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Adaptation of the inventory of complicated grief in relatives of those who died from COVID

Abstract

The general objective of this research was to determine the psychometric evidence of the complicated grief inventory adapted in relatives of the deceased by COVID - 19 of Lima East 2021. The sample consisted of 995 family members of deceased persons due to Covid-19, between 18 and 73 years of age, to whom the complicated Grief Inventory created by Prigerson (1995) was applied, adapted to the Colombian population by Gamba and Navia,[1] the objective was to adapt the Complicated Grief Questionnaire to the Colombian population. A sample of 995 people was taken as a sample, 43.5 % women and 56.5 % men, average age up to 73 years (range = 18 to 73 years). Cronbach's alpha (a=.879), similar to the original test in English (a=.94) and higher than the Spanish adaptation (a=.88), as the inclusion of 21 items. Regarding the factorial structure of the test, the Kaiser Meyer - Olkin sample adequacy index (kmo=89) and Bartlett's test of sphericity ($\chi 2$=1702.133, p<.000), indicated that the factorial analysis was viable. Following the internal consistency method, Cronbach's alpha was .902, which is considered high reliability. It was possible to establish scales and percentiles of the psychometric evidence of the complicated grief inventory adapted in relatives of the deceased by COVID - 19 of Lima East 2021.

Keywords: complicated grief, family members and covid-19

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Introduction

The epidemic of COVID-19 was exposed by the World Health Organization on January 30, 2020 in a state of emergency for citizens. Likewise, last March 11 it was characterized as an international pandemic, people affected by the COVID-19 continue to increase worldwide and the most worrying thing is that they do not stop increasing, currently there are already more than two hundred fifty-three million cases of infection and the most worrying thing is the number of deaths that are five million one hundred thousand people, there is also a population of fourteen million who have managed to be cured.[2] The COVID - 19 has been attacking many countries, and many of these deaths will become a source of infection for other people.

The current information provided by Gestión Perú, indicates that the Ministry of Health,[3] indicated on Saturday, November 13 of this year, that nationally there was a worrying number of COVID - 19 infections, with two million two hundred and ten thousand cases registered, likewise, our country unfortunately faces the loss of two hundred and one thousand deaths due to this deadly virus.

To study grief some instruments have been created, among them are three that evaluate complicated grief, one of them is in the United States under the authorship Prigerson et al,[4] who investigated spousal grief, these data come from 97 duels who completed CGI and other self-report scales that measure grief, depression and medical history characteristics.

Similarly, the first adaptation in Spain was obtained by Limonero-García, Lacasta-Reverte, García-García, Maté-Méndez,[5] who carried out the adaptation in spouses of the IDC and evaluated the psychometric aspects of the inventory through the analysis of reliability (internal consistency and temporal stability), factorial validity (varimax rotation of the type of factor analysis) and convergence validity.

In Colombia, the adaptation was in charge of Gamba-Collazos and Navia,[1] the adaptation of the complex list of duels (IDC) was carried out among the Colombian population, five members of the jury specified that the subject and the customs suitability of the test, to subsequently apply it in a population 120 people who reach the age of majority who suffered the loss of a family member. The psychometric study has an internal consistency is similar to the original tests and better than the Spanish adaptation version.

This study has as theoretical utility, to make known that there is no previous research on the subject, it is important to use the discovery of new psychological instruments that are useful for our society and scientific community; from the practical, it will solve the absence of instruments that measure complicated grief in people with loss of family members by COVID and have a quick diagnosis to prevent negative consequences on mental health; as a methodological contribution, it will contribute with the adaptation of the inventory with adequate psychometric properties that measures complicated grief in the Peruvian social context, specifically in people from East Lima; the same that can be used to evaluate this variable.

The present work has the general objective: To determine the psychometric evidence of the complicated grief inventory adapted in relatives of deceased by COVID - 19 of Lima East 2021; the specific objectives are: To determine the discrimination index of the items of the complicated grief inventory, to establish the content and construct validity of the complicated grief inventory; to establish the reliability based on the internal structure of the complicated grief inventory and to calculate the normative data of the complicated grief inventory, adapted in relatives of deceased by COVID-19 of Lima East 2021.

Method

The research was of instrumental type, the objective was to develop tests and devices, included in the process of psychometric design and study of psychometric properties.[6] Regarding the design, it came to use a non-experimental cross-sectional design, which means that the study was conducted without manipulated variables and could be observed in the facts as they were given to our reality, being cross-sectional meant that the information was collected at the specific time.[7]

a. Participants

The sample consisted of 995 relatives of those who died from Covid-19, being spouses, parents, children, uncles, nephews, cousins, brothers and sisters-in-law, grandparents and grandchildren who had suffered a loss due to COVID-19 in East Lima, of both sexes aged between 18 and 73 years.

b. Instrument

Data were collected using the inventory of complicated grief created by Prigerson in 1995 and adapted in Colombia Gamba-Collazos and Navia in 2017, the purpose of measuring the symptoms of complicated grief and was applied in relatives of cancer deceased, which was applied individually with a time of 15 minutes.

c. Procedure

We began by contacting the authors Gamba-Collazos and Navia to request the corresponding permission for the adaptation, which was obtained satisfactorily; then we continued with the expert judgment; after that, we proceeded with the elaboration of the form in Google drive, which counted at the beginning with the presentation, the general objective, informed consent of the participants and the conditions to complete the survey; In the second block of the questionnaire, participants were able to locate the email addresses of the researchers to resolve any concerns during the process regarding the survey; likewise, each respondent was guaranteed that the data collected would be used for the exclusive purposes of the research, which was voluntary and anonymous, along with informed consent and for the pilot test, we proceeded with the dissemination to 50 adult volunteers from the Lima East area, to determine whether it is easy to understand and finally continue with the application of the selected sample.

d. Data analysis

Adequate statistical results were considered, proceeding with the analysis of data obtained and found the results through the Microsoft Excel 2019 program, with the statistical program SPSS v. 25 and Amos, likewise after the data collection process was passed to empty the information the SPSS program where the frequency was taken into account, the Fisher's asymmetry coefficient; also the veracity of the data was found by means of the KMO test, then verifying the construct validity by means of exploratory and confirmatory factor analysis, the reliability was by Cronbach's Alpha and finally elaborated the scales which was presented through tables and graphs.

Results

Table 1 shows the Confirmatory Factor Analysis according to the Peruvian version with four second order factors, with the value of X^2/gl= 4.47, where it indicates the acceptable parsimony adjustment,[8] RMSEA=.059, SRMR=.073 show optimal results according to their absolute adjustment indexes. Similarly, CFI=.960 presents adequate comparative fit such as TLI=.909 being acceptable (Figure 1).[9]

Discussion

The current research has the general purpose of adapting the Complicated Grief Inventory to our socio-cultural context and applying it in different people who have suffered the irreparable loss of a family member due to COVID-19, for this, we worked with a population of 995 participants, being larger than the inventory of the Colombian version conducted by Gamba and Navia[1] that had 120 participants.

Table 1 Goodness-of-fit measure of the Confirmatory Factor Analysis of the Peru model of the Complicated Grief Inventory

Adjustment index	Peru model	Optimum rates
Parsimony setting		
X 2 /gl	4.47 Acceptable	≤5.00
Absolute setting		
RMSEA	,059 Acceptable	≤.06
SRMR	.073 Acceptable	≤.08
Comparative adjustment		
IFC	.960 Acceptable	≥ .90
TLI	.909 Acceptable	≥ .90

Note: X^2/gl, Chi-square between degrees of freedom; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual; CFI, comparative goodness of fit index; TLI, tucker-lewis index

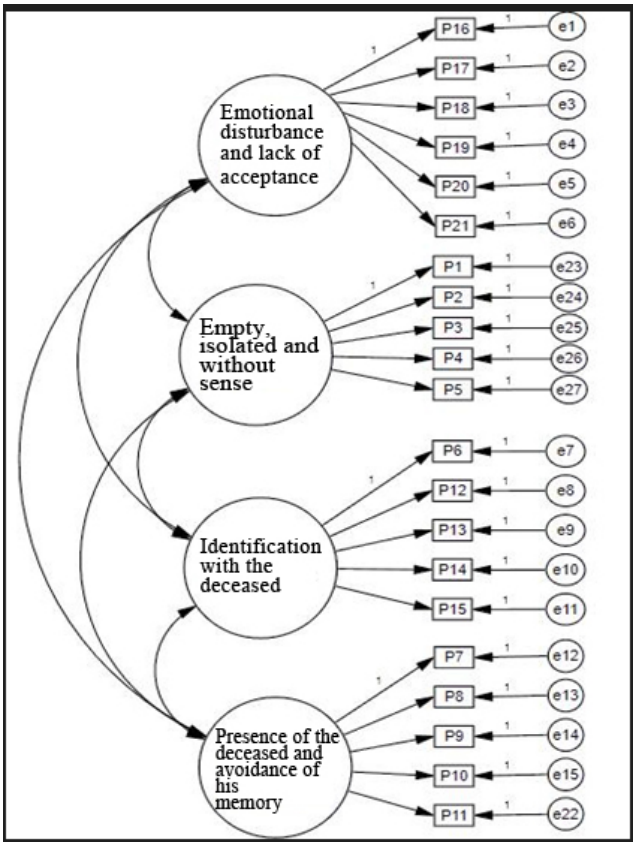

Figure 1 Confirmatory Factor Analysis of the Peru model of the Complicated Grief Inventory - IDC.

To obtain the content validity, the analysis of Aiken's V. was carried out, complying with the criteria guidelines of ten expert judges, where it was concluded that each item meets the content criteria, with a minimum acceptable value that was >=0.90, with a single value of 1.00, reaching the conclusion that there is no need to eliminate any item, Gamba and Navia[1] performed the same procedure, where by submitting the items to the analysis of the V. of Aiken, they also found that the items met an adequate index as the present research.

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Next, the validity of internal structure was verified with the confirmatory factor analysis of the first test, the test value X^2 / gl = 2.47 indicates an acceptable fit (Bentler, 1989); RMSEA = .111; SRMR = .091 does not present a good fit (Hu and Bentler, 1999). CFI = .760 indicates that it does not have an adequate fit[8] and TLI = .779 presents an unacceptable fit.[9]

We determined the construct validity of the adapted inventory, by applying Bartlett's test of sphericity with a score of 0.00 and the Kaiser-Meyer-Olkin indicator has 0.914, due to the results indicate that they are adequate, which are sufficient for the respective model raised in this study. The same procedure was performed by Gamba and Navia (2017), obtaining adequate indices in the KMO 0.89 and Bartlett's test of sphericity of 0.00.

As for the factorial structure of the total variance, the four dimensions are verified with a cumulative percentage of 57.929%, it is acceptable, since its value is greater than 50% of the total scale, as mentioned by Henson and Roberts.[10]

The Complicated Grief inventory in Colombian population had 3 dimensions and 21 items, the exploratory factor analysis of principal components with Varimax rotation, however, showed a grouping of 4 dimensions with 21 items indicating 57.929% of the total variance, the author mentions that a percentage higher than 50% is adequate (Martinez, 2005).

To confirm the structural adequacy of 4 dimensions proposed in the present investigation the confirmatory factor analysis was carried out, of 21 items, obtained Chi-square values 4.47 RMSEA .059 and CFI .960, these values indicated an adequate level of adjustment, however results such as RMSEA were above 0.05, due to the sociodemographic differences of the population studied, age, district, religion that generate variation in the results, similarly with the other results showed a good fit in the 4 dimensions.

Reliability values were found for internal consistency with Cronbach's Alpha and McDonald's Omega of the inventory of the Colombian version total α= .879 and ω= .899, as in its 3 dimensions: "Emotional disturbance and lack of acceptance" α= .840 and ω= .840, "Emptiness, isolation and meaninglessness" α= .745 and ω= .745 and "Presence of the deceased, identification with him and avoidance of his memory" α= .817 and ω= .817, evidencing values[11]adequate and acceptable.[12] With a reliability by internal consistency for the new total model α=.902 and ω= .902, with four dimensions: "Emotional disturbance and lack of acceptance" α= .840 and ω= .840, "Emptiness, isolation and meaninglessness" α= .820 and ω= .812, "Identification with the deceased" α= .813 and ω= .811 and "Presence of the deceased and avoidance of his memory" α= .801 and ω=.801 shows a high reliability.[11]

The reliability of the scale was obtained by calculating the Cronbach's Alpha coefficient for internal consistency with a result of .902, indicating a very high level. In relation to results of Gamba and Navia[1] similar results are presented, since it obtained an overall coefficient of .879 which typifies as very high, in the original test of Prigerson[4] 0.94 was obtained which is also considered very high, while the Spanish version has a coefficient of 0.88 considered as a high value. In comparison to national studies, Rojas (2005) obtained a coefficient of 0.94, considered very high; Ruíz and Vargas obtained a Cronbach's Alpha of 0.906, also considered very high.

In the course of the investigation some delimitations were presented referring to the international and national antecedents, it is worth mentioning that the variable of complicated grief has been left aside by the scientific community, since the pioneer is Holly Prigerson and her studies continue being the only referents of the problematic to treat, such as also the 2 international adaptations from Spain, with Limonero, Lacasta, García and Mate, and in Colombia with Gamba and Navia.

Finally, after finding congruencies discussed with other research and obtaining adequate adjustments of validity and reliability, we elaborated the scales and percentiles for the population of relatives of the deceased by COVID-19 in East Lima, providing a contribution of interpretative character and of great importance at present for the adapted test, which was not generated in the Spanish or Colombian version of the same instrument, but unlike the current adaptation carried out.

Conclusions

The objective of determining the psychometric evidence, the discrimination index of the items, with an optimal content and construct validity, also with an adequate reliability of the Complicated Grief Inventory in relatives of deceased by COVID - 19 in East Lima, 2021 was fulfilled. Evidence of validity based on internal structure was determined by exploratory factor analysis, showing 4 dimensions, and verified by confirmatory factor analysis.

Acknowledgments

None.

Conflicts of interest

The authors declare no conflicts of interest.

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