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Evaluation of Fear and Peritraumatic Distress during Covid-19 pandemic in Brazil

Alberto Abad[1]*, Juliana Almeida da Silva[2,9], Lucas Emmanuel Pedro de Paiva Teixeira[3], Mayra Antonelli-Ponti[4], Sandra Bastos[5], Cláudia Helena Cerqueira Mármora[6], Luis Antonio Monteiro Campos[7], Scheila Paiva[8], Renato Leonardo de Freitas[9,10,11], José Aparecido Da Silva[12]**

[1] Psychology Graduate Program, Federal University of Juiz de Fora (UFJF), Juiz de Fora, MG, Brazil.

[2] Laboratory of Neuroanatomy and Neuropsychobiology, Department of Pharmacology, Ribeirão Preto Medical School of the University of São Paulo (FMRP-USP), Ribeirão Preto, 14049-900, São Paulo, Brazil.

[3] Institute of Motricity Sciences, Federal University of Alfenas (UNIFAL-MG), Alfenas, Minas Gerais, Brazil.

[4] Laboratory of Studies and Research in Social Economy, University of São Paulo at Ribeirão Preto, SP, Brazil.

[5] Otorhinolaryngology Institute (ISBO), São Paulo, SP. Brazil

[6] Department of the Old, Adult and Maternal-infant, School of Physical Therapy, Graduate Program in Psychology, Federal University of Juiz de Fora (UFJF), Juiz de Fora, Minas Gerais, Brazil.

[7] Master's Program in Psychology, Catholic University of Petrópolis, Petrópolis, Brazil. Department of Psychology, Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil

[8] Psychology Graduate Program, Federal University of Juiz de Fora (UFJF), Juiz de Fora, MG, Brazil. Department Speech Therapy of Federal University of Sergipe (UFS), Lagarto, SE, Brazil.

[9] Behavioural Neurosciences Institute (INeC), Av. do Café, 2450, Monte Alegre, Ribeirão Preto, 14050-220, São Paulo, Brazil.

[10] Biomedical Sciences Institute, Federal University of Alfenas (UNIFAL), Minas Gerais, Brazil.

[11] Laboratory of Neurosciences of Pain & Emotions and Multi-User Centre of Neuroelectrophysiology, Department of Surgery and Anatomy, Ribeirão Preto Medical School of the University of São Paulo, Av. Bandeirantes, 3900, Ribeirão Preto, São Paulo, Brazil.

[12] Laboratory of Psychophysics, Perception, Psychometrics, and Pain University of São Paulo at Ribeirão Preto, SP, Brazil.

Corresponding authors: *Ms. Alberto Abad: Psychology Graduate Program, Federal University of Juiz de Fora (UFJF), Juiz de Fora, MG, Brazil. E-mail: alberto.abad@ich.ufjf.br. ** Prof. Dr. Renato Leonardo de Freitas: Laboratory of Neurosciences of Pain & Emotions and Multi-User Centre of Neuroelectrophysiology, Department of Surgery and Anatomy, Ribeirão Preto Medical School of the University of São Paulo, Av. Bandeirantes, 3900, Ribeirão Preto, São Paulo, Brazil and 10 Biomedical Sciences Institute, Federal University of Alfenas (UNIFAL), Minas Gerais, Brazil. E-mail: defreitas.rl@gmail.com.

Abstract

Covid-19 pandemic continues to spread exponentially worldwide, especially in America. By mid-June, 2020, Brazil is one of the most affected countries with more than one million cases and up to 50,000 deaths. This study aims to assess the fear and peri-traumatic stress during the Covid-19 pandemics in Brazil, to enhance infection control methods, appropriate interventions, and public health policies. A cross-sectional survey has been conducted from April 12th to 18th using the Peri-Traumatic Distress Scale (CPDI) and the Fear Scale (FCV-19S) aiming to measure the peri-traumatic stress and fear as psychological reactions during the Covid-19 pandemic. For that purpose, an online spreadsheet was used to send the questionnaire and scales to a sample of 1844 participants as a collecting information tool. Both scales showed a correlation factor of (r=0,660). Results highlight significant gender differences as in both scales women's mean scores are higher showing that it is paramount that women's voices were represented in policy spaces as socially constructed gender roles place them in a strategic position to enhance multi-level interventions (primary and secondary effects of Covid-19), equitable policies, and new approaches to control the pandemic.

Keywords: Mental Health; Fear; Peri-Traumatic Stress; Covid-19; Pandemic; Brazil.

Introduction

The coronavirus disease pandemic (Covid-19) emerged in Wuhan, China, in late 2019; by the start of 2020, it had spread to a dozen countries. Since then, the number of cases has continued to escalate exponentially worldwide. Nowadays, Brazil is one of the

most affected countries, as the disease has spread to all five regions of the country – at the start of the present study (19 June 2020), there were 1,038,568 confirmed Covid-19 cases, including 49,090 deaths and 520,360 recoveries.

On a bioecological approach, previous research on pandemics has revealed a profound and wide range of psychosocial impacts on people during outbreaks of the infection. On a micro level, people are likely to experience fear of falling sick or dying themselves, feelings of helplessness, and stigma (Wang et al. 2020), health threats to oneself and loved ones, and higher chances of being afflicted by mood swings, depression, irritability, anxiety, fear, anger, insomnia, changes in appetite or subjective well-being (Abad, Da Silva, das Neves Braga, Medeiros, De Freitas, Coimbra & Da Silva, 2020).

On a meso level, pandemics are further associated with severe disruptions of routines, separation from family and friends, school closure, shortages of food and medicine, wage loss, and social isolation (due to quarantine or other social distancing programs). Additionally, with fear of infection as the health care system could not cope with the Covid-19 pandemic (Choi et al, 2020; Taylor, 2019). Also, on a macro level, the impact on cultural, political, and socioeconomic factors should be considered, as Covid-19 pandemics has influenced education, unemployment, and quality of work. No one can predict how things will evolve in the coming months, nor when a return to some semblance of 'normal' activity might resume (Danese et al. 2020).

People from different countries experience various levels of stress, fear, or anguish. As an example, fear in China during the pandemic differs from that in Iran, Italy, and Spain, indicating the need to study mental health predictors in specific countries during the Covid-19 to effectively identify, track, and assist those people most

susceptible to mental health problems (Jahanshahi et al, 2020; Maza et al, 2020; Qiu et al, 2020; Wang et al, 2020).

Consequently, and as a result of a collaboration involving a group of Brazilian and foreign researchers interested in the effects of the impact and the varied psychological states caused by the rapid spread of Covid-19 around the world, was created the research project "Physical, Psychological, and Cognitive reactions to Covid-19", approved by the Research Ethics Committee (CEP) of Federal University of Alfenas (UNIFAL-MG) (process number: 4.128.627). The project is divided into six modules, each one aiming to assess, or measure, some particular dimension of a psychological state derived from the Covid-19 pandemics: psychological reactions to pandemics; psychological vulnerability factors; social isolation, the role of the media and the dissemination of coronavirus-19; effective ways to deal with psychological problems; and, the implications for public health policies, including appropriate interventions for risk communication.

Besides contributing to Brazilian literature about Covid-19 pandemics, this study aims to assess the fear and peri-traumatic stress during the Covid-19 contagion in Brazil, to enhance infection control methods, appropriate interventions, and public health policies.

Methods

As the first module of the research project entitled Physical, Psychological, and Cognitive reactions to Covid-19, a cross-sectional survey was conducted from April 12th to 18th aiming to measure the peri-traumatic stress and fear as psychological reactions during the Covid-19 pandemics. For that purpose, an online spreadsheet

(Google Forms) was used to send the questionnaire and scales to the participants as a collecting information tool.

Before answering the questionnaire, candidates read and accepted the Participant Consent Form that explained the objective and nature of the study and showed they could refuse to answer any question and withdraw at any time from the research. Originally, 1875 participants were reached, but researchers had to exclude 31 incomplete questionnaires – possibly because of internet slow-down access during the questionnaire fill-out – making the final sample of 1844 people.

Participants first answered a socio-demographic survey that included specific questions about chronic disease prevalence and social isolation levels during the Covid-19 pandemic. Then, we assessed distress by the Peri-Traumatic Distress Index (CPDI), designed as a self-report questionnaire that measures depression, anxiety, avoidance, compulsive behavior, specific phobias, cognitive change, physical symptoms, and loss of social functioning (Qiu, Shen, Zhao, Wang, Xie & Xu, 2020).

The twenty-four questions were presented in a Likert format in five categories of responses (never, occasionally, sometimes, often, most of the time). According to the authors, scores range from 0 to 100 indicating mild to moderate distress (between 28 and 51) and severe distress (≥52). CPDI content has been validated by Psychiatrists from the Shanghai Mental Health Center considering its Cronbach's alpha 0.95 ($p<0.001$) (Qiu, Shen, Zhao, Wang, Xie & Xu, 2020).

We measured fear with the Covid-19 Fear scale (FCV-19S) presented in a Likert format in five categories of responses (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree). It consists of a seven-item unidimensional scale with robust psychometric properties (Cronbach's alpha internal consistency 0.82) reliable and valid in assessing and relieving fears of Covid-19 among individuals (Ahorsu, Lin,

Imani, Saffari, Griffiths & Pakpour, 2020). Scores range from 7 to 35 indicating levels of fear: normal (7 – 16); mild to moderate (17 – 26); and severe (27 – 35).

The authors authorized us to use the FCV-19S and CPDI scales in the research. We translated and adapted them to the Brazilian Portuguese language. We used descriptive statistics as data analysis method: CPDI and FCV-19S average scores, male and female frequency ranges, and the coefficient correlation of the scales (Pearson's r).

Results and discussion

We first assessed the characteristics of the participants (gender, age, marital status, number of children, education level, job status, and social isolation levels during Covid-19 pandemic) as shown in Table 1. Out of the sample, 643 participants (34.9%) declared chronic disease prevalence, standing out suffering, or psychological disorder indicators (16.1%). This is relevant because the Covid-19 pandemic outbreak not only hurts physically but also psychologically as it disrupts lives, causes public panic, mental health distress (Bao, Sun, Meng, Shi & Lu, 2020), pathological anxiety, post-traumatic stress, and depression (Veer, Riepenhausen, Zerban, Wackerhagen, Engen, Puhlmann, ... & Mor, 2020).

Table 1
Descriptions of the participants (n = 1844).

Variable	Count or mean	Percentage
Gender		
Female	1471	79.8 %
Male	368	20.0 %
Other	5	0.2 %
Age (years)		
Mean	36,2	
Median	35	
Mode	22	
Marital Status		
Single	898	48.7%
Married	772	41.9%
Others	174	9.4%
Number of Children		
0	1036	56.2%
1	360	19.5%
2	331	18.0%
3	95	5.2%
More than 3	22	1.2%
Education level		
Secondary school or below	4	0.25 %
Secondary school (complete)	5	0.25 %
High school (incomplete)	24	1.3 %
High School (complete)	157	8.5 %
College degree (incomplete)	396	21.5 %
College degree (complete)	1258	68.2 %
Chronic disease		
Total people*	**643**	**34.9%**
Heart disease	37	2.0 %
Hypertension	192	10.4 %
Diabetes	71	3.8 %
Low acuity or loss of vision	136	7.4 %
Low acuity or hearing loss	32	1.7 %
Terminal illness	1	0.05 %
Tuberculosis	0	0 %
Suffering or indicators of psychological disorder	298	16.1 %
Job status		
Working	1281	69.5%
Not working	563	30.5%
Health Insurance		
Yes	1279	69.4%
No	565	30.6%
Social isolation		
Yes	1605	87.0%
No	239	13.0%

*Total answers (643) representing 34.9% of the sample.

From a Covid-19 control strategy perspective, it is also highlighted the hypertension levels (10.4%) since non-communicable diseases (hypertension, diabetes, cardiovascular and chronic obstructive pulmonary illnesses) are correlated with the need for intensive care units (Fernandes, 2020) in a delicate political, economic, and social

context that reflects the importance of flattening the curve of infections due to the fragility of the health systems and high contagion rates (Abad, Da Silva, das Neves Braga, Medeiros, De Freitas, Coimbra & Da Silva, 2020).

Based on Table 1, it is possible to build a rough profile of the participants: single (48.7%) woman (79.8%), with an average of 36.2 years of age, with up to one child (75.7%), with a college degree (complete or incomplete 89.7%), working (69.5%) with health insurance (69.4%) and in social isolation during the pandemic (87.0%). The profile is psychologically significant because, although men and women are similar in many ways, it matches the biological, behavioral, and cognitive differences between genders that influence the health care approach in terms of manifestation, epidemiology, and pathophysiology widespread diseases (Regitz-Zagrosek, 2012).

As gender dimensions of the pandemic are both physical and socially constructed, affecting the sexes differently (Smith, 2019), women are perceived as being more aware of their need for healthcare, more adherent to counseling and treatment, and likely, seeking healthcare more often than men (Rugema et al., 2019) that explains the higher number of female answers of this and other surveys (Lauri Korajlija & Jokic- Begic, 2020).

Furthermore, since health services availability, governance structures, and emergency responders interactions, all have gender dimensions (Smith, 2019) and considering that gender roles and stigma affect adherence to counseling and treatment (Rugema et al, 2019) it is possible to infer that women could be of utmost importance to control the spread of the coronavirus infection, and consequently, improving global health security (Wenham, Smith & Morgan, 2020). In that sense, it is of utmost importance to include women's voices and knowledge in decision making,

preparedness, and response to the pandemic, as there is an insufficient women's representation in global Covid-19 policy spaces (Wenham, 2020).

Table 2 shows gender frequency scores of the Peritraumatic Distress Scale (CPDI) and the Fear Scale (FCV-19S). In both scales, women's mean scores are higher; women's CPDI frequency scores are predominantly on the mild and severe distress frequency levels (47.3% and 27.2%) while men rely on normal and mild levels (41.6% and 48.4%). Similarly, most women's FCV-19S frequency scores are at a mild level (44.5%), while men's scores are at a normal level (68.8%). Still, women's scores are higher (15.4%) than men (4.8%) at a severe level.

Results indicated that female gender was associated with increased anxiety, depression, and stress. This finding is in line with the results of previous studies that have consistently found an association between female gender and increased psychological distress (Olagoke, Olagoke & Hughes, 2020; Maza et al, 2020; Wang et al, 2020; Qio et al, 2020). In this regard, the "Mental Health in the UK and COVID-19" report indicated that increased depression, anxiety, and stress were associated with being younger and female during the pandemic (Jia, Ayling, Chalder, Massey, Broadbent, Coupland & Vedhara, 2020).

Table 2
Gender frequency of Peri-Traumatic Distress Scale (CPDI) and Fear scale (FCV-19S).

	Women	Men	Sample
CPDI statistics			
Mean	41.1	33.2	39.6
Median	40	31	38
Mode	43	29	30
Min	4	8	4
Max	93	85	93
Standard Deviation	16.3	14.1	16.2
Standard Error	0.4	0.7	0.4
CPDI Frequency of answers			
Normal (0 – 28)	375 (25.5%)	153 (41.6%)	530 (28.7%)
Mild (29 – 52)	695 (47.3%)	178 (48.4%)	876 (47.5%)
Severe (53 – 100)	401 (27.2%)	37 (10%)	438 (23.8%)
FCV-19S statistics			
Mean	18.9	14.5	18.1
Median	18	13	17
Mode	16	12	16
Min	7	7	7
Max	35	35	35
Standard Deviation	6.6	0.3	6.7
Standard Error	0.2	5.9	0.2
FCV-19S Frequency of answers			
Normal (7 – 16)	590 (40.1%)	253 (68.8%)	844 (45.8%)
Mild (17 – 26)	655 (44.5%)	97 (26.4%)	756 (41%)
Severe (27 – 35)	226 (15.4%)	18 (4.8%)	244 (13.2%)

Note: The scores of CPDI range from 0 to 100; the scores of the FCV-19S range from 7 to 35.

The scores are in harmony with results of a nationwide survey of psychological distress among Chinese people in the Covid-19 where female respondents showed significantly higher psychological distress and more likely to develop post-traumatic stress disorder than their male counterparts (Ahorsu, Lin, Imani, Saffari, Griffiths & Pakpour, 2020; Jia, Ayling, Chalder, Massey, Broadbent, Coupland & Vedhara, 2020). Besides, Brazilian CPDI gender mean scores (41.1 and 33.2) in our research are higher than Chinese ones (24.87 and 21.41) (Ahorsu, Lin, Imani, Saffari, Griffiths & Pakpour, 2020).

Gender differences (higher levels of fear and distress among female respondents) could be interpreted as a social construction. It is possible that men, because not openly expressing their fears of the Covid-19, would not follow the preventive sanitary recommendations that the World Health Organization (WHO) uses to manage the spread of the coronavirus infection (WHO, 2008): minimizing the risk

communication efforts of the authorities and media, not following hygiene practices, and social distancing – risk factors of the pandemic control.

CPDI scale shows that anxiety, exhaustion, and attention deficit were the factors with higher scores with important gender differences. Women showed higher levels of anxiety as they answered about feeling anxious during the pandemic as often (30.5%) and most of the time (23.7%). Men, on the contrary, showed lower levels of anxiety as they felt it often (21.2%) and most of the time (13.6%). A study with 2766 volunteers, Maza et al., (2020) assessed anxiety during the pandemic. Results showed high levels as ranges varied from medium (81.3%), high (7.2%) and extremely high (11.5%) associated with young age, female gender, family members infected with Covid-19, and a history of stressful situations and medical problems (Maza et al., 2020).

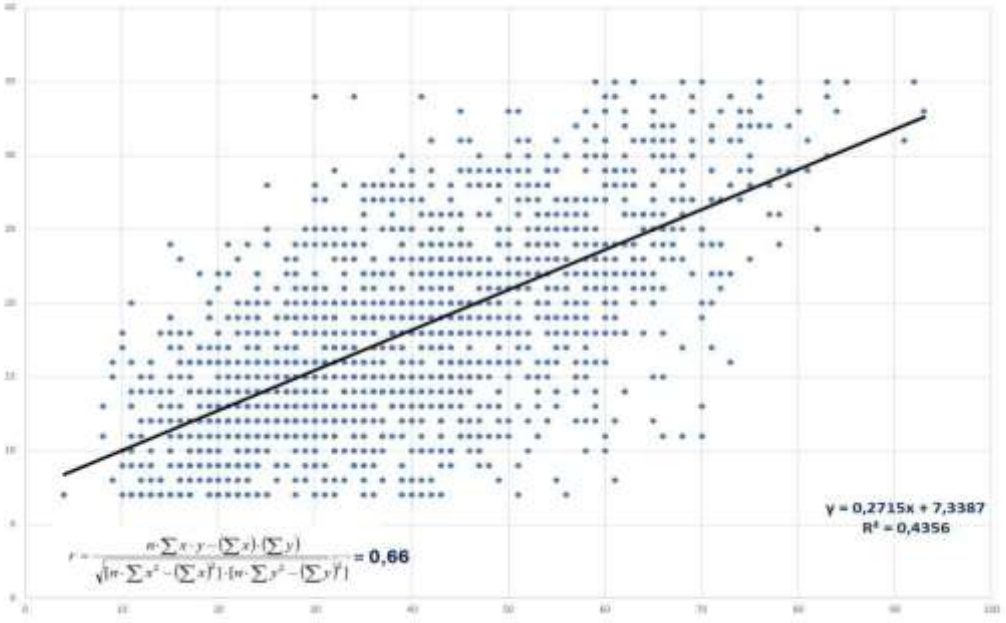
Considering that women frequently take on most of the burden and risk of Health care providers' roles at home, often with little external support (Smith, 2019), the fourteenth question of the scale that measures the exhaustion factor (I feel tired or even exhausted) showed big differences between genders: men had lower scores as they never (20.7%) or occasionally (26.4%) felt tired or even exhausted during the pandemic, while women felt that way often (22.5%) and most of the time (27.9%). Moreover, schools' closure has a differential effect on women, who provide most of the informal care within families (Smith, 2019).

The question of the scale, measuring the attention Deficit factor, showed significant differences between genders: men's scores were lower as they never (20.9%) or occasionally (29.8%) found it hard to concentrate during the social isolation, whereas women's answers were often (19.9%) and most of the time (24.8%). These results could be associated with the higher levels of exhaustion showed by women during the pandemic and the cognitive differences between genders (Regitz-Zagrosek, 2012).

From the FCV-19S we could highlight two questions with significant gender differences on their answers: the first (I am most afraid of coronavirus-19), 74.1% of women agreed to be most afraid of coronavirus-19, while 34.8% of men selected those answers. The second question (It makes me uncomfortable to think about coronavirus-19), 66.2% of women agreed to felt uncomfortable thinking about the coronavirus-19, while 26.1% of men opted for those answers.

Finally, CPDI and FCV-19S scales showed a correlation factor of (r= 0,660) described in Figure 1. Also, correlations between the FCV-19S scale and CPDI's question S3 (I feel terrified from imagining myself or my family being infected) showed an even higher relationship (r= 0,728).

Figure 1
Peri-traumatic Distress Scale (CPDI) and Fear scale (FCV-19S) r Pearson coefficient using scatter diagram.



It is relevant to mention that this study has some limitations. First, although the participants were people for any region of Brazil, this survey should not be taken as a

national sample; secondly, as most of the respondents had an incomplete or complete college degree, it does not reflect most of the Brazilian population.

Conclusion

CPDI and FCV-19S results show gender difference scores as a response to the pandemic. It is paramount that women's voices were represented in policy spaces as socially constructed gender roles place them in a strategic position to enhance multi-level interventions (primary and secondary effects of Covid-19), equitable policies, and new approaches to control the pandemic.

Conflict of Interest: The authors declare that there are no conflicts of interest with this work.

Authors' contribution: A. Abad, L.E.P.P. Teixeira, Juliana A. da Silva and R.L. de Freitas elaborated, analysed, and wrote sed the manuscript; José A. da Silva participated in the created, elaborated the project and revised the manuscript; S. Paiva, S. Bastos, C.H.C. Mármora, L.A.M. Campos and M. Antonelli-Ponti, revised the manuscript.

Authors' ORCID information

A. Abad: https://orcid.org/0000-0002-7748-6008

Juliana A. da Silva: https://orcid.org/0000-0002-7188-5120

L.E.P.P. Teixeira, https://orcid.org/0000-0003-1799-5326

S. Bastos: https://orcid.org/0000-0002-0027-5173

C.H.C. Mármora: https://orcid.org/0000-0003-0457-3992

L.A.M. Campos: https://orcid.org/0000-0002-2707-5593

M. Antonelli-Ponti: https://orcid.org/0000-0003-4931-2788

S. Paiva: https://orcid.org/0000-0002-5426-7873

R.L. de Freitas: https://orcid.org/0000-0003-1799-5326

José A. da Silva: orcid.org/0000-0002-1852-369X

References

Abad, A., da Silva, J., das Neves Braga, J., Medeiros, P., de Freitas, R., Coimbra, N. and da Silva, J. (2020) Preparing for the COVID-19 Mental Health Crisis in Latin America—Using Early Evidence from Countries that Experienced COVID-19 First. Advances in Infectious Diseases, 10, 40-44. https://doi.org/10.4236/aid.2020.103005

Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The Fear of COVID-19 Scale: Development and Initial Validation. International Journal of Mental Health and Addiction, 1-9. https://doi.org/10.1007/s11469-020-00270-8

Olagoke, A. A., Olagoke, O. O. & Hughes, A. M. (2020). Exposure to coronavirus news on mainstream media: The role of risk perceptions and depression. British Journal of Health Psychology, e12427. https://doi.org/10.1111/bjhp.12427

Bao, Y., Sun, Y., Meng, S., Shi, J., & Lu, L. (2020). Covid-19 epidemic: address mental health care to empower society. The Lancet, 395(10224), e37-e38. https://doi.org/10.1016/S0140-6736(20)30309-3

Choi, E. P. H., Hui, B. P. H., & Wan, E. Y. F. (2020). Depression and anxiety in Hong Kong during COVID-19. International journal of environmental research and public health, 17(10), 3740. https://doi.org/10.3390/ijerph17103740

Danese, S., Cecconi, M., & Spinelli, A. (2020). Management of IBD during the COVID-19 outbreak: resetting clinical priorities. Nature Reviews Gastroenterology & Hepatology, 17(5), 253-255. https://doi.org/10.1038/s41575-020-0322-8

Fernandes, H. The Main Risk Factors for the Number of Serious or Critical Cases of Covid-19: How is the Health of Brazilians? Preprints 2020, 2020050143. https://doi.org/10.20944/preprints202005.0143.v1

International Labour Organization. (2020). COVID-19 and the world of work: Impact and policy responses.

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. medRxiv. https://doi.org/10.1016/j.bbi.2020.04.081

Jia, R., Ayling, K., Chalder, T., Massey, A., Broadbent, E., Coupland, C., & Vedhara, K. (2020). Mental health in the UK during the COVID-19 pandemic: early observations. medRxiv. https://doi.org/10.1101/2020.05.14.20102012

Lauri Korajlija, A., & Jokic-Begic, N. (2020). COVID-19: Concerns and behaviours in Croatia. British Journal of Health Psychology. https://doi.org/10.1111/bjhp.12425

Li, S., Wang, Y., Xue, J., Zhao, N., & Zhu, T. (2020). The impact of COVID-19 epidemic declaration on psychological consequences: a study on active weibo users. International Journal of Environmental Research and Public Health, 17(6), 2032. https://doi.org/10.3390/ijerph17062032

Mazza, C., Ricci, E., Biondi, S., Colasanti, M., Ferracuti, S., Napoli, C., & Roma, P. (2020). A nationwide survey of psychological distress among italian people during the COVID-19 pandemic: Immediate psychological responses and associated

factors. International Journal of Environmental Research and Public Health, 17(9), 3165. https://doi.org/10.3390/ijerph17093165

National Academies of Sciences, Engineering, and Medicine. (2020). Rapid Expert Consultations for the COVID-19 Pandemic: March 14, 2020–April 8, 2020. Washington, DC: The National Academies Press. https://doi.org/10.17226/25784

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). https://doi.org/10.1136/gpsych-2020-100213

Regitz-Zagrosek, V. (2012). Sex and gender differences in health. EMBO reports, 13(7), 596-603. https://doi.org/10.1038/embor.2012.87

Rugema, L., Persson, M., Mogren, I., Ntaganira, J., & Krantz, G. (2019). A qualitative study of healthcare professionals' perceptions of men and women's mental healthcare seeking in Rwanda. Journal of Community Psychology. https://doi.org/10.1002/jcop.22308

Smith J. (2019). Overcoming the "tyranny of the urgent": integrating gender into disease outbreak preparedness and response. Gender Develop 2019; 27: 355–69. https://doi.org/10.1080/13552074.2019.1615288

Taylor, S. (2019). The Psychology of Pandemics: Preparing for the Next Global Outbreak of Infectious Disease. Cambridge Scholars Publishing.

Veer, I. M., Riepenhausen, A., Zerban, M., Wackerhagen, C., Engen, H., Puhlmann, L., ... & Mor, N. (2020). Mental resilience in the Corona lockdown: First empirical insights from Europe. https://doi.org/10.31234/osf.io/4z62t

Wang, D., Hu, B., Hu, C., Zhu, F., Liu, X., Zhang, J., ... & Zhao, Y. (2020). Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus–

infected pneumonia in Wuhan, China. Jama, 323(11), 1061-1069. https://doi.org/10.1001/jama.2020.1585

Wenham, C., Smith, J., & Morgan, R. (2020). COVID-19: the gendered impacts of the outbreak. The Lancet, 395(10227), 846-848. https://doi.org/10.1016/S0140-6736(20)30526-2

World Health Organization. (2008). WHO outbreak communication planning guide. Geneva.

Zhang, S. X., Wang, Y., Rauch, A., & Wei, F. (2020). Unprecedented disruption of lives and work: Health, distress and life satisfaction of working adults in China one month into the COVID-19 outbreak. Psychiatry research, 112958. https://doi.org/10.1016/j.psychres.2020.112958

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