

## Psychological distress and coping in the pandemic scenario of covid-19 in Brazil

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### Abstract

This study aimed at analyzing the psychological distress and coping strategies in the pandemic scenario of COVID-19. Participants were 1.576 Brazilian, aged between 18 and 80 years, residents of the five regions of the country, who answered the adapted and validated version of the Ways of Coping Scale, The Psychological Distress Questionnaire and a Socio-Demographic Questionnaire. Almost half of the participants presented psychological distress to some degree. There were differences in variables such as age group, gender, income, employment in relation to mental health and coping strategies. The groups that presented the greatest vulnerability were females, younger, unemployed or reduced pay after pandemic, students and low-income population. The problem-focused coping strategy presented a negative correlation concerning psychological distress and the emotion-focused coping strategy showed a positive correlation. These indicators show the need for policies to prevent and cope with psychological distress.

**Keywords:** coronavirus infections; stress psychological; coping behavior.

### Resumo

*Sofrimento psíquico e estratégias de enfrentamento no cenário de pandemia da covid-19 no Brasil.* Objetivou-se analisar o sofrimento psíquico e as estratégias de enfrentamento no cenário de pandemia da COVID-19. Participaram 1576 brasileiros, com idades entre 18 e 80 anos, residentes das cinco regiões do país, os quais responderam a versão adaptada e validada da Escala de Modos de Enfrentamento de Problemas, Questionário de Sofrimento Psíquico e um Questionário sócio-demográfico. Quase metade dos participantes apresentou sofrimento psíquico em algum grau. Verificaram-se diferenças em variáveis como faixa etária, sexo/gênero, renda, emprego em relação à saúde mental e às estratégias de enfrentamento. Os grupos que apresentaram maior vulnerabilidade foram sexo feminino, os mais jovens, desempregados ou remuneração reduzida após pandemia, estudantes e população de baixa renda. A estratégia de enfrentamento focado no problema apresentou correlação negativa em relação ao sofrimento psíquico e a estratégia de enfrentamento focado na emoção uma correlação positiva. Esses indicadores sinalizam a necessidade de políticas de prevenção e enfrentamento do sofrimento psíquico.

**Palavras-chave:** infecções por coronavírus; estresse psicológico; estratégias de enfrentamento.

### Resumen

*Estrés y adaptación psicológica en el escenario pandémico de covid-19 en Brasil.* El objetivo de este estudio fue analizar el sufrimiento psíquico y el coping en el escenario pandémico COVID-19. Los participantes fueron 1.576 brasileños, entre 18 y 80 años, de las cinco regiones del país, que respondieron a la versión adaptada y validada de la Escala de Modos de Enfrentamento de Problemas, el Questionário de Sofrimento Psíquico y un Cuestionario Socio-Demográfico. Casi la mitad de los participantes presentaron sufrimiento psíquico hasta cierto punto. Hubo diferencias en variables como el grupo de edad, el género, clases sociales, el empleo en relación con la salud mental y el coping. Los grupos con mayor vulnerabilidad fueron las mujeres, los más jóvenes, los que se estaban desempleados o los salarios reducidos después de la pandemia, estudiantes, así como la población de clase social baja. El coping centrado en los problemas presentó una correlación negativa en relación con el sufrimiento psíquico mientras la centrada en las emociones mostró una correlación positiva. Estos indicadores muestran la necesidad de políticas para prevenir y intervenir en la angustia psicológica.

**Palabras clave:** infecciones por coronavirus; estrés psicológico; adaptación psicológica.

During the last months, the world population has been facing an atypical moment in their lives, which has been demanding several changes in the entire social dynamics and organization. Those changes are due to the new coronavirus, SARS-COV-2, that causes the disease named COVID-19. It has appeared initially in Wuhan, in Hubei Province, in the People's Republic of China, in the end of 2019 (Zhu et al., 2019). Later, it has spread to the other countries (World Health Organization [WHO], 2020).

Due to the virus' high risk of spreading and infection, WHO has declared, in March 11 of the current year, that there was a pandemic (WHO, 2020). In this sense, WHO and the Brazilian Ministry of Health have already recommended, as one of the main ways of preventing the virus from spreading, as well as the occurrence of new cases and increase of deaths, the measures of social distancing and social isolation. Therefore, the measures aimed at avoiding the increase of incidence and the health care system collapse.

In pandemics with high risk of infection, as the example of COVID-19, besides the stressful experience resulting from isolation and social distancing, there is also a great probability of psychological distress. Since it is a new phenomenon, there is still little research on the main manifestations, correlations and management strategies regarding the impacts on mental health (Yang et al., 2020). A research conducted in China ( $n = 1210$ ), in which most participants were in social distancing in their own houses (84.7%), has pointed out that 53.8% of the participants have classified the psychological impact of the outbreak as moderate or severe; 16.5% have reported moderate to severe depressive symptoms; 28.8% have reported moderate to severe anxiety symptoms, and 8.1% indicated moderate to severe stress levels (Wang, Di, Ye, & Wei, 2020).

It is emphasized that the impacts on mental health can also be related to other factors, such as employment/unemployment, coping strategies, internal and external resources, access to health care, and others. Amidst uncertainties caused by the pandemic, the absence of vaccine and medication, the increasing number of deaths, the changes in living dynamics and conditions in economic, family, relationships and other aspects, some individuals might go through this moment with higher psychological distress that can be observed in situations of excessive stress (Fundação Oswaldo Cruz, 2020).

In face of this situation, people have gathered internal and external resources, including behaviors,

thoughts, social support, among others, in order to deal with the stressful event, which are named, therefore, coping strategies (Folkman, Lazarus, Dunkel-Schetter, De Longis, & Gruen 1986). From a cognitive perspective, Lazarus and Folkman (1984) point out a relation between stress and adaptation, in which, at first, the individual needs to perceive and evaluate the situation, meaningful and unpleasant, as the source of stress, in order to, subsequently, develop his/her own coping strategies. Considering each person's uniqueness, this evaluation becomes subjective. Therefore, the way to evaluate each stressful event depends on the context and his/her personality (Suit & Pereira, 2008).

In this direction, Folkman and Lazarus (1980) have classified the coping strategies into two types, according to their function: 1) focused on emotion, in which efforts are made in the attempt to balance the individual's emotional state. Thus, the coping strategies are directed to a somatic level and/or a level of feelings; 2) focused on the problem, in which the effort is constituted with the intention of acting in the situation that have created the stress, in the attempt of changing it. Such strategy aims at modifying the stressful event. The coping may be oriented in an internal way (developing a cognitive re-elaboration regarding the problem) or in an external way (developing strategies for interpersonal conflict resolution or with someone's help).

Based on the above considerations, this study aimed at identifying the presence of psychological distress in the participants, as well as their coping strategies facing the COVID-19 pandemic. As specific objectives, the aim was to verify differences among the groups of variables of interest, such as sex/gender, age range, schooling, income, employment situation, wage loss, and the presence of violence or not, regarding psychological distress and coping strategies. Considering the challenges posed by the pandemic, it is believed that a study from this nature can subsidize proposals of interventions to minimize the effects of isolation and social distancing and the psychological distress.

## Methods

### *Participants*

Due to the recommendation of social distancing, the recruitment of participants was conducted through a research questionnaire (developed in the Google Forms platform) released on social media (Facebook, Instagram) and messaging applications (WhatsApp),

using the snowball sampling. The sample was characterized as non-probability, and the inclusion criteria were: I. To be a Brazilian and to be currently living in Brazil; II. To be 18 years old or more; III. To accept to participate on the research voluntarily, by accessing the questionnaire's link on the Internet. The exclusion criteria were: I. To not be a Brazilian and/or not be currently living in Brazil; II. To be less than 18 years old; III. To refuse to participate on the study.

In this sense, 1576 Brazilians from the general population have participated on this study, being 1169 females (74.2%) and 405 (25.7%) males, with age range between 19 and 30 years old (42.8%), 31 to 45 years old (38.8%), 46 to 59 (15.7%) and 60 to 80 years old (2.7%). Answers resulted from all five regions of the country; however, most were from the Northeast (86%). Regarding schooling, all levels of education were included (from elementary school to PhD), but higher education was predominant (54.7%), followed by high school (19.2%).

Concerning work/occupation, the sample was composed of public servants (29%), students (20.8%), informal/self-employed workers (10.5%), workers from private companies with formal job attachment (10.2%), unemployed (10%), among others. From those, 247 (17.7%) are currently practicing their work activities normally, in their workplace, during this period. Most of them (50.8%) declared to have family income of up to three minimum wages, being the average wage between 3 and 4 minimum wages ( $DP = 1.77$ ). At last, 397 participants (30.6%) answered that they do not have a stable income or that their income was considerably reduced after the pandemic, due to termination of employment or wage cuts.

### **Instruments**

*Brazilian version of the Ways of Coping Scale.* It was used an adapted version of the Ways of Coping Scale (Gimenes & Queiroz, 1997), *Escala de Modos de Enfrentamento de Problemas - EMEP*. It was validated for the Brazilian population by Seidl, Troccoli and Zannon (2001). The scale is composed by 45 items about thoughts and actions that people use to deal with internal and external demands when facing a specific stressful event, subdivided into 4 factors: problem-focused coping, emotion-focused coping, search for religious practices/wishful thinking and search for social support. The response scale is a Likert scale, varying from 1 (I never do it) to 5 (I always do it) It is highlighted that, in order to answer EMEP, the

participants were instructed to think about what they were doing to face this moment of global pandemic of coronavirus.

*Psychological Distress Questionnaire (PDQ).* In order to evaluate some dimensions of psychological distress in the pandemic moment, the authors of this study have developed the Psychological Distress Questionnaire - Crisis Periods, based on the relevant literature (MS, 2020; Organização Mundial da Saúde, 2015). After evaluation of three judges with mental health expertise, the instrument was composed of those items that obtained the agreement of all specialists. Subsequently, it was performed a semantic validation with six volunteers who were secondary technical education students, to verify the understanding of items, which were discussed and rewritten when some words were not understood. After the semantic and psychometric validation, the final instrument was composed of 17 items, with one-factor structure and reliability coefficient of 0.94 (Cronbach's Alpha), including questions about feelings, emotions, thoughts and behaviors, with response scale as a Likert scale using degrees of intensity, 1 (Strongly disagree - I am like I was before) to 5 (Strongly agree). There was an attention to create items that allow the comparison between the current condition (after the pandemic) and the previous one (before the pandemic). The higher the average obtained by the participant in this questionnaire, the higher can be considered the psychological distress experienced, considering 3.00 (mild to moderate distress) as the cut-off point, calculated based on the median against the response scale.

*Socio-demographic questionnaire.* Variables of interest: sex/gender, age range, profession, income, state in which the person lives, experience of violence during the social distancing or isolation.

### **Procedures and Ethical Aspects**

After the project approval by the National Commission for Research Ethics (Comissão Nacional de Ética em Pesquisa - CONEP) - (CAAE 30675120.0.0000.5188), the research questionnaire's link was shared on social media and messaging applications. Therefore, the participants, after signing and receiving online the Informed Consent Form, have answered a self-administered questionnaire, with duration of 8 to 12 minutes, using the computer or cellphone, in a voluntary, autonomous and completely anonymous way, respecting all ethical aspects, as stipulated by Resolution no. 510 of April 07th, 2016.

### Data Analysis

The data from the instruments used were analyzed through descriptive statistics, frequency and measures of location (Mean, Median) and variability (Standard Deviation) Subsequently, it was proceeded the inferential statistical analysis, from some bivariate and multivariate tests (Student's t-test, ANOVA and Pearson correlation), in order to verify the associations among the variables of the study, through the SPSS Software.

## Results

### Psychological Distress Analysis

To assess the participants' psychological distress in a general way, it was conducted a survey of the scores obtained in the items of the Psychological Distress Questionnaire for Crisis Periods (PDQ). The results have shown that 48.8% of respondents presented some degree of distress, considering the average of 3.00 as cut-off point, being 33.1% considered a mild or moderate distress and 15.7% an intense distress. Nine symptoms were observed as more referred by the participants, in a set of 17 items of the PDQ. The one that presented the highest average was "fear of the future" ( $M = 3.39$ ;  $DP = 1.43$ ) [ $t(1575) = 2.54$ ,  $p = 0.01$ ] and "appetite changes" with the lowest average ( $M = 3.00$ ;  $DP = 1.51$ ) [ $t(1575) = 3.56$ ,  $p < 0.0001$ ], according to Table 1.

With the aim of verifying possible differences among the groups of variables of interest (sex/gender, age range, schooling, income, employment situation, wage loss and presence/absence of violence) in the Psychological Distress Questionnaire, statistical tests were performed (Student's t-test and ANOVA) for independent samples. The comparison of averages

obtained by the participants, according to the data on Table 2, has pointed out a higher vulnerability of females ( $M = 2.95$ ;  $DP = 0.98$ ) [ $t(708.27) = -7.02$ ;  $p < 0.001$ ]. In this sense, it was also verified statistically significant differences among the averages of groups from different age ranges [ $F(3, 1572) = 27.82$ ;  $p < 0.001$ ]. The *post hoc test* (Bonferroni) have confirmed differences among all age ranges, and the youngest between 19 and 30 years old ( $M = 3.06$ ;  $DP = 0.97$ ) are the ones who presented more psychological distress. The more elderly the person is, the lower the average in PDQ. It is emphasized, while one particularity of the elderly people from this sample is to have average income higher than the younger ones [ $F(3, 1572) = 131.00$ ;  $p < 0.001$ ]. Regarding schooling, the group that studied up to high school presented more psychological distress in relation to the ones with PhD degree [ $F(4, 1575) = 2.67$ ;  $p = 0.03$ ].

The socioeconomic aspects, in turn, have presented association with psychological distress. Differences were observed among the participants that affirmed to have family income of less than a minimum wage ( $M = 3.01$ ;  $DP = 1.00$ ) and 1 minimum wage ( $M = 3.10$ ;  $DP = 1.02$ ) in comparison with the other ones [ $F(7, 1568) = 6.89$ ;  $p < 0.001$ ]. In this direction, the psychological distress of respondents that were dismissed from their jobs, or that had a significant wage loss ( $M = 3.13$ ;  $DP = 0.99$ ) after the pandemic, was higher than the ones who kept their employment and salary ( $M = 2.72$ ;  $DP = 0.99$ ) [ $t(1297) = -6.72$ ;  $p < 0.001$ ], as well as the unemployed ( $M = 3.09$ ;  $DP = 1.05$ ) and students ( $M = 3.05$ ;  $DP = 0.99$ ) in relation to public servants and retired people [ $F(10, 1554) = 5.59$ ;  $p < 0.001$ ]. Table 2 summarizes the referred results.

**Table 1.** Items of the Psychological Distress Questionnaire (PDQ) with Highest Average among Participants

Variables	m (sd)	p
I feel more afraid when I think about the future	3,38 (1,43)	0,01
I am having concentration difficulties	3,29 (1,46)	0,31
I have been having some anxiety attacks	3,25 (1,48)	0,18
I have a feeling that something very bad can happen at any time with me or someone very close	3,21 (1,45)	0,39
I feel more distressed	3,17 (1,42)	0,77
I feel more irritable and moody	3,17 (1,42)	0,49
I've been sad more easily	3,16 (1,44)	0,62
I feel more difficult to sleep	3,14 (1,54)	0,60
My appetite has changed considerably (more or less)	3,00 (1,51)	0,001

**Table 2.** Average of Participants in the Psychological Distress Questionnaire In Relation To the Socio-Demographic Profile

Variables	M (Sd)
SEX/GENDER	
Male	2,54 (1,04)
Female	2,95 (0,98)*
AGE GROUP	
19 - 30	3,06 (0,97)*
31 - 45	2,79 (1,00)
46 - 59	2,51 (1,04)
60 - 80	2,14 (0,89)
SCHOOLING	
Elementary school	2,85 (1,34)
High school	2,92 (1,06)**
Higher school	2,88 (1,00)
Master's degree	2,78 (1,03)
Doctoral degree	2,65 (0,96)
INCOME	
Lower than a minimum wage	3,01 (1,00)*
One minimum wage	3,10 (1,02)*
Between 2 and 3 minimum wages	2,90 (1,02)
Between 4 and 6 minimum wages	2,80 (1,02)
Between 7 and 9 minimum wages	2,78 (0,94)
Between 10 and 12 minimum wages	2,62 (1,00)
Between 13 and 15 minimum wages	2,72 (0,91)
Above 16 minimum wages	2,36 (0,99)
WAGE LOSS / UNEMPLOYMENT	
Yes	3,13 (0,99)*
No	2,72 (0,99)
WORK/OCCUPATION	
Unemployed	3,09* (1,05)
Student	3,05* (0,99)
Employee in a private company with an informal relationship	3,02 (0,94)
Informal/self-employed workers	2,92 (0,96)
Workers from private companies with formal job attachment	2,71 (1,11)
Public servants	2,68 (1,00)
Small ou medium entrepreneur	2,64 (0,98)
Retired	2,17 (0,92)
VIOLENCE	
Yes	3,51 (0,87)*
No	2,80 (1,01)

\* $p \leq 0,001$ ; \*\* $p \leq 0,05$ 

At last, 92 participants (5.8%) affirmed to have suffered some type of violence during social distancing, inside their own houses, which were: psychological violence/verbal abuse (77%), physical (3%), psychological/verbal violence and/or other types of violence (20%). It was also identified the presence of sexual violence in one questionnaire, which was eliminated due to the exclusion criteria of the sample (in this case, the participant was less than 18 years old). Among the ones who responded to have suffered violence, it was observed a higher psychological distress ( $M = 3.51$ ;  $DP = 0.87$ ) [ $t(106.66) = -7.52$ ,  $p < 0.001$ ].

### Coping Strategies Analysis

The identification of coping strategies used by the participants in the pandemic scenario have pointed out

the predominance of strategies and ways of coping that are focused on the problem, in which the average was higher than the other ones ( $M = 3.47$ ;  $DP = 0.64$ ), followed by coping focused on religious practices/wishful thinking ( $M = 3.31$ ;  $DP = 0.83$ ), focused on social support ( $M = 2.86$ ;  $DP = 0.82$ ) and, at last, focused on emotion ( $M = 2.37$ ;  $0.63$ ) [ $t(1575) = 7.45$ ,  $p < 0.001$ ], according to the Student's t-test performed.

With the aim of identifying correlations between the coping strategies used and the psychological distress, it was proceeded with the Pearson r statistical test. Therefore, it was observed a negative correlation between psychological distress and coping strategy focused on the problem ( $r = -0.35$ ,  $p = 0.01$ ), thus, the higher the score on this strategy the less suffering was experienced. On the other hand, the higher the coping

focused on emotion, the higher the psychological distress, pointing out a positive correlation between those two variables ( $r = 0.53$ ;  $p = 0.01$ ), according to the data on Table 3.

With the aim of comparing the averages of groups obtained by EMEP, the statistical tests Student's t-test and ANOVA were conducted, and the results are described on Table 4. It was verified that female participants presented higher averages than male participants concerning the coping focused on religious practices/wishful thinking [ $t(643.53) = -10.52$ ,  $p < 0.001$ ], on social support [ $t(1572) = -4.57$ ,  $p < 0.001$ ], as well as focused on emotion [ $t(1572) = -2.48$ ,  $p = 0.01$ ].

Regarding the age range, it was observed through the *post hoc test* (Bonferroni) that people who are 46 to 59 years old obtained a higher average ( $M = 3.67$ ;  $DP = 0.65$ ) on the coping strategy focused on the problem when compared to the group between 19 and 45 years old. Similarly, the elderly people between 60 and 80 years old ( $M = 3.66$ ;  $DP = 0.68$ ), when compared to the younger ones (19-30 years old) [ $F(3, 1440) = 3.13$ ;  $p = 0.02$ ]. On the other hand, the younger people had a higher average on the coping strategy focused on emotion [ $F(3, 1440) = 3.33$ ;  $p = 0.02$ ]. Regarding the other factors of EMEP, differences were not verified among the age groups.

**Table 3.** Correlation between the Types of Coping Strategies and Psychological Distress

Types of strategies	M	SD	Psychological distress
Coping focused on the problem	3,47*	0,64	-0,35*
Coping focused on religious practices/wishful thinking	3,31*	0,83	0,13*
Coping focused on social support	2,86*	0,82	-0,03
Coping focused on emotion	2,37*	0,63	0,53*

\* $p = 0,01$

**Table 4.** Means and Standard Deviations of Coping Strategies in Relation to Socio-Demographic Variables

Variables	Coping strategies			
	Focused on the problem	Focused on religious practice	Focused on social support	Focused on emotion
Sex/gender				
Male	3,49 (0,66)	2,93 (0,86)	2,70 (0,79)	2,31 (0,63)
Female	3,46 (0,63)	3,44 (0,78)*	2,92 (0,82)*	2,40 (0,63)*
Age group				
19 - 30	3,25 (0,64)	3,21 (0,82)	2,77 (0,82)	2,53 (0,63)*
31 - 45	3,50 (0,60)	3,41 (0,82)	2,87 (0,83)	2,38 (0,61)*
46 - 59	3,67 (0,65)*	3,49 (0,85)	3,06 (0,76)	2,21 (0,55)
60 - 80	3,66 (0,68)*	3,01 (0,98)	3,04 (0,77)	1,95 (0,53)
Schooling				
Elementary school	3,62 (0,79)	3,51 (0,94)	2,76 (1,08)	2,20 (0,64)
High school	3,51 (0,67)	3,58 (0,78)*	2,94 (0,83)	2,45 (0,65)
Higher school	3,64 (0,64)	3,49 (0,83)*	3,00 (0,83)	2,28 (0,65)
Master's degree	3,38 (0,63)	3,01 (0,81)	2,82 (0,81)	2,28 (0,55)
Doctoral degree	3,35 (0,57)	2,98 (0,83)	2,97 (0,71)	2,25 (0,54)
Income				
Lower than a minimum	3,34 (0,64)	3,04 (0,78)	2,67 (0,82)	2,50 (0,57)
One minimum wage	3,38 (0,68)	3,59 (0,83)*	2,88 (0,90)	2,56 (0,65)
Between 2 and 3	3,48 (0,68)	3,34 (0,83)*	2,88 (0,83)	2,40 (0,66)
Between 4 and 6	3,46 (0,60)	3,34 (0,81)	2,97 (0,76)	2,37 (0,62)
Between 7 and 9	3,68 (0,57)	3,50 (0,76)*	2,99 (0,82)	2,11 (0,58)
Between 10 and 12	3,28 (0,58)	3,05 (0,77)	2,70 (0,78)	2,36 (0,57)
Between 13 and 15	3,66 (0,63)	3,24 (0,94)	3,45 (0,74)*	2,53 (0,54)
Above 16	3,71 (0,62)	3,27 (0,92)	3,01 (0,80)**	2,05 (0,63)
Wage loss / unemployment				
Yes	3,35(0,68)	3,41 (0,84)*	2,74 (0,89)	2,55 (0,65)*
No	3,54 (0,61)*	3,23 (0,84)	2,93 (0,77)*	2,29 (0,61)

\* $p \leq 0,01$ ; \*\* $p \leq 0,05$

Concerning schooling, the data have pointed out statistically significant differences among the averages of participants that have studied high school ( $M = 3.58$ ;  $DP = 0.78$ ) and higher education ( $M = 3.49$ ;  $DP = 0.38$ ) in relation to the ones who have a graduate course, at the Master's level ( $M = 3.01$ ;  $DP = 0.81$ ) and PhD level ( $M = 2.98$ ;  $DP = 0.83$ ), on the coping strategy focused on religious practices/wishful thinking [ $F(4, 1440) = 5.70$ ;  $p < 0.001$ ]. Regarding the other coping strategies, it was not observed difference among the groups.

When comparing the groups based on family income, it was verified that the group in which the income is of 13 to 15 and above 16 minimum wages there were higher averages, 3.45 and 3.01 respectively, on the coping strategy focused on social support, when compared to the groups with remuneration lower than a minimum wage and one minimum wage [ $F(4, 1360) = 2.64$ ;  $p = 0.03$ ]. However, regarding the coping strategy focused on religious practices/wishful thinking, it was observed an association of this strategy to the group in which the income is of one minimum wage, when compared to the groups in which the income is between 4 and 6 minimum wages and more than 10 minimum wages. The averages of groups in which the income is of 2 to 3 and 7 to 9 minimum wages, in the referred dimension, stand out in relation to the group in which the remuneration is between 10 and 12 minimum wages [ $F(4, 1360) = 4.25$ ;  $p = 0.002$ ].

At last, the participants who had significant wage loss or were unemployed after the beginning of the pandemic had higher averages than the others in the coping strategies focused on religious practices/wishful thinking [ $t(1296) = -3.60$ ,  $p < 0.001$ ] and on emotion [ $t(1296) = -7.08$ ,  $p < 0.001$ ]. On the other hand, the group that remained with their jobs and salaries were different regarding the coping strategies focused on the problem [ $t(687.54) = 4.71$ ,  $p < 0.001$ ] and on social support [ $t(669.64) = 3.73$ ,  $p < 0.001$ ].

## Discussion

Although some reactions are considered to be common due to the several changes in people's dynamics of life, it is undeniable the impact of the COVID-19 pandemic on the population's mental health, according to the results presented on this study. In this sense, almost half of the researched sample presented psychological distress at some level, corroborating, for example, the investigation developed in China, in which 53.8% of the participants considered the psychological

impact of the coronavirus outbreak as moderate or severe (Wang et al., 2020).

It has been emphasized the prevalence of Generalized Anxiety Disorder (GAD), depressive symptoms and poor sleep quality in the participants during the COVID-19 pandemic (Huang & Zhao, 2020). Therefore, in this research were verified anxiety symptoms similar to the ones referred in other studies (Xiao, Zhang, Kong, Li, & Yang, 2020a; Xiao et al., 2020b) with a different population and sample. It is highlighted the fear of the future, concentration difficulties, anxiety crisis, tension, feeling of impending doom, among others.

The results found point out that psychological distress is more associated with females than males. In this direction, a research developed in Turkey has emphasized the importance of gender in mental health analysis during the pandemic (Özdin & Özdin, 2020). In China, researchers have observed the presence of anxiety disorder levels three times higher in women when compared to men (Wang et al., 2020). Among the female Spanish participants it was observed more loneliness and anguish than in the male participants (Losada-Baltar et al., 2020). Therefore, to be a female was identified as the most expressive predictor for post-traumatic stress disorder after pandemics (Liu et al., 2020).

Women's vulnerability can be discussed on the scope of gender inequality observed throughout the history (Scott, 1995). Particularly after the 20th century, women began to have a double working day and, thus, the responsibility of balancing the work life and the family life (Scavone, 1999). In this sense, it was observed the overload for women in the pandemic moment, with accumulation of domestic chores, care for the children and sick people, considering the historic construction of care as a female attribution, as well as professional activities, remotely or not. Epidemiological studies in the Brazilian context have already pointed out this difference between genders, concerning the aggravations in mental health (Duarte, Santo, Lima, Giordani, & Trentini, 2020; Stopa et al., 2015).

Regarding the differences found among age groups, this research has identified that the younger participants, between 19 and 30 years old, have presented a more intense psychological distress. These results are consistent with those found in a study developed in the South of Brazil, in which the results indicated a 6% higher risk of presenting minor mental disorders among the referred population (Duarte et al., 2020). Moreover, it was also verified that younger people spent more time

thinking about the outbreak and, therefore, presented a significantly higher prevalence of GAD and depressive symptoms than the elderly (Huang & Zhao, 2020). In addition, they could be more vulnerable to mental health damages and to alcohol use in the condition of social isolation (Ahmed et al., 2020). It can be observed that changes due to the pandemic seem to affect more the young people's mental health, although they are not the risk group.

On the other hand, the more elderly a person is, the lower the average of psychological distress, according to the results presented by the participants of this study. These data differ from the analysis conducted by a scholar from the United Kingdom. According to that study, the pandemic has increased mental suffering in the elderly due to the isolation, emphasis on susceptibility to risk of illness and death, and the stereotypes associated to this population, usually referred by the media, politicians and health professionals as the "others" (Webb, 2020). This discussion cannot be neglected.

A research conducted in Turkey, in which it was found no differences between the groups of 18 to 49 years old and more than 50 years old regarding scores of anxiety and depression, discusses those results based on the perspective that elderly people can benefit from experience and crystallized intelligence as protective factors against stressful events (Özdin & Özdin, 2020). It is also important to highlight that the elderly on this study have a higher family income when compared to the other age groups, which could have also influenced the result found.

Thus, income is another important variable for the analysis and discussion, since the group in which the family income is up to one minimum wage, unemployed and students, as well as the group that after the beginning of the pandemic became unemployed or had their salary significantly reduced, were the ones that obtained higher scores on SDQ. In the opposite way, it seems that this change in context has been affecting less the mental health of participants with greater schooling and financial stability, the ones who have more access to symbolic and material goods.

It can be observed that some of those psychological distress indicators found on this study were also pointed out in a research conducted in the Brazilian context in the pandemic scenario. The results in a sample from Rio Grande do Sul pointed out that being younger, female, with previous diagnosis of mental disorders,

to not work as a healthcare worker, to have decreased income during this period, among others; are factors that can indicate more harm in mental health (Duarte et al., 2020).

The Brazilian cultural and socio-political context has been marked by important transformations during the last decades. It can be observed, mainly in the recent years, the deepening of job insecurity and increasing unemployment, which today reaches the rate of 13.1% in the country, being the Northeast with the higher index of 17.9%, according to the data of the Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística, 2020). In this scenario of deepening social inequalities, followed by the absence of a more consistent and emergency income distribution policy, the occurrence of problems associated to emotional and mental health of the population becomes flagrant, as discussed by Surico and Galeotti (2020) when referring to the economic crisis during the pandemic. About this aspect, Sawaia (1999) refers to the term "ethical-political suffering", to name the feeling of powerlessness and humiliation generated by a future marked by social exclusion.

According to the data of this research, 5.8% of the participants reported to have suffered some type of violence during the social distancing inside their own homes, being this group the one that have also presented higher psychological distress. Although social isolation is an effective measure to control infections, it can lead to significant social and psychological consequences, functioning as an intensifier of interpersonal conflicts and domestic violence (Usher, Durkin, Bhullar, Gyamfi, & Jackson, 2020).

Facing this context, people resort to coping strategies to deal with the stressful event and to adapt themselves to changes (Lazarus et al, 1986). This study pointed out the coping strategy focused on the problem as the most used by the participants. This strategy represents a more assertive attitude towards difficult situations, in which can be observed behaviors focused on solving, dealing with or handling the situation. At the same time, it involves eminently cognitive efforts directed to the reevaluation of the problem (cognitive restructuring), perceiving which positive aspects can be found, in a non-fantasy but realistic way (Seidl et al., 2001). It can be mentioned the search for official information, the engagement in preventive measures, the regulation of emotional response, the readjustment of life projects, the search for meaning, among others.

The strategy previously referred obtained the higher average among elderly people and the ones who kept their jobs and salary, who possibly have been benefiting from financial stability. This strategy presented a negative correlation with psychological distress. On the other hand, the copying strategy focused on emotion was positively associated with psychological distress. This type of strategy is related to negative emotional reactions, such as anger or tension, and wishful and unrealistic thinking, directed to a magical solution for the problem. At the same time, they cover answers of avoidance, denial, and reactions of blaming the self or the other (Seidl et al., 2001).

Statistically significant differences in the average obtained for this factor were found on the following groups: females, younger people and the ones who became unemployed or had wage loss, suggesting a more accentuated vulnerability. The behavior of denial/avoidance can be understood as a defense mechanism used to deal with anxiety during pandemics, according to the study of literature summary conducted by Chew, Wei, Vasoo, Chua and Sim (2020), serving only palliative purposes.

The coping strategy focused on religious practices/wishful thinking, the second most referred on the sample, was also associated to females, people who became unemployed or had wage loss, schooling level of high school, and lower and medium income, a tendency found by Seidl, Tróccoli and Zannon (2001). Although this factor can indicate attitude of avoiding the situation in the cognitive level, it can also point out the importance of spirituality, feelings of hope and faith, emphasizing the role of religiosity during difficult situations, mainly when related to health problems, more specifically among the female population. Both the strategy focused on the problem and the one focused on religious practices seem to accomplish complementary functions when coping with stressful events (Seidl et al., 2001).

At last, coping strategies focused on social support presented a positive correlation with coping strategies focused on the problem. In turn, they are related, as the name itself suggests, to the search for support that can be instrumental, emotional or information to deal with the problem (Seidl et al., 2001). It was more associated to the female group, which is understood as the more inclined to ask for help, sharing and expressing feelings, due to the historical-cultural construction of gender and, unexpectedly, to the groups with higher family income and the ones who kept their

jobs and salaries. This can be discussed considering that the groups of popular classes are the ones who suffer the most from absence of social support and support from the State.

## Final considerations

The results point out the need of considering preventive care not only related to the physical health or to the non-contamination by COVID-19, but also regarding the population's mental health. For this purpose, there is a need to invest on qualification of healthcare professionals to deal with these demands, especially because the processes related to psychosomatic symptoms which are similar to COVID-19 symptoms, such as shortness of breath, for example, result in the increase of assistance by emergency health services.

Furthermore, the vulnerability identified in some groups, specifically the female group, unemployed, with significant economic losses, low income, students and younger people highlight the importance of social policies and income distribution. Political and economic scenarios of helplessness that make it impossible for people, mainly the youth, to foresee a positive perspective for the future, contributes to mental illness. It is worth mentioning that during the last years it has been notified an increase of suicide especially in this population (MS, 2017).

A particular advantage of this study was to evaluate psychological distress and coping strategies of the participants still during the pandemic moment. Nevertheless, it presents some limitations that need to be pointed out. Although the instrument allowed the participant to make an analysis of his/her own current mental/emotional condition (during the pandemic) in comparison with the previous condition (before the pandemic), it was not considered the possible effect of the variable "presence of mental disorder".

It should be considered that the results presented are not representative of the general population, since the participants were only the users of on-line technologies. Moreover, the elderly who had access to the questionnaire presented a higher income, what might have contributed to a lower presence of psychological distress. In this sense, it is recommended future studies that can reach those gaps presented.

The consequence of the pandemic for the mental health, in the long-term, might take months or years to become apparent, therefore, to identify and manage

this impact requires a joint effort (Rajkumar, 2020). Thus, the results and discussions presented aimed at subsidizing interventions in the sense of minimize chronic symptoms, as well as the negative effects that can arise after the pandemic, for instance, adjustment disorders, pathological grief, psychosomatic disorders, depression, post-traumatic stress disorder, among others (MS, 2020), by identification of the main manifestations and correlations with specific groups, as well as the coping strategies, in the Brazilian population.

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