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Depression in the Pandemic: The Impacts on Mental Health During the COVID-19 Contagion in Brazil

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Abstract— *The aim of this study was to investigate the symptoms of depression resulting from social distancing and its impacts on the Brazilian population during the COVID-19 pandemic. Methodologically, this is a qualitative-quantitative, cross-sectional survey, carried out online. Data were collected through a questionnaire that initially contained sociodemographic information, followed by information about depressive symptoms. The questions were constructed considering the concept of "mental health waves", depicting the mental health demands presented at the respective moments of the pandemic. The sample consisted of 632 participants, and the prevalence of depression in the present study sample was 44.9%, with no statistically significant*

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differences between genders. Regarding education, the postdoctoral degree was presented as a protective factor of depressive symptoms (OR=0.03, 95% CI=0.01-0.8). Factors significantly associated with anxiety were age between 50 and 54 years (OR=2.573, 95% CI=0.9-6.9), fear of dying (OR=1.86, 95% CI=1.19-2.89), loneliness (OR=5.32, 95% CI=3.40-8.31), irritability (OR=3.47, 95% CI=2.25-5.34), an infodemic (OR=1.70 95% CI=1.09-2.67), financial difficulties (OR=2.22, 95% CI=1.40-3.54), and boredom (OR=1.66, 95% CI=1.03-2.66). The results of the present study highlight the need for public health interventions aimed at reducing the psychological consequences related to the COVID-19 pandemic and social isolation measures, including increasing social support and strengthening social connections.

I. INTRODUCTION

Between December 2019 and January 2020, the World Health Organization (WHO) received official notification about the hospitalization of people in Wuhan, China, diagnosed with pneumonia of a hitherto unknown nature. After investigation, a new form of coronavirus was discovered, named SARS-CoV-2, which causes the disease named COVID-19. Worldwide, the virus was considered a pandemic as of March 11, 2020, and since then it has impacted all countries on the planet. In addition to economic and political issues, the pandemic has brought social, emotional, and behavioral impacts, leading to intersectoral, interprofessional, and multidimensional challenges. That is to say, when announcing the pandemic on March 11, the WHO communicated that the coronavirus infection would affect all countries in the world and it called on governments and their health management systems to face one of the greatest challenges of the century. As the pandemic progressed from China to Europe and later to other countries in Oceania and the Americas, the impacts were also evident. (1)

Health systems in all countries have felt the impact of the pandemic, not only in cases of severe acute respiratory syndrome, but in the wave of demands in the field of mental health that have emerged together with the strategies to contain the spread of the virus. Non-pharmacological measures of social isolation and distancing were widely used, representing a paradigm shift in social and family interactions. Added to this is the lack of confidence in the actions, when existing, of the central management of the Brazilian government, a factor also considered to trigger fears, anxiety, and uncertainties. Thus, the present study adopted the concept of "Mental Health Demand Waves", defined as mental health care needs according to the situation in which each country finds itself, with the understanding that psychological aspects are directly linked to public health decisions. (2)(3)

The first scientific productions on mental health in the COVID-19 Pandemic highlight an increase in depression levels among other factors related to worse mental health, including increased consumption of alcohol and other drugs, loneliness, fear, sleep disorders, and uncertainties related to social risks and their effects. (4) (5)(6)(7)(8) These frameworks have repercussions both during and after the pandemic. Therefore, they require attention, knowledge production, as well as increases in strategies, in order to prepare the health services to identify and manage mental health demands arising from the social distancing imposed as a mitigation measure during the COVID-19 pandemic. That said, the aim of the current study was to investigate symptoms of depression resulting from isolation and social distancing measures and to analyze the impacts of these measures on the frequency of the symptoms during the COVID-19 pandemic.

II. METHODOLOGY

The study consisted of a cross-sectional, quali-quantitative survey carried out through an online questionnaire, scoring the main symptoms and changes reported by respondents during social distancing measures. The questionnaire consisted of an extract from the study "Psychological Symptoms During the Covid-19 Pandemic" approved by the CEP-UEA with opinion no. 4,098,461 (CAAE nº 33103420.3.0000.5016).

Participation was voluntary and there was no need for any type of identification from the respondents. The first part of the instrument contained questions related to the variables of gender, age, region, city, state of residence, and education. The collection instrument was built on the Google® forms platform and disseminated on the internet, through social networks, especially a Facebook page, and remained available between June 20th and July 4th, 2020. In total, 632 responses were obtained from all regions of the country, with different proportions in the number of respondents. As inclusion criteria, we adopted: being 18

years of age or older, understanding the Portuguese language, and being a user of social networks (where the research was published). The exclusion criteria were: indigenous people, people with severe and persistent mental disorders, and postpartum women, as we understand that the experience of these groups is closely linked to their social and health conditions, thus deserving in-depth and specific research.

The present study was constructed taking into account the classification of waves of demands in mental health, as, from a global geographic perspective, the pandemic advanced in the form of waves, and its progress was also observed based on the reported psychological impacts. (2) Therefore, the initial moment of the pandemic, when the arrival of the virus in the localities was informed, would be the first wave. Based on this, the instrument begins with questions regarding the initial symptoms described by the researchers in the literature: symptoms of depression, fear of becoming infected, fear of losing a job, fear of dying, loneliness, increased consumption of alcohol and other drugs, sleeping difficulties, irritation, fear of returning to work, an infodemic, and fear of shortages. The second part of the questionnaire was built based on the moment of the second wave, in relation to the mental health demands that emerged during the pandemic, at the moment when the symptoms of the first wave are more prominent, with the emergence of signs of emotional fatigue, and the increase in the number of deaths. The following variables refer to isolation and its impact on people's lives: financial difficulties, domestic violence, marital problems, problems related to emotional isolation, boredom, problems related to prejudice, and difficulties related to homeschooling at a distance.

Data were tabulated in an Excel spreadsheet and analyzed using STATA® 13 software (Stata Corporation, College Station, TX, USA). Logistic regression was used to estimate the odds ratios and respective confidence intervals to identify the relationships between depression and the other variables collected, followed by multivariate analysis with a p-value criterion less than 0.02 for the variable to be included in the multivariate regression.

III. RESULTS

Of the total of 632 responses in the sample, 80.4% consisted of self-reported female individuals, and 18.7% were male. Of the 284 respondents who self-reported depressive symptoms, 80.6% were female and 18.7% were male. Regarding age, considering the group of individuals who self-reported depressive symptoms, 20.1% of respondents were between 18 and 24 years old, 20.4% between 25 and 29 years old, 9.9% between 30 and 34 years old, 13.4% between 35 and 39 years old, 12% between 40 and 44 years old, 7% between 45 and 49 years old, 7% between 50 and 54 years old, 4.6% between 55 and 59 years old, 4.6% between 60 and 69 years old, and 1.1% between 65 and 69 years old. Regarding education, 6% of those who self-declared depressive symptoms have incomplete elementary school, 5.6% complete elementary school, 5.6% incomplete high school, 18% complete high school, 26.8% complete or in progress higher education, 22.2% complete higher education, 9.5% post-graduate, 4.6% master's, 0.4% doctorate, and 0.4% post-doctorate. Regarding the region of residence, there was a predominance of responses from the northern region of the country, representing 35.9% of the sample, followed by the southeast region with 29.9%, northeast region represented by 11.3%, southern region represented by 11.3%, midwest region represented by 7.4%, and 4.2% were outside the country.

The prevalence of depression in the present study sample was 44.9%, with no statistically significant differences between genders. Regarding education, the post-doctoral degree is presented as a protective factor against depressive symptoms (OR=0.3, 95% CI=0.01-0.8). Regarding age, the group between 50 and 54 years old showed a significantly increased risk of developing depressive symptoms in the multivariate regression (OR=2.573, 95% CI=0.9-6.9). The results of the multivariate regression analyses are presented in Table 1. Factors significantly associated with depression were fear of dying (OR=1.86, 95% CI=1.19-2.89), loneliness (OR=5.32, 95% CI=3.40-8.31), irritability (OR=3.47, 95% CI=2.25-5.34), an infodemic (OR=1.70 95% CI=1.09-2.67), financial difficulties (OR=2.22, 95% CI=1.40-3.54), and boredom (OR=1.66, 95% CI=1.03-2.66).

Table 1 - Relationship between sociodemographic factors, symptoms described during the pandemic, and depression.

	No	Yes	Total	Univariate		Multivariate	
	N=348	N=284	N=632	OR (95%CI)	P	OR (95%CI)	P
How old are you?							
18 to 24 years	50 (14.4%)	57 (20.1%)	107 (16.9%)	.		.	.

25 to 29 years	54 (15.5%)	58 (20.4%)	112 (17.7%)	0.94 (0.55-1.6)	0.83	1.09 (0.53-2.24)	0.82
30 to 34 years	39 (11.2%)	28 (9.9%)	67 (10.6%)	0.63 (0.34-1.17)	0.14	0.83 (0.35-1.98)	0.68
35 to 39 years	59 (17.0%)	38 (13.4%)	97 (15.3%)	0.57 (0.32-0.99)	0.05	1.41 (0.67-2.99)	0.37
40 to 44 years	47 (13.5%)	34 (12.0%)	81 (12.8%)	0.64 (0.36-1.14)	0.13	1.76 (0.78-4.01)	0.18
45 to 49 years	41 (11.8%)	20 (7.0%)	61 (9.7%)	0.43 (0.22-0.82)	0.01	1.27 (0.52-3.1)	0.6
50 to 54 years	23 (6.6%)	20 (7.0%)	43 (6.8%)	0.76 (0.38-1.55)	0.45	2.57 (0.96-6.88)	0.06
55 to 59 years	20 (5.7%)	13 (4.6%)	33 (5.2%)	0.57 (0.26-1.26)	0.17	1.98 (0.67-5.86)	0.22
60 to 64 years	11 (3.2%)	13 (4.6%)	24 (3.8%)	1.04 (0.43-2.52)	0.94	2.58 (0.81-8.28)	0.11
65 to 69 years	2 (0.6%)	3 (1.1%)	5 (0.8%)	1.32 (0.21-8.2)	0.77	4.2 (0.52-33.95)	0.18
70 to 74 years	2 (0.6%)	0 (0.0%)	2 (0.3%)	.	.	.	.
What gender do you identify with?							
Male	65 (18.7%)	53 (18.7%)	118 (18.7%)	1	.	.	.
Female	279 (80.2%)	229 (80.6%)	508 (80.4%)	1.01 (0.67-1.51)	0.97	.	.
Prefer not to say	4 (1.1%)	2 (0.7%)	6 (0.9%)	0.61 (0.11-3.48)	0.58	.	.
What is your schooling?							
Incomplete elementary	29 (8.3%)	17 (6.0%)	46 (7.3%)	1	.	.	.
Complete elementary	17 (4.9%)	16 (5.6%)	33 (5.2%)	1.61 (0.65-3.98)	0.31	1.83 (0.53-6.27)	0.34
Incomplete high school	25 (7.2%)	16 (5.6%)	41 (6.5%)	1.09 (0.46-2.6)	0.84	0.96 (0.3-3.06)	0.95
Complete high school	62 (17.8%)	51 (18.0%)	113 (17.9%)	1.4 (0.69-2.84)	0.35	1.23 (0.48-3.17)	0.67
Incomplete higher education (or currently studying)	53 (15.2%)	76 (26.8%)	129 (20.4%)	2.45 (1.22-4.9)	0.01	1.96 (0.75-5.11)	0.17
Complete higher education	66 (19.0%)	63 (22.2%)	129 (20.4%)	1.63 (0.82-3.25)	0.17	1.45 (0.57-3.74)	0.44
Post-graduate (lato sensu specialization)	56 (16.1%)	27 (9.5%)	83 (13.1%)	0.82 (0.39-1.75)	0.61	0.75 (0.27-2.08)	0.59

Master's degree	29 (8.3%)	13 (4.6%)	42 (6.6%)	0.77 (0.32-1.86)	0.55	0.85 (0.26-2.81)	0.79
Doctorate degree	8 (2.3%)	1 (0.4%)	9 (1.4%)	0.21 (0.03-1.86)	0.16	0.18 (0.02-1.94)	0.16
Post-doctorate	2 (0.6%)	1 (0.4%)	3 (0.5%)	0.85 (0.07-10.12)	0.9	0.04 (0-0.8)	0.04
Other	1 (0.3%)	3 (1.1%)	4 (0.6%)	5.12 (0.49-53.18)	0.17	0.96 (0.08-12.34)	0.98
Fear of contamination	259 (74.4%)	236 (83.1%)	495 (78.3%)	1.69 (1.14-2.5)	0.01	0.81 (0.47-1.43)	0.47
Fear of losing job	43 (12.4%)	54 (19.0%)	97 (15.3%)	1.67 (1.08-2.57)	0.02	0.93 (0.52-1.66)	0.81
Fear of dying	127 (36.5%)	167 (58.8%)	294 (46.5%)	2.48 (1.8-3.43)	0	1.86 (1.19-2.9)	0.01
Loneliness	61 (17.5%)	177 (62.3%)	238 (37.7%)	7.78 (5.4-11.22)	0	5.32 (3.41-8.32)	0
Increased consumption of alcohol and other drugs	41 (11.8%)	51 (18.0%)	92 (14.6%)	1.64 (1.05-2.56)	0.03	1.05 (0.58-1.91)	0.87
Sleeping Difficulty	187 (53.7%)	216 (76.1%)	403 (63.8%)	2.74 (1.94-3.86)	0	1.44 (0.92-2.25)	0.11
Irritation	129 (37.1%)	217 (76.4%)	346 (54.7%)	5.5 (3.88-7.8)	0	3.47 (2.25-5.35)	0
Fear of going back to work	92 (26.4%)	107 (37.7%)	199 (31.5%)	1.68 (1.2-2.36)	0	1.17 (0.73-1.88)	0.52
An infodemic	160 (46.0%)	192 (67.6%)	352 (55.7%)	2.45 (1.77-3.4)	0	1.71 (1.09-2.68)	0.02
Fear of shortage	148 (42.5%)	154 (54.2%)	302 (47.8%)	1.6 (1.17-2.2)	0	0.84 (0.54-1.3)	0.43
Financial difficulties	170/632 (26.9%)	64/348 (18.4%)	106/284 (37.3%)	2.65 (1.85-3.82)	0	2.23 (1.4-3.54)	0
Domestic violence	4 (1.1%)	12 (4.2%)	16 (2.5%)	3.79 (1.21-11.87)	0.02	2.31 (0.56-9.58)	0.25
Marital problems	32 (9.2%)	50 (17.6%)	82 (13.0%)	2.11 (1.31-3.39)	0	1.43 (0.78-2.65)	0.25
Problems related to emotional isolation	163 (46.8%)	183 (64.4%)	346 (54.7%)	2.06 (1.49-2.84)	0	1.19 (0.78-1.82)	0.42
Boredom	230 (66.1%)	223 (78.5%)	453 (71.7%)	1.91 (1.33-2.74)	0	1.66 (1.03-2.67)	0.04
Problems related to prejudice	24 (6.9%)	25 (8.8%)	49 (7.8%)	1.3 (0.73-2.33)	0.38		
Problems with home/distance education	103 (29.6%)	115 (40.5%)	218 (34.5%)	1.63 (1.17-2.26)	0	1.34 (0.86-2.09)	0.2

IV. DISCUSSION

The rate of depressive symptoms was significantly elevated, with 44.9% of the sample reporting depression. This prevalence was lower than identified in a Brazilian study that evaluated psychological symptoms emerging with social distancing measures during the COVID-19 pandemic, in which 67.7% of the sample reporting depressive symptoms. However, the result was higher than that obtained in a Chinese study carried out during the pandemic with a sample of 194 cities in China, which sought to better understand the levels of psychological impact on the population, where moderate to severe depressive symptoms were reported in only 16.5% of the sample. This value, however, can be justified by the period in which that study was instigated, that is, in the first months of the pandemic, in the months of January and February 2020. In a study carried out in Spain, 46.4% of the sample reported depression, a result similar to that found in the present study. (9)(10)(11) A Brazilian study carried out in the southern region of the country, evaluating the proportion of symptoms of depression before and during social distancing restrictions, identified moderate to severe symptoms of depression in 3.9% of participants before COVID-19 and during the pandemic, a 6.6-fold increase, with 29.1% reporting depressive symptoms. Brazil was one of the countries where public health interventions were implemented that promoted social distancing measures, with community control at state levels, and closure of businesses and schools. A study carried out in Hong Kong linked this period with the occurrence of depressive symptoms, as the more days an individual stayed at home, the greater the risk of depressive symptoms. (12)(13)

There was no relationship with sex in the distribution of symptoms, unlike what was observed in most other studies that show women reporting significantly higher levels of depression than men. In addition to their professional roles, in most family nuclei, women play the social role of the main caregiver in the family, which justifies a greater burden in the period of social distancing, reconciling work with household chores. (14)(15)(16)

Age was an important sociodemographic variable. The 50-54 age group demonstrated a significantly increased risk of developing depressive symptoms. Usually, studies point to the age group between 18 and 24 years as having a greater association with worse mental health compared to older populations. (17)(18)(19) A point raised in many studies is that age allows the creation of coping strategies through resilience maneuvers acquired throughout life, and that this results in lower levels of depression and preserves well-being during periods with many stressor factors, such as the COVID-19 pandemic. It is important to note that in the present study it was not possible to establish this same pattern of age-related involvement. (20)(21)

A post-doctorate level of education presented itself as a protective factor against depressive symptoms (OR=0.03, 95% CI=0.01-0.8). A study carried out in Hong Kong that analyzed social distancing and its associations with mental health, identified higher education as significantly associated with the adoption of social distancing measures, more days at home, and a higher level of compliance with social distancing. A longer period of staying at home was associated with a higher level of stress, especially among respondents with primary schooling or less, however this relationship was not perceived in respondents with a higher level of schooling. In this way, the relationship is established that a higher level of education is related to a better understanding of mitigation measures and better strategies to deal with the pandemic situation. In addition, higher education was also associated with reduced levels of loneliness. (13)(22) A German study that investigated the role of sociodemographic factors related to COVID-19 for mental health consequences identified lower educational level as a factor associated with negative mental health consequences during containment measures. A Brazilian study that investigated the prevalence and determinants of psychiatric symptoms among the Brazilian population during the COVID-19 pandemic also identified a strong association between a lower educational level and greater susceptibility to symptoms of depression. (23)(9)

The feeling of loneliness was reported by 37.7% of the sample and identified as a statistically significant risk factor (OR=5.32, 95% CI=3.40-8.31) for the occurrence of symptoms of depression by multivariate regression ($p<0.01$). The level of loneliness was lower than the German study that evaluated the consequences of the COVID-19 pandemic on mental health, which identified loneliness reported in 55.2% of the sample. Reduced social contact and perceived changes in routine and lifestyle habits during the period of social distancing were associated with loneliness and worse mental health. (23) A study conducted in Norway also identified depression-related loneliness, with approximately 31% of the sample reporting symptoms of depression. In this study, loneliness predicted depressive symptoms, with a more evident relationship, so that a greater relationship between loneliness and depression was suggested, to the detriment of anxiety symptoms. Thus, loneliness was identified as a potential risk factor for depression, with the risk that both depression and loneliness will persist, even after the

pandemic is controlled and mitigation measures, including social distancing, are suspended. (22) Other recent studies have also pointed to loneliness as predicting depressive symptoms during social distancing measures, so that strategies to reduce loneliness levels could be an important target of interventions in order to mitigate and prevent the negative consequences to mental health arising from the pandemic situation. (24)(25)

Irritability was reported by 54.7% of the sample and identified as a statistically significant risk factor (OR=3.47, 95% CI=2.25-5.34) for the occurrence of symptoms of depression in the multivariate regression ($p<0.01$). A Chinese study that looked at the psychological distress differential of populations affected by the COVID-19 pandemic described the perception of individuals as becoming easily irritated, manifested mainly in the general public, as well as in individuals who experienced the COVID-19 infection. (26) A systematic review with meta-analysis researched the psychological and behavioral impact of lockdown and quarantine measures during the COVID-19 pandemic on children, adolescents, and caregivers, among which 42.3% of children and adolescents were found to be suffering from irritability. A study carried out with parents in Italy and Spain that studied the emotional impact of quarantine on children and adolescents also identified irritability being reported by 39% of the sample, and one of the most frequent symptoms. In addition, the period of social distancing was associated and described as associated with behaviors related to irritability, with individuals being more likely to argue with the family, cry more easily, demonstrate greater levels of boredom, irritation, and frustration, being in general more irritable. (27) (28)

An infodemic, understood as the large flow of information that multiplies rapidly due to an event such as the COVID-19 pandemic, was reported in 55.7% of the sample and identified as a statistically significant risk factor (OR=1.70, 95% CI= 1.09-2.67) for the occurrence of symptoms of depression in the multivariate regression ($p=0.02$). The growing threat of the pandemic has led to a global wave of symptoms of anxiety and depression due to social isolation and information overload from the media. A Chinese study identified that the dissemination of health information on COVID-19 via radio was associated with higher depression scores among participants. (29) In Brazil, there was a great harmful impact of fake news propagated on social media, in WhatsApp groups, and on Facebook pages, with information disseminated without scientific proof. The government itself and the Brazilian health authorities spread inaccurate information and information without scientific evidence, endorsing treatments proven to be ineffective, while discouraging social distancing and the use of face masks. In addition, for months, the central government denied the real impact of COVID-19, discouraging the measures of social distancing and closing of trade adopted by state governments, whose autonomy to take measures with the aim of containing the pandemic of the new coronavirus was reaffirmed by the Brazilian federal supreme court. In any case, when individuals have access to adequate information and are given subsidies to trust health authorities in the management of COVID-19, this could potentially reduce feelings of vulnerability and negative mental health consequences. (30)

Financial difficulties were reported by 37.3% of the sample and identified as a statistically significant risk factor (OR=2.22, 95% CI=1.40-3.54) for the occurrence of symptoms of depression by multivariate regression ($p<0.01$). Mitigation strategies for the COVID-19 pandemic have generated economic impacts and concerns about the financial situation, with a rising unemployment rate during the period of social distancing, which irrevocably leads to a reduction in family income. (31) A study carried out in Greece with the aim of investigating perceptions during the period of social distancing identified almost 25% of the sample reporting financial difficulties in their families, a figure lower than that identified in the present study. One factor that contributes to the financial difficulties is unemployment, which since 2015 has increased among the Brazilian population, with a greater increase after the beginning of the measures to contain the COVID-19 pandemic. A notice that aimed to discuss the consequences of the pandemic on unemployment, poverty, hunger and government action, identified, through data from the Brazilian Ministry of Economy, a large increase in requests for unemployment insurance in the first five months of 2020, reaching 53% compared to the same month in 2019, there was also a growth in the number of families in extreme poverty. (32)(33)

The economic implications of the COVID-19 pandemic and mitigation measures affected people of all social classes, however, we cannot assume that it affected the entire population equally, especially in a country of continental proportions like Brazil. In this way, it was observed that the pandemic accentuated the inequalities and social vulnerabilities present for years in Brazil and in other countries, especially in relation to access to mental health services. Therefore, the most vulnerable groups are also the most susceptible to mental health problems arising from concerns about unemployment and financial losses, so that if measures to mitigate mental health symptoms in

the most vulnerable populations are not taken, a health crisis caused by a large burden of mental health disorders in the public health system is predicted. (34)(35)(12) A study of American adults conducted to verify the occurrence of depressive symptoms emerging with the COVID-19 pandemic also found that lower-income groups were at a greater risk of depressive symptoms than higher-income groups. Therefore, fear of unemployment and uncertainty about the future after the pandemic may be responsible for worsening mental health. It is in this context that economic vulnerability is identified as a factor strongly associated with the risk of stress and worsening of mental health related to depressive symptoms. (15)

Boredom was reported by 71.7% of the sample and identified as a statistically significant risk factor (OR=1.66, 95% CI=1.03-2.66) for the occurrence of symptoms of depression in the multivariate regression ($p=0.03$). Social distancing, an important measure to interrupt the chain of transmission of the disease, created a feeling of boredom and monotony, mainly affecting children and individuals who had a more active routine before the pandemic. (36) The loss of social contact, mainly physical, with other people, friends, family, in addition to the loss of the usual routine was identified as leading to feelings of isolation, distress, frustration, and boredom, feelings exacerbated by the deprivation of performing usual activities such as going to the work, shopping, and other common day-to-day activities. (37) Participants in a French study that researched the impact of perceived stress brought on by COVID-19 and the emotions triggered by the situation of social distancing, reported the perception that time passed faster before confinement than during confinement for different periods of time, with this perception being significantly associated with boredom. It was found that the degree of boredom experienced was related to negative emotional experience, so that the more bored individuals reported being, the sadder they were. (16) A study conducted in China also indicated that the perceived severity of COVID-19 led to a significant increase in boredom related to limitations in activities. (38) Several studies point to a positive correlation between the propensity of boredom with depression, and in this way the boredom experienced during the period of social distancing can lead to feelings of sadness and frustration, increasing the risk of depressive symptoms. (39)(40)

Fear of dying was reported by 46.5% of the sample and identified as a statistically significant risk factor (OR=1.86, 95% CI=1.19-2.89) for the occurrence of symptoms of depression in the multivariate regression ($p<0.01$). The unpredictability of circumstances is one of the most stressful situations. The uncertainty of the future when the seriousness of the risk is known can give rise to concerns such as fear of death. (41) An American study that investigated the psychological distress experienced during the COVID-19 crisis identified 45.1% of its sample reporting fear of death, a number close to that found in the present study, with 26.3% and 18.8% of participants agreeing a little or strongly, respectively, with the issue related to fear of death during the COVID-19 pandemic. (42) A study carried out in France that investigated emotions triggered by the situation of distancing in the individual experience of time correlated the stress resulting from COVID-19 with the fear of death, so that the greater the fear of death and the more irritated people felt, the greater the perception that time was slowing down. It is known that depressed people feel a slowdown in time, so the feelings and sensations generated by the social distancing employed during the COVID-19 pandemic may be related to an increased risk of depressive symptoms. (16)(43)

This study has some limitations. Due to the cross-sectional nature of the study design, it is not possible to estimate the extent to which the psychological symptoms identified in the sample existed before the COVID-19 pandemic and the implementation of social distancing. The questionnaire consisted of the self-declaration of signs and symptoms, which should also be taken into account as it may be influenced by difficulties in remembering certain facts or even issues related to social desirability, which in any case have the ability to affect the legitimacy of the data presented.

V. CONCLUSION

Despite the limitations, the results of the current study highlight the main associations between depression and symptoms reported by subjects who participated in a national survey in Brazil, identifying the perceived changes and pointing out the alterations, characterizing them as significant risk factors for the occurrence of symptoms of depression and negative psychological outcomes.

The findings highlight the need for public health interventions aimed at reducing the psychological consequences related to the COVID-19 pandemic and social distancing, including increasing social support and strengthening social connections. Regarding the challenges for mental health, the results obtained contribute to the increase in knowledge of symptoms related to depression that emerged as a consequence of the period of social distancing in the context of a pandemic.

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