Cyprus Turkish Journal of Psychiatry & Psychology Vol.4 Issue.2
Doi: 10.35365/ctjpp.22.2.04

RESEARCH ARTICLE / ARAŞTIRMA YAZISI

Initial Adaptation Study of COVID-19 Peritraumatic Distress Index (CPDI) to Turkish Sample

COVID-19 Peritravmatik Distres İndeksi'nin (CPDI) Türkiye Örneği'ne Uyarlama Çalışması

Funda Kocaay[1], Fatih Yığman[2], Nursemin Unal[3]

Fulya Barış Pekmezci[4]

Abstract:

Peritraumatic distress, which is regarded as a predictor of post-traumatic stress disorder (PTSD), expresses the feeling of fear and helplessness experienced in the face of a traumatic event. It has been evaluated that the COVID-19 pandemic can lead to peritraumatic reactions and PTSD symptoms. The study aimed to adapt the "COVID-19 Peritraumatic Distress Index (CPDI)", which was developed to determine peritraumatic distress levels during the COVID-19 pandemic, to Turkish culture. The study was conducted with 248 participants. The CPDI scale items were translated into the Turkish language. Confirmatory factor analysis (CFA) was performed to determine the construct validity of the scale. And the Cronbach alpha (α) reliability coefficient was calculated for reliability. As a result of the analyses, the original structure of the scale was confirmed and construct validity was ensured. This measurement tool can be used to assess the peritraumatic distress levels of the Turkish population.

Keywords: COVID-19, coronavirus, peritraumatic distress

[1]Asst. Prof. Dr., Ankara Medipol University, Faculty of Medicine, Department of Public Health, Ankara-Turkey, fkocaay@gmail.com Orcid İd: 0000-0003-4352-4675

[2]Assist. Prof. Dr., Ufuk University Faculty of Medicine, Department of Psychiatry, Ankara-Turkey, dr.yigman@gmail.com Orcid İd: 0000-0001-6052-7662

[3]Assist. Prof., Ankara Medipol University, Faculty of Health Sciences, School of Nursing, Ankara-Turkey, nurse_unal@hotmail.com Orcid İd: 0000-0003-3141-7194

[4]Assist. Prof., Yozgat Bozok University, Faculty of Educational Sciences, Department of Education, Yozgat-Turkey, fulyabaris@gmail.com Orcid İd: 0000-0001-6989-512X

Address of Correspondence/Yazışma Adresi: Nursemin Unal, Ankara Medipol University, Faculty of Health Sciences, School of Nursing, Ankara-Turkey, E-mail: nurse_unal@hotmail.com

Date of Received/Geliş Tarihi: 21.01.2022, **Date of Revision/Düzeltme Tarihi:** 13.03.2022, **Date of Acceptance/Kabul Tarihi:** 29.03.2022, **Date of Online Publication/Çevirimiçi Yayın Tarihi:** 20.06.2022

Citing/Referans Gösterimi: Kocaay, F., Yığman, F., Unal, N. Barış-Pekmezci, F. (2022). Initial Adaptation Study of COVID-19 Peritraumatic Distress Index (CPDI) to Turkish Sample, *Cyprus Turkish Journal of Psychiatry & Psychology, 4(2): 148-153*

Öz:

Travma sonrası stres bozukluğunun yordayıcısı olarak kabul edilen peritravmatik distres, travmatik bir olay karşısında yaşanan korku ve çaresizlik duygusunu ifade eder. COVID-19 pandemisinin peritravmatik reaksiyonlara ve travma sonrası stres bozukluğu semptomlarına yol açabileceği değerlendirilmiştir. Çalışmada, COVID-19 pandemisi sırasında peritravmatik distres düzeylerini belirlemek amacıyla geliştirilen "COVID-19 Peritravmatik Distres İndeksi (CPDI)" nin Türk kültürüne uyarlanması amaçlanmıştır. Çalışma 248 katılımcı ile gerçekleştirilmiştir. CPDI ölçeğindeki maddeler Türkçe'ye çevrilmiştir. Ölçeğin yapı geçerliğini belirlemek için doğrulayıcı faktör analizi (DFA) yapılmıştır. Güvenirlik için ise Cronbach alfa (α) güvenirlik katsayısı hesaplanmıştır. Analizler sonucunda ölçeğin orijinal yapısı doğrulanmış ve yapı geçerliliği sağlanmıştır. Bu ölçüm aracı, Türk nüfusunun peritravmatik distres düzeylerini değerlendirmek için kullanılabilir.

Anahtar Kelimeler: COVID-19, koronavirüs, peritravmatik distres

Introduction

The existence of microorganisms that cause pandemics is as old as human history itself. Ever since it came into being, mankind has struggled with many epidemic diseases such as plague, smallpox, leprosy, malaria, and cholera (Watts, 1997). The coronavirus (COVID-19), which first appeared in China and was named SARS-CoV-2, spread all over the world in a short time (Lu, Stratton & Tang, 2020). The first case in Turkey was detected on March 11, 2020, and on the same date, a 'pandemic' was declared by the World Health Organization (WHO) (WHO, 2020).

Pandemics are traumatic life events that threaten all people, lead to widespread fear and anxiety, and disrupt the natural flow of life (Bostan et al., 2020). The COVID-19 pandemic, which is considered to be the greatest challenge faced by humanity since the Second World War, has spread rapidly all over the world; due to quarantine and isolation measures, it has had a global impact, particularly on business life, social life and daily life (United Nations, 2020; Xiang et al., 2020). The compulsory use of personal protective equipment and strict and mandatory quarantine measures aimed at controlling the spread of the disease are among the negative effects of the disease on mental health (Brooks et al., 2020).

The uncertainty caused by the pandemic process, disruption of daily life, fear of catching the virus and infecting family members, fear of death, and socioeconomic problems give rise to anxiety and mental distress (Caglar et al., 2021; Nikopoulou et al., 2021). Considering studies related to past epidemics, it was reported that 80 percent of the population had a high level of fear of being infected during the MERS epidemic (Lee, Kim & Kang, 2016). According to the first online survey study conducted in China on the COVID-19 epidemic, it was shown to cause moderate to severe psychological effects in 53.8% and severe distress in 8.1% of participants (Wang et al., 2020).

Peritraumatic distress, which is regarded as a predictor of post-traumatic stress disorder (PTSD), expresses the feeling of fear and helplessness experienced in the face of a traumatic event (Brunet et al., 2001). It has been evaluated that the COVID-19 pandemic can lead to peritraumatic reactions and PTSD symptoms (Nikopoulou et al., 2021; Plomecka et al., 2020; Samson & Shah, 2020). One of the most comprehensive studies measuring the level of peritraumatic distress due to the COVID-19 pandemic was conducted with more than 7,000 participants from 13 countries, and it was evaluated that the level of distress was highest in Vietnam, Egypt and Bangladesh, respectively (Marzo et al., 2021). This study reported that distress levels may vary between countries, and that female gender and low education level were associated with the level of distress. A study carried out with 13,000 participants from different countries revealed the adverse effects of the COVID-19 pandemic, including PTSD-related symptoms (Plomecka et al., 2020). A study conducted with medical school students in the United Arab Emirates revealed that more than half of the participants experienced distress (Saravanan et al., 2020). Considering the presence of COVID-19-related peritraumatic distress worldwide, the presence of peritraumatic distress was detected in one third of individuals in South Korea (Yoon et.al., 2021), China (Qiu et al., 2020) and Italy (Constantini & Mazzotti, 2020). In Iran, these rates were found to be 47% for moderate distress and 14.1% for severe distress among adult participants (Jahanshahi et.al., 2020). In Brazil, moderate distress was evaluated in 52% and severe distress in 18.8% of adults sampled (Zhang et.al., 2020).

Although the level of peritraumatic distress varies from country to country, it is clear that it is a common problem. Evaluating individuals' peritraumatic experiences and providing psychological and social support are of vital importance both in the pandemic process and in the normalization process (Caglar et al., 2021). To enable each country to manage mental health services according to its own needs, early detection of individuals with mental health problems is very important. Revealing the impact of the COVID-19 pandemic on mental health can contribute to reducing long-term morbidity and mortality and to improving mental health services. For this reason, the lack of a measurement tool suitable for Turkish culture to determine the distress levels experienced by individuals during the COVID-19 process constitutes the starting point of this research.

This research aims to adapt the "COVID-19 Peritraumatic Distress Index (CPDI)" scale, which was developed to determine peritraumatic distress levels during the COVID-19 pandemic, to Turkish culture. In line with this aim, the following research questions were asked:

1. What is the reliability level of the COVID-19 Peritraumatic Distress Index (CPDI) scale?

2. What is the construct validity level of the COVID-19 Peritraumatic Distress Index (CPDI) scale?

The CPDI scale has been adapted to many different cultures such as Spain (Jiménez, Rieker, Reales & Ballesteros, 2021), Italy (Constantini & Mazzotti, 2020), Iran (Jahanshahi et al., 2020) and Germany (Liu & Heinz, 2020) and is still used in many studies (Abad et al., 2020; Megalakaki et al., 2021; Miller et.al., 2020). The fact that the CPDI scale is a valid and reliable measurement tool, its extensive use, and the lack of an appropriate measurement tool that measures COVID-19-related peritraumatic distress in Turkish culture makes the current research important.

Methods

Information about the CPDI scale

The original form of the CPDI scale consists of 4 dimensions and 24 items. The items were scaled on a 5-point Likert-type scale (0=never, 1=occasionally, 2=sometimes, 3=often, 4=most of the time). The names of the dimensions and the item numbers belonging to the dimensions were given in Table 1.

Table 1. Dimensions of the original CPDI scale

Dimensions	Dimension names	Item numbers related to dimension
D1	Negative mood	M1 M2 M3 M4 M5
D2	Changes in behavior and cognitive abilities	M6 M7 M8 M9 M10 M11 M12
D3	Tiredness and hyperreactivity	M13 M14 M15 M16 M17 M20 M21
D4	Somatization	M18 M19 M22 M23 M24

The CPDI scale consists of items related to anxiety, depression, specific phobias, cognitive change, avoidance, compulsive behavior, physical symptoms and loss of social functioning in the past week. Cronbach's alpha (α) reliability coefficient for the total scale was calculated as 0.95 (Qiu et al., 2020). The scale has been applied in many regions in China. Children under 18 years of age were also included in the study, but the age range was not specified.

The adaptation procedure

Translation of CPDI scale items

The CPDI scale items were translated into Turkish by following the translation-back translation procedure. In the translation procedure, first of all, the 24 items were translated into Turkish. After this, the opinion of one Turkish language and literature expert was obtained, and the suggested revisions were made. The translated and revised Turkish form was translated back into English and the opinion of one English language and literature expert was obtained. The translation procedure was finalized with the cooperation of a Turkish language expert, an English language expert, and due to the fact that the scale is closely related to the field of psychiatry, an academic member from the field of psychiatry.

Data collection

The implementations were completed with the necessary permission obtained from the scale owner. In addition, the necessary ethical permission was provided for the data collection. After obtaining all permissions, the data were applied to 14 people as a trial implementation in order to collect information about whether there were any incomprehensible points. The main implementation of the CPDI scale was made on 248 participants via Google Forms.

Participants

In order to determine the construct validity of the CPDI scale, the sample size should be at least 10-15 times the number of items (Cohen & Swerdik, 2009; Field, 2009; Hair, Black, Babin & Anderson, 2019). Besides, the CPDI scale consists of 24 items. At this point, it can be said that the data collected from 248 people within the scope of the study are sufficient for confirmatory factor analysis (CFA).

Before the scale administration, some questions containing personal information were asked to the participants. Through these questions, it was aimed to obtain some descriptive information about the research group. According to the personal information form, it was detected that 64.1% (159) of the participants were female and 35.9% (89) were male. The ages of the participants ranged from 16 to 65. In addition, 83.5% (207) of the participants were vaccinated and 16.2% (40) were not vaccinated yet. While 46% (114) of the participants had a family history of COVID-19, 54% (134) had no family members who had had COVID-19. However, 6.5% (16) of the participants had lost a family member because of COVID-19, while 93.5% (232) had not. Based on this information, the fact that the rate and number of people in the research group who had or did not have a family history of COVID-19 were close, and the diversity of the answers, that is, the heterogeneity of the group, are considered important in terms of the representation of the latent construct of the CPDI scale.

The research protocol obtained from the ethics committee (Date: 27.08.2021, Number: 30) is by the provisions of the Declaration of Helsinki. In addition, the participants were informed about the purpose of the research and gave electronic informed consent as a requirement for participation.

Data analysis

Outliers in structural equation models (SEM) can cause model fit statistics and parameter estimations to be inaccurate (Bollen, 1987). Therefore, before determining the construct validity of the CPDI scale, missing data and outliers (extreme values) in the data set should be determined. Firstly, the existence of missing data was examined and no missing data were seen. Then, the presence of extreme values was determined by examining both univariate and multivariate outliers. The univariate outliers were detected via the SPSS 22 program. For detecting univariate outliers, the scores in the data set were converted into z scores and analyzed, and the 1 case with a z score greater than 3.00 was deleted. Then, the multivariate outliers were determined by calculating the Mahalanobis distance via the application developed by Aybek (2021). To calculate Mahalanobis distance, the data file was uploaded to the application developed by Aybek (2021), and 13 multivariate outliers were determined.

These outliers were deleted by the application and the file with no extreme values was downloaded from the system. As a result of the examination of missing data and extreme values, 14 cases were excluded from the analysis, and the analysis continued with 234 cases.

After the missing data and extreme value analysis, CFA was performed to determine the construct validity of the CPDI scale. Although CFA is a frequently used method in the evaluation of structural equation models and measurement models in education and psychology research (Kline, 2010), it is also a frequently used method in cross-cultural adaptation studies. In order to determine the reliability of the scores obtained from the CPDI scale, the Cronbach alpha (α) reliability coefficient was calculated. Reliability analysis was performed using SPSS 22 and CFA was performed using the Mplus 7 program.

Results

Reliability analysis

The reliability of the internal consistency of the scores obtained from the scale was determined by calculating the Cronbach alpha (α) coefficient. Accordingly, the reliability coefficient for the whole scale was calculated as 0.93, which indicates that the CPDI scale has internal consistency (Field, 2009; Hair et al., 2019). Reliability coefficients for the dimensions of the CPDI scale are given in Table 2.

Table 2. Reliability coefficients for dimensions of the CPDI scale

Dimensions	Dimension names	Cronbach α values
D1	Negative mood	0.76
D2	Changes in behavior and cognitive abilities	0.72
D3	Tiredness and hyperreactivity	0.91
D4	Somatization	0.84

When Table 2 is examined, although the reliability of the scores in the D3 dimension is higher than in the other dimensions, the lowest reliability value was calculated in the D2 dimension. According to Field (2009) and Hair et al. (2019), reliability values higher than 0.70 are acceptable for reliable results in the fields of psychology and education (Field, 2009; Hair et al., 2019). Hence, it can be said that the reliability of the CPDI scale scores in terms of both the total scale and its dimensions is provided.

Construct validity

CFA was used to determine the construct validity of the CPDI scale. As aforementioned, the scale consists of 4 dimensions and 24 items. The remaining sample size after cleaning out the outliers was 234. It can be said that the current sample size was sufficient for performing CFA (Cohen & Sverdlik, 2009; Hair et al., 2019; Field, 2009). To estimate the CFA model parameters, the maximum likelihood estimation (MLE) method was used.

As a result of the CFA, the factor loadings (path coefficients) and t values were examined and it was seen that all factor loadings were significant at the 0.05 level. The factor loadings for the CFA model are given in Figure 1. Besides, when the factor loadings were examined, it was seen that all factor loadings were positive. In addition to these, some modifications were required to provide model fit. In order to improve the model fit, among the suggested modifications, the correlations defined between the items loaded in the same dimension (between M6 and M7, and between M22 and M23) were made by taking into account the theoretical foundations and justifications (MacCallum, Roznowski & Necowitz, 1992). Existing relationships between items belonging to the same factor are quite normal due to the nature of factor analysis. For this reason, the modifications made in this study are not an application that will make the validation of the model suspicious, such as the definition of covariance among error variances. However, according to Cudeck and Browne (1983), when modification is made, cross-validation analysis is recommended (Cudeck & Browne, 1983). Nevertheless, in most studies, this advice is rarely followed in practice (MacCallum et al., 1992). The modifications that were made contributed positively to the model fit indices (CFI and RMSEA). The model parameters obtained are given in Table 3.

Table 3. Model-fit indices

χ^2	CFI	TLI	SRMR	RMSEA	90% CI RMSEA
527.557*	0.90	0.89	0.06	0.07	0.062 – 0.079

*p<0.05

To decide on model data fit, firstly the chi-square (χ^2) test should be examined. The significance level of χ^2 values greater than 0.05 shows that model data fit is achieved. According to Table 3, it can be said that the current model data fit has not been achieved. However, χ^2 can be affected by the sample size (Zimmer & Odum Institute, 2019). Therefore, it is recommended to interpret the model χ^2 test together with other general goodness-of-fit indices. When the other model fit indices are examined, and SRMR index of less than 0.08 (Browne & Cudeck, 1993) and RMSEA between 0.05 and 0.08 show an acceptable fit (Hu & Bentler, 1999). Also, CFI and TLI indices between 0.90 and 0.95 indicate acceptable fit (Bentler, 1990). As seen in Table 3, all model fit indices, except TLI, indicate acceptable model fit. Since the model fit indices were evaluated together, not singly, it can be said that it has an acceptable fit for the model constructed within the scope of the research, as shown via the other fit indices. As a result, it can be said that the construct validity of the CPDI scale is provided.

Table 4. Correlations between dimensions of the CPDI scale

	Correlation values			
Dimensions	Negative mood	Changes in behavior and cognitive abilities	Tiredness and hyperreactivity	Somatization
Negative mood	1.00			
Changes in behavior and cognitive abilities	0.81	1.00		
Tiredness and hyperreactivity	0.69	0.61	1.00	
Somatization	0.65	057	0.84	1.00

Correlations between the dimensions of the CPDI scale are given in Table 4. According to Table 4, it is seen that the correlation values are in the range of 0.50-0.80. The correlation values of less than 0.90 between the dimensions indicate that there are unique variances that the dimensions explain specifically.

Discussion

Within the scope of this research, it was aimed to adapt the CPDI scale reliably and validly to the Turkish sample. In line with this aim, construct validity was determined by conducting CFA, considering the data collected from 248 participants and the original dimensions and item loadings. Turkish adaptation of the CPDI scale's factor structure and reliability coefficient was found compatible with other adaptation studies in different cultures (Constantini & Mazzotti, 2020; Jahanshahi et al., 2020; Jiménez et al., 2021; Liu & Heinz, 2020). As a result of the analyses, the original structure of the scale was confirmed and construct validity was ensured.

The COVID-19 pandemic can lead to peritraumatic reactions and PTSD symptoms. Evaluating individuals' peritraumatic experiences and providing psychological and social support is of vital importance both in the pandemic process and in the normalization process. To manage mental health services, early detection of individuals with mental health problems is very important. Psychiatric nurses who have a vital role in managing psychiatric problems can use this measurement tool to determine the peritraumatic distress levels of people in the Turkish community. Using this tool is useful for identifying vulnerable people and improving their psychosocial health.

Limitations

The current study is not without limitations. This research is an initial adaptation of the CPDI scale. Data were collected only at one point in time so construct validity of the adapted scale was proven only with one sample. Therefore, future studies should focus on proving the construct validity of the CPDI scale on other samples to obtain more reliable and valid results.

Declarations

Ethical Approval and Consent to Participate
Ethics committee approval (Number: 30, Date: 27.08.2021) and institutional permission were obtained from the Non-Interventional Research Ethics Committee of the University of Ankara Medipol University, Turkey.

Consent for Publication
Not applicable.

Availability of Data and Materials
Data sets used and/or analyzed during the study can be obtained from the relevant author upon appropriate request.

Competing Interests
The authors declare that no competing interests in this manuscript.

Funding
Not applicable.

Authors' Contributions
All the authors worked on all parts of the study. All authors have read and approved the final version of the article.

Acknowledgements
Not applicable.

References

Abad, A., da Silva, J. A., de Paiva Teixeira, L. E. P., Antonelli-Ponti, M., Bastos, S., Mármora, C. H. C., ... & da Silva, J. A. (2020). Evaluation of fear and peritraumatic distress during COVID-19 pandemic in Brazil. Advances in Infectious Diseases, 10(03), 184.

Aybek, E. C. (2021). Data preparation for factor analysis. URL: https://shiny.eptlab.com/dp2fa/

Bentler, P. M. (1990). Comparative fit indexes in structural models. Psychological Bulletin, 107, 238–246.

Bollen, K. A. (1987). Outliers and improper solutions. Sociological Methods & Research, 15, 375–384.

Bostan, S., R. Erdem, Y. E. Öztürk, Kılıç, T., & Yılmaz, A. (2020). The effect of COVID-19 pandemic on the Turkish society. Electronic Journal of General Medicine, 17(6), 1-8.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & G. J. Rubin (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. The Lancet, 395(10227), 912-920.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), Testing structural equation models (pp. 136–162). Newbury Park, CA: Sage.

Brunet, A., Weiss, D. S., Metzler, T. J., Best, S. R., Neylan, T. C., Rogers, C., … Marmar, C. R. (2001). The Peritraumatic Distress Inventory: A proposed measure of PTSD criterion A2. American Journal of Psychiatry 158(9), 1480-1485.

Caglar, E. E., Hamzaoğlu, N., Özcan, Y. S., & Kurtça, T. T. (2021). Investigation of anxiety and peritraumatic distress levels in context of various variables through COVID-19 outbreak: Turkey, the UK and the USA comparison. OPUS Uluslararası Toplum Araştırmaları Dergisi, 17(Pandemi Özel Sayısı), 1-1.

Cohen, R. J., & Swerdlik, M. (2009). Psychological assessment: An introduction to tests and measurements, (7th ed.). McGraw−Hill Primis.

Costantini, A., & Mazzotti, E. (2020). Italian validation of COVID-19 Peritraumatic Distress Index and preliminary data in a

sample of general population. Rivista di Psichiatria 55(3), 145-151.

Cudeck, R., & Browne, M. W. (1983). Cross-validation of covariance structures. Multivariate Behavioral Research, 18, 147-167.

Field, A. (2009). Discovering statistics using IBM SPSS statistics. (4th ed.). Sage Publication: London.

Hair, J. F., Black, C. W., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Annabel Ainscow: United Kingdom.

Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indices in covariance structure analysis: conventional criteria versus new alternatives. Structural Equation Modeling, 6, 1-55.

Jahanshahi, A. A., Dinani, M. M., Madavani, A. N., Li, J., & Zhang, S. X. (2020). The distress of Iranian adults during the COVID-19 pandemic–More distressed than the Chinese and with different predictors. Brain, Behavior, and Immunity, 87, 124.

Jiménez, M. P., Rieker, J. A., Reales, J. M., & Ballesteros, S. (2021). COVID-19 Peritraumatic Distress as a function of age and gender in a Spanish Sample. International Journal of Environmental Research and Public Health, 18(10), 5253.

Kline, R. B. (2010). Promise and pitfalls of structural equation modeling in gifted research. In R. E. Subotnik ve B. Thompson (Eds.), Methodologies for conducting on giftedness (pp. 147-168). Washington, DC: American Psychological Association.

Lee, D., Kim, J., & Kang, H. (2016). The emotional distress and fear of contagion related to Middle East Respiratory Syndrome (MERS) on general public in Korea. Korean J Psychol Gen, 35(2), 355-383.

Liu, S., & Heinz, A. (2020). Cross-cultural validity of Psychological Distress Measurement during the Coronavirus Pandemic. Pharmacopsychiatry, 53(05), 237-238.

Lu, H., Stratton, C. W., & Tang, Y. W. (2020). Outbreak of pneumonia of unknown etiology in Wuhan, China: The mystery and the miracle. Journal of Medical Virology, 92(4), 401.

MacCallum, R. C., Roznowski, M., & Necowitz, L. B. (1992). Model modifications in covariance structure analysis: the problem of capitalization on chance. Psychological Bulletin, 111(3), 490.

Marzo, R. R., Ismail, Z., Htay, M. N. N., Bahari, R., Ismail, R., Villanueva III, E. Q. III, … Su, T. T. (2021). Psychological distress during pandemic Covid-19 among adult general population: Result across 13 countries. Clinical Epidemiology and Global Health, 10, 100708.

Megalakaki, O., Kokou-Kpolou, C.K., Vaudé, J., Park, S., Iorfa, S.K., Cénat, J. M., & Derivois, D. (2021). Does peritraumatic distress predict PTSD, depression and anxiety symptoms during and after COVID-19 lockdown in France? A prospective longitudinal study. Journal of Psychiatic Research, 137, 81–88.

Miller, J. J., Niu, C., & Moody, S. (2020). Child welfare workers and peritraumatic distress: The impact of COVID-19. Children and Youth Services Review, 119, 105508.

Nikopoulou, V. A., Holeva, V., Parlapani, E., Karamouzi, P., Giazkoulidou, A., Tsipropoulou, V., … Diakogiannis, I. (2021). Peritraumatic distress inventory in the course of the COVID-19 pandemic. Hellenic Journal of Psychology, 18(2), 90-111.

Plomecka, M. B., Gobbi, S., Neckels, R., Radziński, P., Skórko, B., Lazerri, S., … Jawaid, A. (2020). Mental health impact of COVID-19: A global study of risk and resilience factors. MedRxiv.

Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. General Psychiatry, 33(2), 1-3.

Samson, P., & Shah, J. N. (2020). Peritraumatic distress and perceived mental healthcare needs among residents of a community housing during COVID-19. Journal of Patan Academy of Health Sciences, 7(2), 14-22.

Saravanan, C., Mahmoud, I, Elshami, W., & Taha, M. H. (2020). Knowledge, anxiety, fear, and psychological distress about COVID-19 among university students in the United Arab Emirates. Frontiers in Psychiatry, 11, 1-10.

T.C Ministry of Health General Director of Public Health (2020). COVID-19 (SARS-CoV-2 Infection) General Information, Epidemiology and Diagnosis. URL: https://covid19.saglik.gov.tr/Eklenti/39551/0/covid19rehberigenelbilgilerepidemiyolojivetani pdf.pdf

United Nations (2020). Global cooperation must adapt to meet biggest threat since Second World War, Secretary-General says on ınternational day, as COVID-19 transcends borders. URL: https://www.un.org/press/en/2020/sgsm20058.doc.htm

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. International Journal of Environmental Research and Public Health 17(5), 1729. https://10.3390/ijerph17051729.

Watts, S. (1997). Epidemics and history. Yale University Press.

Xiang, Y. T., Yang, Y., Li, W., Zhang, L., Zhang, Q., Cheung, T., & Ng, C. H. (2020). Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. The Lancet Psychiatry, 7(3), 228-229.
https:// 10.1016/S2215-0366(20)30046-8

Yoon, H., You, M., & Shon, C. (2021). Peritraumatic Distress during the COVID-19 Pandemic in Seoul, South Korea. International Journal of Environmental Research and Public Health, 18(9), 4689. https:// 10.3390/ijerph18094689

Zhang, S. X., Wang, Y., Afshar Jahanshahi, A., Jia, J., & Gomes Haensel Schmitt, V. (2020). First study on mental distress in Brazil during the COVID-19 crisis. MedRxiv.

Zimmer, C., & Odum Institute (2019). Learn to perform confirmatory factor analysis in stata with data from general social survey (2016). In SAGE research Methods Datasets Part 2. SAGE Publications, Ltd.