






Brazilian's frequency of anxiety, depression and stress symptoms in the COVID-19 pandemic


Leopoldo Nelson Fernandes Barbosa ¹
 <https://orcid.org/0000-0002-0856-8915>

Eduardo Falcão Felisberto da Silva ⁶
 <https://orcid.org/0000-0001-9148-7827>

Monica Cristina Batista de Melo ²
 <https://orcid.org/0000-0002-8504-5501>

Maria do Carmo Vieira da Cunha ³
 <https://orcid.org/0000-0002-5671-0189>

Eliane Nóbrega Albuquerque ⁴
 <https://orcid.org/0000-0003-1079-5970>

Juliana Monteiro Costa ⁵
 <https://orcid.org/0000-0002-6976-8670>

^{1,2,5} Faculdade Pernambucana de Saúde. Av. Mascarenhas de Moraes, 4861. Imbiribeira. Recife, PE, Brasil. Email: leopoldo@fps.edu.br.
^{3,4,6} Instituto de Medicina Integral Prof. Fernando Figueira. Recife, PE, Brasil.

Abstract

Objectives: to analyze the frequency of anxiety, stress and depression in Brazilians during the COVID-19 pandemic period.

Methods: cross-sectional study conducted with Brazilians during the COVID-19 pandemic. Data collection was performed via an online electronic form containing self-reported sociodemographic and mental health variables using the Depression, Anxiety and Stress Scale (DASS-21) using the snow-ball sampling technique. For the whole study, a significance level of 0.05 was considered, except for the application of the stepwise method, which considered a level of 0.2.

Results: 1,775 people responded the survey, mostly women (78.07%), white (58.13%), single (45.78%), currently working (63.74%). 32.03% received psychotherapy or some type of emotional support before the pandemic, 19.03% had some psychiatric diagnosis and 8.49% started some support after the beginning of the pandemic. The mean scores investigated by the DASS-21 scale were 5.53869 for depression, 4.467334 for anxiety and 8.221202 for stress.

Conclusions: during the COVID-19 pandemic, sociodemographic and mental health characteristics were mapped and in Brazilians and the symptoms of anxiety, depression and stress were identified mainly in women, single people, who did not currently work and already had some previous mental health symptom.

Key words Anxiety, Depression, Stress, Pandemic, COVID-19



Introduction

COVID-19 is an infectious disease caused by a new coronavirus, SARS-CoV-2, discovered in December 2019 in China. Most people infected with this new infectious agent will experience mild to moderate respiratory illness and recover without the need for special treatment.¹ Some at risk groups, such as the elderly and those with underlying medical problems such as cardiovascular disease, diabetes, chronic respiratory disease, and cancer, may develop the disease in the severe form.¹

COVID-19 was rapidly transmitted in China, Macau, Hong Kong, and other Asian and European countries.^{2,3} On January 30, 2020, the World Health Organization (WHO) declared a Public Health Emergency Of International Concern (PHEIC), the organization's highest level of alert, and on March 11, 2020, this new disease was characterized as a pandemic, when the disease was present in 114 countries.⁴ In Brazil, the first registered case of the new disease occurred on February 29, 2020, and by May 23, 2020, 22,013 deaths and 347,398 diagnosed cases had been registered.⁵ What has been observed is that this number presents a similar form of growth as the one that occurred in other countries.⁶ These data have demanded more direct measures of care and interventions.¹

Until now, there are no specific vaccines or treatments for COVID-19. However, there are ongoing studies evaluating possible treatments, as the worldwide widespread quarantine measures and recommendation of social isolation may have contributed to people's increased stress, fear, and anxiety. In Wen Li's study,² the experience has shown that patients, healthcare workers, and the general public are under insurmountable psychological pressure, which can lead to various problems such as anxiety, distress, fear, depression, and insomnia, and may in the near future result in post-traumatic stress.^{7,8}

Fear and anxiety about an illness can cause strong emotions in adults and children.⁹ Therefore, coping with stress can make people stronger to face the situation. Among people who may respond more strongly to the stress of a crisis are groups of elderly people and people with chronic illnesses, who are at higher risk for getting worse by COVID-19. Adding children and adolescents, people who are helping in the response to the pandemic, such as doctors and other healthcare workers or rescuers, and people with mental health problems, including problems with substance use.^{8,10,11}

According to Zhang *et al.*,¹¹ during COVID-19 in China, the rapid integration between government

and society with the use of technology via Internet resulted in maximizing the effective management of the moment of psychological crisis. The authors highlighted how important it was to quickly identify emotional problems and psychological distress to foster a basis for appropriate intervention.

Considering the urgency of the COVID-19 pandemic in Brazil and the scarcity of information about the emotional aspects involved in this process of quarantine and social isolation, this study sought to analyze the frequency of anxiety, stress, and depression symptoms in people who are experiencing the period of quarantine and social isolation by COVID-19.

Methods

Descriptive, cross-sectional study with a quantitative approach was carried out with Brazilians aged 18 years and older, living in the period of the COVID-19 pandemic. Data collection was performed online via Microsoft Office forms from May 15 to 22, 2020. The sampling was by convenience and the recruitment of participants was via snowball sampling technique, better known as "snowball" or "information chain".¹² The link to access the online form was forwarded through the researchers' social networks (Instagram and Whatsapp) and email and each participant could forward the link or indicate another person to answer the form. Participants were encouraged to save a copy of the Informed Consent Form in their personal files.

The data collection form contained sociodemographic information about the participants such as gender, age, schooling, marital status, profession, among others, and also about emotional distress, was collected using the Brazilian version on depression, anxiety, and stress scale (DASS-21).¹³⁻¹⁵

The scale is divided into three *Likert*-type subscales of four points, totaling 21 questions. Each subscale is composed of seven items, destined to evaluate depression, anxiety, and stress. The result is obtained by adding the scores of the seven items for each of the three subscales. At the end, the scale provides three scores, one for each subscale, where the minimum is "0" and the maximum "21". The highest scores on each scale correspond to more negative affective states, as described in the validation study. The scale can be used by different health professionals, dispensing with the recurrent use of several and different instruments to assess these states, reducing time and emotional investment of the individuals assessed, as well as facilitating an earlier search for treatment.¹³

Among the mental health symptoms assessed by the instrument, inertia, anhedonia, dysphoria, decreased interest, devaluation of life, and uninterest are identified in the depression subscale; apprehension, feeling of panic, tremor, dry mouth, difficulty breathing, sweating, concern about performance, feeling of losing control in the anxiety subscale; and excitement, tension, inability to relax, irritation, nervousness, restlessness, intolerance attitudes in the stress subscale.^{14,16}

The database was elaborated in Excel 2016 for Windows spreadsheets and subsequently exported and analyzed in R software. Categorical variables (gender, marital status, schooling, current job, occupation, age group, social isolation status before the pandemic, psychotherapy before the pandemic and current, and psychiatric diagnosis) were summarized using absolute and relative distributions. Quantitative variables (depression, anxiety, and stress scores) were summarized using means and standard deviation. The evaluation of the distribution of sociodemographic data of the sample, as well as the investigation of the frequency of anxiety, depression, and stress scores had association between variables verified through cross-measures and statistical tests and estimation of regression model. Shapiro-Wilk normality tests were performed, which confirmed the normality of the response variables. The Student's t-test, when the categorical variable had only two categories, and the Fisher's F-test, when the qualitative variable had more than two categories, were considered to assess the relationship between the scores and the explanatory variables. For the entire study, a significance level of 0.05 was considered, except for the application of the stepwise method, which considered a level of 0.2.

The project was approved by the National Research Ethics Committee, CAAE number 30546320.0.0000.5201.

Results

A total of 1851 forms were collected, however, only 1,765 were fully answered and considered valid. The average response time was 15 minutes and 50 seconds. The mean age of the participants was 39.23 years, ranging from 18 to 86 years (Standard deviation=14.74).

The mean of DASS-21 scores found in the present study were 5.53869 (SD 4.885313) for depression; 4.467334 (SD 4.629178) for anxiety and 8.221202 (SD 5.047861) for stress. Knowing that in each subscale the score could range from 0 to 21

points.

Table 1 presents comparative analysis of the mean scores on depression, anxiety, and stress of the DASS-21 according to the studied characteristics. Most participants were female (78.1%), white (58.1%), single (45.8%), and married (40.3%), currently working (63.7%), and had never been in a condition of social isolation or quarantine (94.1%). All are Brazilians. Regarding to mental health, 32.0% stated that they were doing psychotherapy or receiving some kind of emotional support before the pandemic, 19.0% had some psychiatric diagnosis, and 8.5% started some of these after the pandemic began (Table 1).

Comparing the results of the depression, anxiety, and stress subscales of female and single people showed higher means ($p<0.001$). Participants who did not work had significantly higher mean of depression, anxiety, and stress scores than those who reported working ($p<0.001$). Although, most people had never experienced a situation of social isolation due to a pandemic, the highest means occurred in those who had already experienced a similar situation of social isolation, being significant only in relation to the anxiety subscale ($p=0.0399$) (Table 1).

The participants who were already undergoing psychotherapy and also those who had already received a psychiatric diagnosis before the pandemic, the mean scores were significantly higher in the three subscales of depression, anxiety, and stress ($p<0.001$) at the current time. The mean scores of the subscales were also higher when compared to those who sought some type of support after the pandemic ($p<0.001$) (Table 1).

Discussion

During the COVID 19 pandemic, several studies were conducted around the world, and ours includes a population of Brazilians with information on 1,765 forms collected online. Most of the respondents were women, self-declared white, single and with a current job, as well as a higher mean of depression, anxiety and stress symptoms was observed in people who already had received some kind of emotional support before the pandemic. Single people who were not working had higher depression, anxiety, and stress scores when compared to people who had a current job. Similar to the present research, two other studies also had a sample composed of women (71.6%¹⁷ and 76.77%). A study by Mazza *et al.*¹⁷ indicates a predominantly single sample (67.4%), while a study by Lai *et al.*⁷ indicates mostly married popu-

Table 1

Association between participants' self-reported sociodemographic and mental health variables and the means of the DASS-21 subscales. Recife, 2020.

Variables	DASS-21 Subscales					
	Depression		Anxiety		Stress	
	\bar{X} (SD)	p	\bar{X} (SD)	p	\bar{X} (SD)	p
Gender						
Female	5.82 (4.93)	<0.001*	4.80 (4.68)	<0.001*	8.60 (5.01)	<0.001*
Male	4.45 (4.48)		3.23 (4.22)		6.81 (4.91)	
Marital Status						
Married	3.94 (3.89)	<0.001*	3.31(3.94)	<0.001*	6.86 (4.55)	<0.001*
Divorced	4.64 (4.41)		3.49 (4.13)		6.66 (4.40)	
Single	7.05 (5.20)		5.67 (4.97)		9.75 (5.15)	
Stable Union	7 (5.93)		4.75 (5.16)		8.66 (5.44)	
Widower	4.06 (3.81)		3.21 (3.10)		5.90 (3.48)	
Other	9.50 (8.26)		8.25(5.90)		11(5.47)	
Currently work						
No	6.99 (5.37)	<0.001**	5.37 (4.89)	<0.001**	9.31 (5.28)	<0.001**
Yes	4.69 (4.35)		3.95 (4.39)		7.59 (4.8)	
Schooling						
Elementary	7.62 (4.43)	<0.001*	6.33(4.09)	0.0003*	10 (4.55)	<0.001*
High School	6.73 (5.41)		5.26 (4.67)		9.23 (5.33)	
Technical	10 (NA)		10(1.41)		15 (NA)	
Undergraduate	6.02 (5.10)		4.76 (4.68)		8.76 (5.02)	
Post-graduation	4.74(4.36)		3.96 (4.51)		7.48 (4.88)	
Graduation in progress	6.76 (5.71)		5.38 (5.28)		8.31 (4.82)	
Profession						
Higher education student	8.16 (5.34)	<0.001*	6.41 (5.13)	<0.001*	10.79 (4.95)	<0.001*
Professor	4.88 (4.74)		4.01 (4.36)		7.17 (4.67)	
Health Professional	4.39 (4.08)		3.82 (4.29)		7.48 (4.72)	
Other professions	4.74 (4.44)		3.71 (4.17)		7.27 (4.83)	
Have you ever been in any condition of social isolation or quarantine before COVID-19?						
No	5.53 (4.87)	0.7850**	4.40 (4.58)	0.0399**	8.19 (5.04)	0.4516**
Yes	5.67 (5)		5.39 (5.15)		8.59 (5.12)	
Psychotherapy or some type of emotional support before COVID-19?						
No	5.04 (4.62)	<0.001**	4.03 (4.47)	<0.001**	7.76 (5.15)	<0.001**
Yes	6.59 (5.22)		5.37 (4.79)		9.21 (4.66)	
Initiated psychotherapy or some type of emotional support after COVID-19?						
No	5.36 (4.8)	<0.001**	4.24 (4.5)	<0.001**	8.03 (5.04)	<0.001**
Yes	7.19 (5.34)		6.50 (5.18)		10.23 (4.8)	
Any psychiatric diagnosis prior to COVID-19?						
No	4.93 (4.54)	<0.001**	3.90 (4.26)	<0.001**	7.72 (4.93)	<0.001**
Yes	8.25 (5.4)		6.93 (5.23)		10.46 (4.95)	

*F Test; ** T Test.

lation (66.7%). It is also noteworthy that the study by Mazza *et al.*,¹⁷ most of the sample had concluded high school, did not conclude a higher education; 37.9% were employed and 15.8% were freelance professionals. This data differs from the current research, in which, most of the sample was working (63.74%).

In this study, the results of the subscales showed means of 5.84 for depression, 4.47 for anxiety, and 8.22 for stress, with higher means found in women when compared to men. A similar survey conducted in Italy¹⁷ with 2,766 participants using the same instrument found similar means to ours in the depression (5.34), anxiety (2.89), and stress (7.43) subscales, with higher scores of DASS-21 subscales associated with females. This result can also be noted in the survey by Maia and Dias.¹⁸

Students showed significantly higher mean scores for depression, anxiety, and stress when compared to health professionals (8.16), teachers (5.38), and other professions (8.31). The mean scores of a study with 619 university students in Portugal during the pandemic period found higher values in the three subscales (12.66; 12.39; and 14.10, respectively).¹⁸ The uncertainties and intense flow of information during the pandemic, as well as isolation may exacerbate symptoms of anxiety, depression, and stress, causing physiological reactions and psychological distress.¹⁹

Analyzing the healthcare workers' well-being, it is recommended that special interventions in promoting mental well-being for those exposed to COVID-19 need to be implemented immediately, with emphasis on women, nurses, and those on the front lines.⁷ Frontline workers have suffered from changes in workflows that have produced considerable stress in people with mental disorders.²⁰ Thus, adoption and consolidation of technology use in healthcare work settings can be extremely important in reducing work stress²⁰ and these benefits extend to the general population.¹¹

Care and attention should be given to psychological crisis interventions in affected populations with the goal of timely prevention of the invaluable harms of a secondary psychological crisis.²¹ Although, previously leveraged temporarily disaster responses, the use of telepsychiatry in COVID-19 has been distinctive and will have long-lasting and wide-ranging effects in the field of psychiatry, including provision and configuration of mental health services and patient's experiences and expectations.²² These advances also appear to extend to other areas of medicine²³ and other professions such as psychology.^{24,25}

In other pandemic conditions, several actions and recommendations have already been proposed. A study by Goulia *et al.*²⁶ interviewed 469 healthcare professionals in a teaching hospital and identified that a significant proportion of these professionals experienced moderately high anxiety in relation to the H1N1 pandemic. As a recommendation, the study proposed that hospital managers and psychiatry services should try to meet the health professionals' need for information in order to provide favorable working conditions in times of extreme distress, such as current and future pandemics. Other studies indicate the need for employers to conduct interventions with employees to decrease feelings of depression, anxiety, and stress among their workers in times of pandemic.^{7,8}

In our study, people who had psychotherapy or received some kind of emotional support before the pandemic had higher mean scores of depression, anxiety, and stress when compared to people who did not receive this kind of support. This finding could be explained by the experience of a pandemic that included the feeling of imminent risk and the restrictive measures of isolation in people with some degree of emotional vulnerability. Another important aspect is that a significant number of people started to seek this kind of support after the pandemic started, reinforcing the emotional impact of this moment. This result points to an alert regarding mental health and is in line with information that indicates how much psychotherapy can improve the levels of anxiety and related disorders.²⁷

In addition to intervention aimed at preventing psychological damage, this study showed that higher DASS-21 scores were present in people who had psychiatric diagnoses before the pandemic and reinforces the idea that people with pre-existing mental health problems should continue with previous treatments and be aware of new or worsening symptoms. Strategies for managing anxiety and stress in these conditions include taking breaks from watching, reading, or listening to the news, including social media, listening about the pandemic repeatedly can be upsetting; taking care of the body, doing physical activities; breathing, stretching, and meditating; trying to eat healthy, balanced meals; sleeping; avoiding alcohol and drugs; doing some other pleasurable activity; and talking with trusted people about the present feelings in the face of this pandemic context.¹⁰

Our findings point to higher levels of anxiety among people who had already experienced moments of social isolation, which may indicate that previous negative experiences may not have helped

in the management of anxiety at the time of COVID 19.

In view of these results, it is possible to think about the emotional experience in the face of disasters, since these are events with important impact on the physical and mental health of individuals and may even cause post-traumatic stress disorder (PTSD).²⁸ Symptoms of anxiety, depression, stress, and PTSD were more frequent in women, students, and nurses, according to a review⁸ that found such incidence in the general population and health professionals. In our study, we highlighted a higher mean of depression, anxiety and stress symptoms in Brazilians who already received some kind of emotional support before the pandemic, in single people, and in people who did not work.

Considering the above, a good social management is important to try to minimize the damage caused to the population's health. Two deliberative forums held in Australia during the period of SARS and avian influenza discussed, among other things, the acceptability of social distancing and quarantine measures. In the end, they have come to the conclusion that implementation could be more successful if the public was involved in the pandemic planning even before a pandemic, and that effective communication of key points should be a practice before and during a pandemic. In addition, the judicious use of support measures to help people in quarantine or affected by social isolation measures is essential.²⁹

Among the limitations, we highlight the non-identification of residence of the participants, because this aspect could bring complementary information about possible influences of cultural aspects; due to the dynamics of the pandemic itself, which affected several countries with different inten-

sities and impacts, and considering that the health care actions of the responsible agencies were also different, some comparisons between the studies may not be accurate.

Among the contributions of this study were mapped sociodemographic and mental health characteristics of Brazilians in a pandemic scenario, especially considering the identified scores of anxiety, depression and stress. Several characteristics suggest the need for interventions to promote well-being, especially in the populations exposed to the conditions of greater vulnerability such as women, single people, those not currently working, and those who already presented some previous mental health symptom. The data underscore the importance of fundamental mental health attention and care for the entire population and suggests longitudinal investigations.

Acknowledgments

We would like to thank the support from the Research Groups in Mental Health at the Instituto de Medicina Integral Prof. Fernando Figueira and of the Health Psychology at the Faculdade Pernambucana de Saúde.

Authors' contribution

Barbosa LNF, Silva EFF, and Melo, MCB were responsible for the study design, analysis, and interpretation of the results of the manuscript. Da Cunha MCV, Albuquerque EN, and Costa JM contributed to the writing of the manuscript, analysis and interpretation of the data, and reviewed the manuscript. All authors approved the final version of the manuscript.

References

- Zheng Z, Peng F, Xu B, Zhao J, Liu H, Peng J, Li Q, Jiang C, Zhou Y, Liu S, Ye C, Zhang P, Xing Y, Guo H, Tang W. Risk factors of critical & mortal COVID-19 cases: A systematic literature review and meta-analysis. *J Infect.* 2020; 81 (2): e16-e25.
- Yang WLY, Liu Z, Zhao Y, Zhang Q, Zhang L, Cheung T, Xiang Y. Progression of Mental Health Services during the COVID-19 Outbreak in China. *Int J Biol Sci.* 2020; 16 (10): 1732-8.
- Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, Zhao Y. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *Jama.* 2020; 323 (11): 1061-9.
- OPAS (Organização Pan-mericana de Saúde). OMS afirma que COVID-19 é agora caracterizada como pandemia. [acesso 23 mar 2020]. Disponível em: https://www.paho.org/bra/index.php?option=com_content&view=article&id=6120:oms-afirma-que-covid-19-e-agora-caracterizada-como-pandemia&Itemid=812
- Brasil. Ministério da Saúde. Boletim epidemiológico. Disponível em: <http://antigo.saude.gov.br/images/pdf/2020/May/29/2020-05-25---BEE17---Boletim-do-COE.pdf>
- Schwartz FP. Distanciamento social e o achatamento das curvas de mortalidade por COVID-19: uma comparação entre o Brasil e epicentros da pandemia. *Rev Thema.* 2020; 18: 54-69.

7. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, Wu J, Du H, Chen T, Li R, Tan H, Kang L, Yao L, Huang M, Wang H, Wang G, Liu Z, Hu S. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Network Open*. 2020; 3 (3): e203976.
8. Moreira WC, de Sousa AR, Maria do Perpétuo SS. Adoecimento mental na população geral e profissionais de saúde durante a pandemia da covid-19: revisão sistemática. *SciELOPreprints*.689 [Preprint] 2020. [acesso 24 mai 2020]. Disponível em: <https://doi.org/10.1590/SciELOPreprints.689>
9. Nikayin S, Rabiee A, Hashem MD, Huang M, Bienvenu OJ, Turnbull AE, Needham DM. Anxiety symptoms in survivors of critical illness: a systematic review and meta-analysis. *General Hospital Psychiatri*. 2016; 43: 23-9.
10. Asmundson GJ, Paluszek MM, Landry CA, Rachor GS, McKay D, Taylor S. Do pre-existing anxiety-related and mood disorders differentially impact COVID-19 stress responses and coping?. *J Anxiety Dis*. 2020; 74: 102271.
11. Zhang J, Wu W, Zhao X, Zhang W. Recommended psychological crisis intervention response to the 2019 novel coronavirus pneumonia outbreak in China: a model of West China Hospital. *Precision Clin Med*. 2020; 3 (1): 3-8.
12. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 13 ed. São Paulo: Hucitec; 2013.
13. Vignola RCB, Tucci AM. Adaptation and validation of the depression, anxiety and stress scale (DASS) to Brazilian Portuguese. *J Affect Disord*. 2014; 155: 104-9.
14. Lovibond SH, Lovibond PF. Depression, Anxiety, Stress Scales Australia. Overview of the DASS and its uses. [Last updated July 26, 2018]. Disponível em: <http://www2.psy.unsw.edu.au/dass/>. Acesso em: 01 de junho de 2020.
15. Martins BG, Silva WR, Maroco J, Campos JADB. Escala de Depressão, Ansiedade e Estresse: propriedades psicométricas e prevalência das afetividades. *J Bras Psiquiatr*. 2019; 68 (1): 32-41.
16. Apóstolo JLA, Mendes AC, Azeredo ZA. Adaptation to Portuguese of the Depression, Anxiety and Stress Scales (DASS). *Rev Latino-Am Enferm*. 2006; 14 (6): 863-71.
17. Mazza C, Ricci E, Biondi S, Colasanti M, Ferracuti S, Napoli C, Roma, P. A Nationwide Survey of Psychological Distress among Italian People during the COVID-19 Pandemic: Immediate Psychological Responses and Associated Factors. *Int J Environmental Res Public Health*. 2020; 17 (9): 3165.
18. Maia R, Dias C. Ansiedade, depressão e estresse em estudantes universitários: o impacto da COVID-19. *Estud Psicol (Campinas)*. 2020; 37: e200067.
19. Araújo FJO, Lima LSA de, Cidade PIM, Nobre CB, Neto MLR. Impact Of Sars-Cov-2 And Its Reverberation In Global Higher Education And Mental Health. *Psychiatry Res*. 2020; 288: 112977.
20. deGirolamo G, Cerveri G, Clerici M, Monzani E, Spinogatti F, Starace F, Tura G, Vita A. Mental Health in the Coronavirus Disease 2019 Emergency - The Italian Response. *JAMA Psychiatry* [Internet]. 2020; Disponível em: <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2765557>
21. Jiang X, Deng L, Zhu Y, Ji H, Tao L, Liu L, Yang D, Ji W. Psychological crisis intervention during the outbreak period of new coronavirus pneumonia from experience in Shanghai. *Psychiatry Res*. 2020; 286: 112903.
22. Shore JH, Schneck CD, Mishkind MC. Telepsychiatry and the Coronavirus Disease 2019 Pandemic—Current and Future Outcomes of the Rapid Virtualization of Psychiatric Care. *JAMA Psychiatry* [Internet]. 2020; Disponível em: <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2765954>
23. Quispe-Juli C, Vela-Anton P, Meza-Rodriguez M, Moquillaza-Alcántara V. COVID-19: Una pandemia en la era de la salud digital. *SciELOPreprints*.164 [Preprint]2020[acesso em 10/06/2020]. Disponível em: <https://doi.org/10.1590/SciELOPreprints.164>
24. Seyffert M, Lagisetty P, Landgraf J, Chopra V, Pfeiffer PN, Conte ML, Rogers MAM. Internet-Delivered Cognitive Behavioral Therapy to Treat Insomnia: A Systematic Review and Meta-Analysis. *Plos One*. 2016; 11 (2): e0149139.
25. Silva JAM da, Siegmund G, Bredemeier J. Crisis interventions in online psychological counseling. *Trends Psychiatry Psychother*. 2015; 37 (4): 171-82.
26. Goulia P, Mantas C, Dimitroula D, Mantis D, Hyphantis T. General hospital staff worries, perceived sufficiency of information and associated psychological distress during the A/H1N1 influenza pandemic. *BMC Infect Dis*. 2010; 10 (1): 322.
27. Carpenter JK, Andrews LA, Witcraft SM, Powers MB, Smits JAJ, Hofmann SG. Cognitive behavioral therapy for anxiety and related disorders: A meta-analysis of randomized placebo-controlled trials. *Depress Anxiety*. 2018; 35 (6): 502-14.
28. Neria Y, Nandi A, Galea S. Post-traumatic stress disorder following disasters: a systematic review. *Psychol Med*. 2008; 38 (4): 467-80.
29. Davis MDM, Stephenson N, Lohm D, Waller E, Flowers P. Beyond resistance: social factors in the general public response to pandemic influenza. *BMC Public Health*. 2015; 15 (1): 436.

Received on September 11, 2020

Approved on December 29, 2020