

The psychological impact of COVID-19 in the general population: A review and reflection in Portuguese Speaking Countries

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Resumen

Apesar de ser una condición global, la pandemia del COVID-19, tiene impactos diferenciales, manifestados en diferente número de casos, muertes, información, cuestiones políticas y culturales. Resumimos la literatura relacionada con la pandemia de COVID-19 en los países de habla portuguesa. El objetivo de nuestra revisión fue: 1) resumir la investigación que informó la prevalencia de síntomas de ansiedad, depresión, trastorno postraumático y otros indicadores de impacto psicológico en la población general de países de habla portuguesa, en particular Portugal y Brasil; 2) centrarse en las experiencias relacionadas con COVID-19 que pueden asociarse con problemas psicológicos; 3) reflexionar sobre los factores de riesgo y protección que pueden estar asociados con la angustia psicológica; y 4) presentar algunas reflexiones sobre procesos psicológicos que pueden explicar la asociación entre pandemia y salud mental.

Abstract

Despite being a global condition, the COVID-19 pandemic, has differential impacts, expressed in different number of cases, deaths, information, political and cultural issues. We review and summarized the literature related to the pandemic of COVID-19 in Portuguese speaking countries. The goal of our review was: 1) summarize the research that reported the prevalence of symptoms of anxiety, depression, post-traumatic disorder, and other indicators of psychological impact in the general population from Portuguese speaking countries, in specific Portugal and Brazil; 2) focus on the COVID-19 related experiences that can be associated with psychological issues; 3) reflect on risk and protective factors that may be associated with psychological distress; and 4) present some reflections about psychological processes that can explain the association between the pandemic and mental health.

Palabras clave

COVID-19; Psicopatología; Bienestar; Estrés; Trauma

Keywords

COVID-19; Psychopathology; Well-being; Stress; Trauma

1. Introduction

On March, 2020, COVID-19 was classified by the World Health Organization (2022), as a pandemic due to exponential spread rates and the high degree of infection and has become the most serious global pandemic in current times. The COVID-19 pandemic has triggered new challenges for population's mental health. Studies focused on the psychological impact of previous epidemics like Ebola and SARS pointed out an association with mental illnesses such as depression, anxiety, and post-traumatic stress disorder (PTSD). For example, in Hong Kong, the SARS outbreak was related to PTSD, depression (Cheng et al., 2004; Mak et al., 2009) it is unlikely that this outbreak will be the last. This study aimed to evaluate the long-term psychiatric morbidities in survivors of SARS. Method: This is a cohort study designed to investigate psychiatric complications among SARS survivors treated in the United Christian Hospital 30 months after the SARS outbreak. Psychiatric morbidities were assessed by the Structured Clinical Interview for DSM-IV, the Impact of Events Scale-Revised and the Hospital Anxiety and Depression Scale. Functional outcomes were assessed by the Medical Outcomes Study 36-Item Short-Form Health Survey. Results: Ninety subjects were recruited, yielding a response rate of 96.8%. Post-SARS cumulative incidence of DSM-IV psychiatric disorders was 58.9%. Current prevalence for any psychiatric disorder at 30 months post-SARS was 33.3%. One-fourth of the patients had post-traumatic stress disorder (PTSD and anxiety (Cheng et al., 2004) to explore patients' negative appraisals of the impact of SARS, and to evaluate the associations between psychological distress and negative appraisals. Method. The Beck Anxiety Inventory, the Beck Depression Inventory, and a newly developed measure, the SARS Impact Scale (SIS. In Sierra Leone, Hugo et al. (2015) survivors met with the psychologist to discuss their experiences in the case management centre and the challenges they may face returning to their communities. Of 74 survivors discharged in the study period, 24 were followed up at home for a psychological consultation three to four weeks after discharge. During the home visit the psychologist applied an adaptation of the trauma screening questionnaire and explored number of family deaths from Ebola Virus Disease, stigma, the meaning they attached to the causation of their illness and general post illness adjustment. Results: All survivors had lost immediate family members to Ebola Virus Disease. Most (16; 67% in a sample of survivors that had lost immediate family members to Ebola, 21% reported post-traumatic reactions. Disasters, like epidemics, are characterized by fear and uncertainty in patients, health care workers, and the general population (Hsieh et al., 2021;

Mousavi et al., 2020) which can cause different stressors. This study has identified stressful events experienced by Iranian adults during the COVID-19 epidemic. Method: Data on stressful events during the COVID-19 epidemic were collected online from 418 adults (mean age 37.16 years; 57.4% female and 42.6% male. Victims of infectious diseases experience health and economic loss and often are discriminated against and avoided due to fear and anger (Hsieh et al., 2021). Similarly, the pandemic of COVID-19 has been associated with mental health issues, namely anxiety, depression, post-traumatic stress disorder, or substance abuse (American Psychiatric Association, 2020; Dorison et al., 2020; Ruiz-Frutos et al., 2021). Having direct effects (e.g., being infected, having a relative infected) and indirect effects (e.g., fear of being infected, social isolation, loss of employment) (Casali et al., 2021; Gallagher et al., 2021) particularly associations with posttraumatic stress. This cross-sectional study examined associations between COVID-19 and posttraumatic stress among adults utilizing structural equation modeling methods. Results demonstrated that COVID-19 experiences were consistently associated with increased odds of exhibiting posttraumatic stress and higher expressions of total posttraumatic stress. COVID-19 related stress was also robustly associated with posttraumatic stress. These initial findings suggest that COVID-19 is associated with high expression of posttraumatic stress symptomatology, underscoring the increased need for mental health services. The COVID-19 pandemic has brought negative and positive changes in the general population, with some people experiencing post-traumatic growth after the first wave. Little research has focused, however, on personal factors potentially helping individuals cope with COVID-related difficulties. This study investigates the relations between character strengths, mental health, and post-traumatic growth. Design: Longitudinal (T1: April 2020; T2: December 2020–January 2021).

It is possible to understand the psychological impact of COVID-19 through the lens of diathesis-stress model or trauma models. The pandemic can be seen best understood as a stressor (i.e., among many) or as a traumatic event. Diathesis-stress model states that the disorders develop from a constitutional predisposition for the condition (diathesis) combined with stressful conditions that play a precipitating or facilitating role. It is the conjugation of the “internal” (diathesis) and the “external” (stress) that can explain the development of mental health issues (Monroe & Cummins, 2015). Considering this model to analyze the pandemic of COVID-19 and the psychological impact makes it possible to consider individual characteristics like sociodemographic factors (e.g., sex, age) and psychological processes (e.g., personality, psychological flexibility, emotional

processes) and the experiences related to the COVID-19 pandemic (e.g., experience infection, lockdown, loss of income). Based on this model, certain variables exist as vulnerability factors and in combination with stress factors may lead to mental health difficulties.

According to trauma models, psychological trauma can occur when a person is faced with an extreme stressor that negatively affects his or her emotional or physical well-being. Trauma events typically involves a perceived serious threat to life or physical integrity in oneself or in close people. Traumatic events can lead to PTSD and/or other reactions (e.g., depression, substance abuse...) (Ruglass & Kendall-Tackett, 2014). There are different types of traumas. Disasters are one of them and are large-scale traumatic events that are experienced collectively by many groups of people who may suffer from direct or indirect experiences (e.g., physical harm, loss of a loved one, destruction of personal and community property) (Ruglass & Kendall-Tackett, 2014). Considering this model, COVID-19 is not only an infectious disease but also a biological disaster. In this sense, it can be considered a traumatic event, that can lead to physical, emotional, and psychological harm. It can also worsen existing mental health difficulties for some and trigger new disorders in others, as shown through previous health crisis (Ettman et al., 2020; Gallagher et al., 2021; Haider et al., 2020; Horesh & Brown, 2020; Hsieh et al., 2021) like severe acute respiratory syndrome (SARS).

According to Horesh and Brown (2020) COVID-19 quickly became characterized as a global pandemic by March of 2020. Given the rapid acceleration of transmission, and the lack of preparedness to prevent and treat this virus, the negative impacts of COVID-19 are rippling through every facet of society. Although large numbers of people throughout the world will show resilience to the profound loss, stress, and fear associated with COVID-19, the virus will likely exacerbate existing mental health disorders and contribute to the onset of new stress-related disorders for many. Recommendations: The field of traumatic stress should address the serious needs that will emerge now and well into the future. However, we propose that these efforts may be limited, in part, by ongoing gaps that exist within our research and clinical care. In particular, we suggest that COVID-19 requires us to prioritize and mobilize as a research and clinical community around several key areas: (a) the traumatic stress reactions to the COVID-19 pandemic are more related to the future than past, indirect than direct exposure, and stressful events (e.g., loss of employment, isolation, disease, death). This suggests that the emotional reactions to COVID-19 are not best seen as traumatic reactions. On the other hand, the COVID-19 pandemic and its consequences may have typical characteristics of traumatic events, namely unpredictability, uncontrollability, and the threat of death or serious injury (Olff & Grace, 2021).

The pandemic has been a global event but each country lives in different conditions related to the number of cases, deaths, information, political and cultural issues. Analyzing two different cultural contexts, Portugal, and Brazil, will help to understand the best way to understand the pandemic: through the lens of the diathesis-stress model or trauma models. The existence of cultural or contextual differences can be seen as more compatible with the diathesis-stress model. If the cultural and contextual differences in psychological reactions are, relatively minor, the results will be best understood within trauma models. It is important to highlight that the proposed interpretation of such differences between both models are a matter of explanatory value. The models overlap in the explanation of the phenomena and both anticipate some differences between cultures and contexts.

The current paper synthesizes the literature related to the pandemic of COVID-19 from Portuguese speaking countries. The goal of our review is: 1) summarize the research that reported the prevalence of symptoms of anxiety, depression, post-traumatic disorder, and other indicators of psychological impact in the general population from Portuguese speaking countries, in specific Portugal and Brazil; 2) focus on the COVID-19 related experiences that can be associated with psychological issues; 3) reflect on risk and protective factors that may be associated with psychological distress; and 4) present some reflections about psychological processes that can explain the association between the pandemic and mental health.

2. The Psychological Impact of COVID-19 in the General Population from Portuguese Speaking Countries: Portugal and Brazil

The pandemic started at the end of 2019, in China, so at this time there is already some literature about the psychological consequences of this period. Different studies, developed in Portugal present different prevalence levels of anxiety, depression, post-traumatic stress, and other indicators of mental health related to pandemic in general (Aguar et al., 2022; Frade et al., 2021; Jarego et al., 2021; Moreira et al., 2021; Patrão et al., 2020; Paulino et al., 2021; Pereira et al., 2022; Picó-Pérez et al., 2021; Pombo et al., 2020; Santana et al., 2021; Trindade et al., 2021; Viana et al., 2021; Vieira & Meirinhos, 2021) the coronavirus disease 2019 (COVID-19).

The prevalence of anxiety symptoms varied between 15.9% (Moreira et al., 2021) we aimed to explore the elements that may reduce the negative effects on mental health of the quarantine period imposed by most governments during

this worldwide crisis. We conducted an online survey to evaluate demographic, lifestyle and mental health variables in a sample of 1280 Portuguese individuals (79.8% females and 50% (Aguiar et al., 2022). The prevalence of depression symptoms varied between 11.7% (Paulino et al., 2021) and 32% (Santana et al., 2021). With respect to the post-traumatic stress symptoms, only one study presented the prevalence of PTSD symptoms, but only considered survivors of COVID-19 and its prevalence was 42% (Trindade et al., 2021). In addition, taking into account other indicators of mental health, the prevalence of stress varied between 5.6% (Paulino et al., 2021) and 25.5% (Ferreira et al., 2021), the prevalence of psychological distress was 57.2% (Frade et al., 2021), the psychological impact was 49.2% (Paulino et al., 2021), exhaustion was 35.1% (Patrão et al., 2020) and sadness, despair or anxiety was 65.1% (Pombo et al., 2020). There was only one study that observed that general mental health was on the mean (Jarego et al., 2021).

Similarly, to the literature about Portugal, currently, there is already some studies about the psychological consequences of this period in Brazil. Different studies, present different prevalence levels of anxiety, depression, post-traumatic stress, and other indicators of mental health associated with the pandemic in general (Barros et al., 2020; Bücken et al., 2021; Campos et al., 2020; Goularte et al., 2021; Lipp & Lipp, 2020; Serafim et al., 2021; Souza et al., 2021) youth sleep matters", "type": "article-journal", "volume": "00"}, {"uris": [{"http://www.mendeley.com/documents/?uuid=dda0e721-9b56-4eab-867e-0cf5a57f78c6"}], {"id": "ITEM-2", "itemData": {"DOI": "10.1016/j.jpsychires.2020.09.021", "ISSN": "18791379", "PMID": "33038563", "abstract": "Public health interventions at general population level are imperative in order to decrease the spread of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2."}

The prevalence of anxiety symptoms varied between 19.4% (Souza et al., 2021) and 81.9% (Goularte et al., 2021). The prevalence of depression symptoms varied between 21.5% (Souza et al., 2021) and 68% (Goularte et al., 2021). About the PTSD symptoms, only one study presented the prevalence: 28.7% (Bücken et al., 2021). Additionally, taking into account other indicators of mental health, the prevalence of stress varied between 21.5% (Souza et al., 2021) and 60% (Lipp & Lipp, 2020), and the prevalence of psychological impact was 54.9% (Campos et al., 2020).

Comparing the prevalence of both countries, we can observe that in all indicators Brazil present higher prevalence of mental health issues. Two studies already have compared Portugal and Brazil (Antonelli-Ponti et al., 2020; Rodríguez-De Avila et al., 2021) through an online questionnaire, aspects related to levels of anxiety, suicidal thoughts and quality of sleep during the COVID-19 pandemic period in three countries. With 988 participants from Colombia, Brazil

and Portugal. 2.1% of the subjects presented mild anxiety, 85.5% moderate levels, 12% ranged from moderate to severe and 0.3% had an extreme level of anxiety. Suicidal thinking was found at the 57% level; 31.1% moderate, 9.7% marked severe, and 2.2% extreme. Regarding sleep, 14% had good sleep quality, 53.5% poor quality and 32.5% possible sleep disorders. The difference between the values of anxiety and suicidal ideation between countries was not significant. However, there is a significant difference between the distribution of sleep quality values between countries. The differences are mainly between adolescents (<22 years. Rodríguez-De Avila et al. (2021) comparing both countries verified that Brazil presented a prevalence of anxiety of 15,1% and Portugal presented a prevalence of anxiety of 8,6% but this difference was not statistically significant. Antonelli-Ponti et al. (2020) países latinos com longa história conjunta. Os resultados apontaram níveis elevados de EPC para os brasileiros com 19% (nível grave evaluated the peritraumatic distress during the Covid-19 pandemic in both countries and concluded that was higher for Brazilians with 19% (severe level), and 64% (from mild to severe), against 5.3% and 38% of the Portuguese presenting symptoms. Brazilians showed higher severity in 20 (of 24) items and the global index was higher in Brazilians. This last study evaluated not only anxiety but evaluated depression, specific fears or phobias, cognitive changes, such as fatigue or decision difficulty, compulsive behaviors, sleep problems, headaches, stomach pain, etc. and this can explain the differences between studies, but the prevalence seems to be different across these two countries.

These differences can be explained by the differences in epidemiological situation, health policies and political health decisions, the economic situation, and cultural dimensions. This supports the idea that maybe, the pandemic is better explained through the lens of diathesis-stress model. The same event (the pandemic) experienced in different cultural contexts provoked different reactions. Considering this model, it is important understand which situations can be considered sources of stress.

2.1. Psychological Impact of COVID-19 Related Experiences in Portuguese Speaking Countries. Considering the pandemic as a chronic stressor, that affects individuals alongside a combination of minor stressors in daily life and major stressors such as illness, economic hardship, isolation, uncertainty, and increased risk of death, that can be translated into mental health problems (Gualano et al., 2020). So, it is important to understand not only the impact of the pandemic in general, but it is most important to understand the impact of minor and major stressors.

Most of the literature developed in Portugal and Brazil focused on the lockdown periods and their impact on mental health (Antonelli-Ponti et al., 2020; Campos et al., 2020; Frade et al., 2021; Jarego et al., 2021; Lipp & Lipp, 2020; Moreira et al., 2021; Patrão et al., 2020; Paulino et al., 2021; Picó-Pérez et al., 2021; Pombo et al., 2020; Rodríguez-De Avila et al., 2021; Serafim et al., 2021; Vieira & Meirinhos, 2021) the coronavirus disease 2019 (COVID-19). The majority observed that the lockdown was related to a higher prevalence of psychological symptoms in comparison with the pre-pandemic period. Only Jarego et al. (2021) concluded that there was not a significant negative impact of the Portuguese national lockdown on the adults living in Portugal. Similarly, Patrão et al. (2020) and Picó-Pérez et al. (2021) we aimed to explore, for the first time, how mental health status fluctuated along the weeks of the emergency state in Portugal, and to identify which factors may shape these changes in mental health outcomes. Methods: To this end, we conducted an online survey to evaluate demographic, lifestyle and mental health variables (DASS-21 and quality of life observed that depression and anxiety seemed to improve as the weeks passed. But the quality of life got worse (Picó-Pérez et al., 2021) we aimed to explore, for the first time, how mental health status fluctuated along the weeks of the emergency state in Portugal, and to identify which factors may shape these changes in mental health outcomes. Methods: To this end, we conducted an online survey to evaluate demographic, lifestyle and mental health variables (DASS-21 and quality of life.

It is important to consider the stressful nature of the lockdown. But it is equally important to study the rest of the experiences related to the pandemic and not summarize the COVID-19 pandemic to lockdown. For example, Bucker et al. (2021) concluded that psychological symptoms were not related to the duration of social isolation per se, but to the subjective perception that the pandemic interfered with life and generated stressful situations. 59,3% of the participants had experienced stressful situations during the pandemic (e.g., financial worry, fear of contracting the infection, and concerns for loved one's health), and the cumulative effect of the situations was related to depression, anxiety, PTSD. Mulkom et al. (2021) the COVID-19 pandemic was declared. The threat the pandemic poses as well as associated lockdown measures created challenging times for many. This study aimed to investigate the individual and social factors associated with low mental health, particularly perceived threat and lockdown measures, and factors associated with psychological well-being, particularly sense of control. An online survey was completed by participants (N = 8,229 in an international study that included Portugal and Brazil, observed that poor mental health was predicted by the perceived risk of themselves and their family/close friends becoming infected, experiencing a severe version of the infection, and dying

from the infection. In this way, Neto et al. (2021), in an European study including Portugal, concluded that the illness perceptions consistently predicted general stress. Lipp and Lipp (2020) observed that concerns about the need to break the lockdown for some reason, financial concerns, fear of losing the job, concerns about a family member contracting the virus, and the impact of lockdown in romantic relationships were related to stress. About the predictors of anxiety, the results revealed concerns about him/herself, fears about the uncontrollability in the future, and concerns about losing the job.

Finally, three studies compared individuals who did not test with who tested positive (Patrão et al., 2020; Trindade et al., 2021; Viana et al., 2021). The results present some differences. Patrão et al. (2020) and Trindade et al. (2021) concluded that there were no differences between the groups. On the other hand, Viana et al. (2021), through a qualitative study, observe that 100% of the infected participants reported anxiety and 84,6% of the not infected participants. But they didn't compare the statistical significance. Even the differences in the last study not being huge, in Patrão et al. (2020) study there were only six participants that tested positive for COVID-19, but one possible explanation for this results can be the influence of individual characteristics that can impact the way these stressful situations are translated into the develop or not mental health issues. Considering all the studies cited, seems more important the evaluation of the person: how much stress or concern the COVID-19 related experience provoke than the experience itself. Which one more time seems support the idea of the pandemic like a stressor.

3. Risk and Protective Factors Associated with Psychological Distress in Portuguese Speaking Countries

Considering the idea that can be the influence of individual characteristics that can impact the way these stressful situations contribute to develop or not mental health issues, many risk factors were identified to be associated with psychological distress in Portuguese speaking countries amongst the COVID-19 pandemic. The literature developed in Portugal and Brazil (Aguar et al., 2022; Barros et al., 2020; Bücken et al., 2021; Campos et al., 2020; Frade et al., 2021; Goularte et al., 2021; Lipp & Lipp, 2020; Moreira et al., 2021; Patrão et al., 2020; Paulino et al., 2021; Pereira et al., 2022; Picó-Pérez et al., 2021; Pombo et al., 2020; Santana et al., 2021; Serafim et al., 2021; Souza et al., 2021; Vieira & Meirinhos, 2021) the coronavirus disease 2019 (COVID-19 that considered the effects of predictors, identified any of the following variables as risk factors: being female, having

chronical diseases, physical or mental health problems, being younger, having a lower level of education, unemployment or lay-off, being student, lower income or income decrease, having and live with children. Other variables were found in isolated studies: live in rural areas (Paulino et al., 2021), being single (Souza et al., 2021), being a health worker (Pombo et al., 2020), working outside home (Frade et al., 2021).

However, there are some exceptions. Frade et al. (2021) observed that being unemployed was related to lower psychological distress, which can be associated with the fear of contracting COVID-19. About the education level, two studies (Aguiar et al., 2022; Frade et al., 2021) found that a higher level of education was associated with lower mental health, which can be explained by easier access to scientific information and their perception of the severity of the virus based on scientific evidence. Finally, Serafim et al. (2021) anxiety, and stress symptoms, and behavioral aspects amidst the COVID-19 pandemic in a Brazilian population. An online survey was administered from May 22 to June 5, 2020 using a questionnaire comprising of sociodemographic information, the Depression, Anxiety, and Stress Scale (DASS-21) observed that having no children was associated with an increase in psychological distress which can be explained by the situation of the pandemic may put them in a condition of lack of perspective and uncertainty about the future.

On the other hand, working compared to not working was associated with better mental health (Aguiar et al., 2022; Moreira et al., 2021; Paulino et al., 2021; Picó-Pérez et al., 2021; Vieira & Meirinhos, 2021) we aimed to explore the elements that may reduce the negative effects on mental health of the quarantine period imposed by most governments during this worldwide crisis. We conducted an online survey to evaluate demographic, lifestyle and mental health variables in a sample of 1280 Portuguese individuals (79.8% females. Picó-Pérez et al. (2021) we aimed to explore, for the first time, how mental health status fluctuated along the weeks of the emergency state in Portugal, and to identify which factors may shape these changes in mental health outcomes. Methods: To this end, we conducted an online survey to evaluate demographic, lifestyle and mental health variables (DASS-21 and quality of life found that being women and younger seemed to be protective factors. Although these findings could seem contradictory this is a longitudinal study during the lockdown and their results point to greater long-term resilience and ability to adapt during the lockdown in women and younger individuals, which is not incompatible with their general worse mental health reported in pre-pandemic studies and cross-sectional studies developed during the COVID-19 pandemic.

In sum, these studies developed in Brazil and Portugal, show that the risk factors seem to be very similar across these two countries and demonstrate that particular attention is needed for the general population's mental health, particularly to those with risk factors. However, there are some differences across studies, and maybe more than sociodemographic indicators, the psychological impact of COVID-19 pandemic, is better explained through psychological processes that can be viewed as vulnerabilities or strengths for the development or not of mental health issues.

4. The Role of Psychological Processes on Mental Health During the Pandemic in Portuguese Speaking Countries

There is already some literature developed in Portuguese speaking countries dedicated to the impact of the pandemic on mental health and well-being. However, it is important to understand the role of the psychological processes in this relationship. Understanding the paths that contribute to explaining the role of COVID-19 related experiences in psychopathological symptoms and well-being is critical and relevant for improving clinical intervention and developing psychological prevention and or intervention programs to fight against the exacerbation of mental health difficulties for some and the starting of new issues for others.

Some studies developed in Portuguese speaking countries already started focusing on the following psychological variables: personality, psychological flexibility, (self-)compassion and the fear of, coping strategies and emotional processes, related to the increase or decrease of mental health issues. Concerning personality, Pereira et al. (2022) anxiety and stress, its role in the pandemics' psychological impact has not been yet empirically studied. Our aim was to analyze the role of perfectionism in psychological distress during the pandemic of COVID-19, testing whether it is mediated by fear of COVID-19 and repetitive negative thinking/RNT. Participants (N = 413 adults; 269.2% women) found that perfectionism was associated with psychological distress in the pandemic period. In this way, Pico-Pérez et al. (2021) we aimed to explore, for the first time, how mental health status fluctuated along the weeks of the emergency state in Portugal, and to identify which factors may shape these changes in mental health outcomes. Methods: To this end, we conducted an online survey to evaluate demographic, lifestyle and mental health variables (DASS-21 and quality of life) focus on the following personality factors: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness, found that higher extraversion was a po-

sitive predictor and higher neuroticism was a negative predictor of depression. Regarding anxiety, higher openness to experience was a positive predictor and higher neuroticism was a negative predictor. About the stress, higher neuroticism and conscientiousness were negative predictors. Finally, related to the quality of life, higher extraversion was a positive predictor, while higher neuroticism was a negative predictor. Similarly, Mansur-Alves et al. (2021), in a study developed in Brazil, and focused on the same personality factors found that pandemic psychological suffering was explained by conscientiousness, and pandemic perceived stress was explained by neuroticism, and conscientiousness.

Related to psychological flexibility, Trindade et al. (2021) concluded that this variable was associated with better psychological indicators in survivors of COVID-19. In this way, in an international study including Portugal, Gloster et al. (2020) it might not be experienced negatively, especially because the entire population was affected. **Methods** The aim of this study was to determine mental health outcomes during pandemic induced lockdowns and to examine known predictors of mental health outcomes. We therefore surveyed $n = 9,565$ people from 78 countries and 18 languages. Outcomes assessed were stress, depression, affect, and wellbeing. Predictors included country, sociodemographic factors, lockdown characteristics, social factors, and psychological factors. **Results** Results indicated that on average about 10% of the sample was languishing from low levels of mental health and about 50% had only moderate mental health. Importantly, three consistent predictors of mental health emerged: social support, education level, and psychologically flexible (vs. rigid found that psychological flexibility was related to mental health.

As for (self-)compassion or the fear of, Beato et al. (2021) observed that Portuguese individuals with greater self-compassion were at less risk of suffering from symptoms of depression, anxiety and stress during the period of lockdown. Pfeiffer and Lisboa (2021), in a study conducted in Brazil, concluded that the fear of expressing compassion for others, the fear of receiving compassion from others, and the fear of self-compassion were related to emotional exhaustion.

Finally, about the coping strategies and emotional processes, during the lockdown, in Portugal, the use of instrumental and emotional support, self-blame, venting, denial, behavioral disengagement, and substance use were associated with poorer mental health. On other hand, active coping, positive reframing, acceptance, and humor were associated with better mental health. However, only positive reframing and humor significantly predicted better mental health and only substance use predicted poorer mental health (Jarego et al., 2021). In this way, a qualitative study found that the participants (working from home)

experience work, family and social impact, negative feelings, and difficulties in work-life balance. However, they adopted efficient coping strategies since the beginning of the pandemic. In the second lockdown, participants show less anxiety, but more stress and frustration, but they adopted self-regulation strategies over time (Pires et al., 2021) os estudos realizados, indicam o impacto negativo na saúde mental, com níveis elevados de medo, ansiedade e sintomas depressivos. Em Portugal, a percentagem de morbilidade mental é elevada. Ter baixo rendimento económico, ser jovens e mulher aumenta o risco de vulnerabilidade psicossocial. Poucos estudos focam as vivências subjetivas e os processos de adaptação em diferentes fases da pandemia; Objetivos Aceder ao impacto psicológico do confinamento devido à COVID-19 e processo de adaptação na I e III Fases da pandemia (Abril/2020-Janeiro/2021. Beato et al. (2021) found that emotional coping strategies was related to less anxiety, depression and stress, problem coping strategies was associated with less depression and dysfunctional coping strategies was related to more anxiety, depression and stress. A study developed with university students during the lockdown concluded that the evaluation and expression of emotions themselves, emotional regulation, and the use of emotions were associated with anxiety, depression, and stress. In general, emotional intelligence was a predictor of mental health (Barros & Sacau-Fontenla, 2021). Pfeiffer and Lisboa (2021) found that difficulties in emotion regulation were related to emotional exhaustion.

In sum, because of the uncertainty and changes due to the pandemic, there is an important impact on stress, depression, anxiety, well-being. In this sense, it is important to identify factors that can mitigate the potential negative psychological effects of pandemics and lockdowns. Various psychological processes can help build resilience. However, until the moment, this literature is scarce at least in Portuguese speaking countries.

5. Conclusions

Considering what was found, there is already literature in Portuguese speaking countries about the global impact of the pandemic on mental health, most of the studies focus on the lockdown or the pandemic as a general construct. However, the literature developed about specific COVID-19 related experiences and how they are perceived is scarce. More studies are needed about this topic. It is important investigate the role of these experiences and more experiences like have been hospitalized with COVID-19, family or friends COVID-19 infection, hospitalization, and death in Portuguese speaking countries and the evaluation of stress done by the individuals about these experiences. Understanding which

experiences provokes an increase in mental health issues allows us to pay special attention to those with risk COVID-19 related experiences. In this way, there are already various studies developed about sociodemographic risk and protective factors that contribute to better monitorize who can be at risk. Finally, and even more scarce, are the studies related to psychological processes that can influence the impact that the pandemic has on mental health. Most of the studies developed in Portuguese speaking countries focus personality, psychological flexibility, (self-)compassion and the fear of, and coping strategies and emotional processes but other psychological processes can serve as transdiagnostic processes. Examples of this can be the emotional schemas (Leahy, 2019) or the mindfulness trait (Brown & Ryan, 2003), in addition to psychological flexibility (Kashdan, 2010) positive emotions and thoughts, strengths, and the satisfaction of basic psychological needs for belonging, competence, and autonomy have been seen as the cornerstones of psychological health. Without disputing their importance, these foci fail to capture many of the fluctuating, conflicting forces that are readily apparent when people navigate the environment and social world. In this paper, we review literature to offer evidence for the prominence of psychological flexibility in understanding psychological health. Thus far, the importance of psychological flexibility has been obscured by the isolation and disconnection of research conducted on this topic. Psychological flexibility spans a wide range of human abilities to: recognize and adapt to various situational demands; shift mindsets or behavioral repertoires when these strategies compromise personal or social functioning; maintain balance among important life domains; and be aware, open, and committed to behaviors that are congruent with deeply held values. In many forms of psychopathology, these flexibility processes are absent. In hopes of creating a more coherent understanding, we synthesize work in emotion regulation, mindfulness and acceptance, social and personality psychology, and neuropsychology. Basic research findings provide insight into the nature, correlates, and consequences of psychological flexibility and applied research provides details on promising interventions. Throughout, we emphasize dynamic approaches that might capture this fluid construct in the real-world. © 2010 Elsevier Ltd. (Kashdan, 2010 and self-compassion (Neff, 2003)(b. Understanding which transdiagnostic processes help to explain the relationship between COVID-19 related experiences and mental health issues helps to design more efficient interventions.

Finally, the psychological impact of the pandemic seems to be different between countries that share the same language. We only included Portugal and Brazil because we did not find studies focused on other Portuguese speaking countries, but these two countries even sharing the same language present differen-

ces. These differences can be related to different cultural backgrounds, different pandemic environments (number of infections, number of deaths...), different policies adopted related to the pandemic and the interactions between these stressors and individual characteristics like the psychological processes.

6. References

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7. Acknowledgements

RS has received a doctoral grant (2021.09423.BD) attributed by the Portuguese Foundation for Science and Technology