations of Beaton and Guillemin, achieving in this process, an instrument adapted to the Mexican-Spanish language, which contains the same properties of the construct validity and criteria as the instrument published in its original language [4, 5].

To accomplish the psychometric properties of the validated instrument into Mexican-Spanish, the instrument was applied to 438 people who answered the scale. The following sociodemographic characteristics were obtained: predominant gender was female with 74.4% (326); mean age was 38 years for female (in a range from 20-75 years) while for male it was 39 years (range 20-70); 61% of the interviewees had children; 78.5% (344) had an educational level of bachelor's degree or higher (postgraduate degree); 59.1% of the interviewees (259) had a non-health related occupation while 40.8% (179) were healthcare workers being public sector where most frequently they work. Married persons were the most frequent with 47.2% (207), followed by single persons with 33% (146); the remaining 20% (85) were distributed among the other civil status categories.

To assess the psychometric properties of the scale, the Cronbach's Alpha coefficient was calculated to observe the behavior with respect to the original scale, obtaining in our study a Cronbach's Alpha of 0.85 (mean interitem covariance of 0.54). Regarding Pearson's correlation, it was also applied to see its behavior, obtaining the following result from 0.2662 to 0.6906.

The FCV-19S score already validated was calculated, finding a mean of 17.5 with a SD (5.6), and they are shown in table 1 according to certain sociodemographic characteristics finding that women and persons with children present a higher fear of COVID-19, being this statistically significant.

Table 1. Fear of COVID-19 scale scores, by sociodemographic characteristics.

Sociodemographic Characteristics	n	Mean	FS*	SD	p-value
Gender					
Female	326	18.2		5.7	<0.001
Male	112	15.5		4.7	
Healthcare worker					
No	259	17.2		5.5	0.219
Yes	179	17.9		5.7	
Have children					
No	171	16.7		5.2	0.014
Yes	267	18.0		5.7	
Smoke					
No	397	17.5		5.6	0.547
Yes	41	18.0		5.3	
Civil status					
Single	146	17.4		5.7	0.882
Married	207	17.6		5.2	
Living together	58	17.4		6.3	
Divorced	26	17.4		6.1	
Widowed	1	23		--	
Schooling					
Incomplete middle-school	5	20		2.8	0.448
Complete Middle-school	9	17.4		4.8	
High-School or equivalent	80	17.5		6.0	
Bachelor's degree	201	17.4		5.4	
Specialty	68	18.5		5.5	
Master's degree	64	16.9		5.9	
Doctorate	11	15.2		4.8	
FS*: Fear of COVID-19 scale score					

Discussion

A validated scale was obtained with and suitable process for transculturally, which contains psychometric properties similar to the original version, with a Cronbach's Alpha of 0.85 compared to 0.82 calculated by Ahorsu et al [3]. This instrument can be used to standardize fear behavior in the face of the pandemic among both healthcare workers and in general population. Since it is assumed that the scale validated into Mexican-Spanish, having suitable construct and criteria validity, can take the same psychometric properties as the original instrument. In recent studies screening for anxiety and depression has been used during the COVID-19 epidemic in healthcare workers, in China Liang et al used two scales of anxiety and depression finding no significant differences between the scores of the personnel attending COVID-19 and other departments [7]. Also in China, Lai et al they assessed the magnitude of mental health of the healthcare workers exposed to COVID-19, applying scales of health, anxiety, insomnia and impact of the event, finding that female nurses had a higher psychological burden [8].

Validations of the FCV-19S have been carried out into various languages, with an internal consistency (Cronbach's Alpha) in Italy of 0.871, Eastern Europe including Russia and Belarus of 0.809, Peru of 0.89 and 0.83, in Bangladesh of 0.871, for Saudi-Arabia of 0.88, Israel of 0.86, and in Turkey there were two validations one by Satici et al, with a Cronbach's Alpha of 0.82 and, by Kaktanir et al, with 0.86; all of them similar to the results of our study and correlated to our findings, which confirms and strengthens the scale as suitable and valid to be applied to our population [9-16].

The FCV-19S was used in medical students in Vietnam by Nguyen et al, reporting an internal consistency of 0.90 with an explained variance of 62.15% this is also in agreement with our study which was also applied to the general population and healthcare workers [17].

Conclusions

The FCV-19S along with the scales of anxiety, depression,

insomnia and others of impact, might be complementary and used to establish control measurements and even the prioritization for psychological or psychiatric attention for both the healthcare workers exposed to COVID-19 and the general population. Which opens the path to what international organizations and disease control offices from different countries or universities already manage, which raises that the mental health of healthcare workers during a contingency is a priority process for the continuous care of the patients in the face of a pandemic such as COVID-19.

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