

**ASSESSMENT OF THE
INCIDENCE OF ANXIETY,
DEPRESSION AND
SLEEP DISORDERS
IN REGIONS OF THE
COUNTRY WITH MORE
OR LESS RESTRICTED
MEASURES OF SOCIAL
ISOLATION DURING THE
SARS-COV2 (COVID19)
CORONAVIRUS
PANDEMIC**

Rafaela Dotta Brustolin

Paulo Afonso Mei

All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0).



Abstract: The study that was developed has a qualitative nature of an analytical and observational nature, and sought to evaluate mental health and sleep disorders during the period of social isolation measures in each region of the country during the coronavirus pandemic (SARS-CoV2), through of a sample composed of the population of Brazilians and/or foreigners currently residing in the country, over 18 years of age, who participated in the DEGASCoV study, identified in Plataforma Brasil by CAAE 31055220.5.0000.5374, whose scientific objective is the online assessment of depression, anxiety widespread and sleep disorders during the aforementioned pandemic. The study is composed of questions related to socioeconomic status, as well as the application of questionnaires: mental health by the HAD scale (assessment of the level of anxiety and depression) and sleep health, using the Pittsburgh Sleep Quality Index (Pittsburgh Sleep Quality Index - PSQI). In addition, to assess the degree of isolation in each Brazilian state, the InLococriada platform was used from January 26, 2020 in the country to evaluate aspects related to the coronavirus pandemic in Brazil and which assesses the social isolation index on the day of the pandemic. day, showing the percentage of the population that is or is not respecting the social restriction measures adopted by the respective state governments. This site, in addition to showing the isolation percentage of each state, also shows a national ranking of the most isolated states and the change in the isolation rate over the days.¹ This way, from the RESULTS obtained in the research, together with the individual assessment of the degree of social isolation and restriction measures in each Brazilian region, it was possible to assess whether or not there is a correlation of a higher incidence of mental

disorders in areas of greater restriction. society than in other regions.

SUMMARY OF EXECUTED ACTIVITIES

During the months of May 2020 to January 2021, the analysis of the collected data was carried out and the reading of previous literature was carried out to compare the RESULTS. The research is part of a project coordinated by the advisor Professor Doutor Paulo Afonso Mei (CRM-SP 120.005), carried out jointly by medical students of different periods, from Faculdades São Leopoldo Mandic, based in Campinas and Araras in the state of Sao Paulo. It has a database obtained through an online DEGAS-CoV survey - CAAE 31055220.5.0000.5374 from Plataforma Brasil - and from this to assess generalized anxiety, depression and sleep disorders during the SARS-CoV-2 (COVID-19) pandemic -19).

Monthly meetings were held both individually with the advisor and together with the other students of the project. The data analysis carried out so far refers only to the beginning period of the pandemic, as we still do not have a forecast for the cessation or relaxation of preventive measures for a post-pandemic analysis.

INTRODUCTION

Coronavirus is a family of viruses that cause respiratory infections. A novel coronavirus was discovered on December 31, 2019, after the first case recorded in Wuhan, China, leading to the development of the disease called SARSCoV2 (COVID19). The disease quickly spread to other locations and there was a great demand for health services, causing many countries to take measures of social restriction and isolation to reduce the

1. (INLOCOMAPA BRASILEIRO DA COVID-19 2020) Accessed on: May 14, 2020, Available on: <<https://mapabrasileirodacovid.inloco.com.br/pt/?hsCtaTracking=68943485-8e65-4d6f-8ac0-af7c3ce710a2%7C45448575-c1a6-42c8-86d9-c68a42fa3fcc>>

contagion and the great demand of patients in hospitals.

As of March 16, 2020, the Number of COVID-19 cases had increased dramatically and the Number of affected countries, states or territories reporting the infection to the WHO was 143². China, the country where the virus began to spread around the world, has implemented a series of restrictive measures in which it has managed to reduce new cases by more than 90%³. Such social isolation measures were being implemented in more regions according to the spread of the virus in other regions, and large urban centers such as New York, São Paulo, Milan, among others, had to adapt to the new living conditions during the pandemic. Thus, a large part of the world's population, which for now was used to the dense work routine in large cities, was forced to stay at home.

In view of the above scenario, according to the latest updates on May 11, 2020, the number of COVID cases in Brazil is 168,331 and 11,519 deaths. Due to this new scenario, Law no. 13,979, of February 6, 2020, referred to as the “quarantine law”, brings significant innovations to the Brazilian legal system, as it regulates matters such as the imposition of isolation and quarantine measures for people and animals.⁴ Therefore, social isolation and the impossibility of leaving home, necessary for now to reduce the burden on health systems, have been generating a series of doubts about the influence of the pandemic on mental health and sleep in various areas

of the population, such as seniors, healthcare professionals and students.

Depression, as a manifestation of symptoms related to psychic, organic, hereditary, social, economic, religious factors, among others, has been presenting itself in postmodern society with a very high rate, causing suffering that significantly interferes with the decrease in the quality of life. life, productivity and social disability of the individual, reaching from children to the elderly, breaking boundaries of age, socioeconomic class, culture, race and geographic space.

According to the World Health Organization (WHO), since the 1990s, depression has occupied a prominent position in the list of public health problems, considered the fourth most expensive disease of all diseases worldwide, and that by the year 2010 will only lose the first place to severe ischemic heart disease⁵. Also according to the WHO, this syndrome, in the year 2020, will be the second disease that will most affect developed countries and the first in developing countries. In addition, there are already indications of an increase in cases of depression during the pandemic, as according to a study carried out by the Institute of Psychology at the University of the State of Rio de Janeiro (UERJ) pointed out that cases of depression have practically doubled since the beginning of the quarantine. Between March and April, data collected online indicate that the percentage

2 CORONAVIRUS DISEASE (COVID-2019) SITUATION REPORTS. SITUATION REPORT—55. Accessed on: April 10, 2020. Available at: <https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200315-sitrep-55-covid19.pdf?sfvrsn=33daa5cb_6>.

3. THE ECONOMIST. TOURISM FLOWS AND DEATH RATES SUGGEST COVID-19 IS BEING UNDER-REPORTED.2020. Accessed on: April 10, 2020. Available at: <<https://www.economist.com/graphic-detail/2020/03/07/tourism-flows-and-death-rates-suggest-covid-is-being-under-reported>>

4 VENTURA, Deisy de Freitas Lima;; AITH, Fernando Mussa Abujamra;; RACHED, Danielle Hanna. A emergência do novo coronavírus e a “lei de quarentena” no Brasil / The emergency of the new coronavirus and the “quarantine law” in Brazil. Accessed on: April 11, 2020. Available at: <<https://www.epublicacoes.uerj.br/index.php/evistaceaju/article/view/49180/3287>>.

5 Nascimento, I. (1999). *Depressão unipolar: uma revisão (Unipolar depression: a review)*. Rio de Janeiro. Revista Informação Psiquiátrica, 18(3), 75-83. Accessed on: April 10, 2020. Available: <https://scholar.google.com/scholar?cluster=13392427383016317436&hl=pt-BR&as_sdt=0,5>.

of people with depression jumped from 4.2% to 8.0%, while for anxiety cases the rate went from 8.7% to 14.9%

On the other hand, anxiety is defined as: an intense, excessive and persistent pre-Profession and fear of everyday situations. Elevated heart rate, rapid breathing, sweating and feeling tired may also occur. There are several causes that, alone or in combination, can trigger anxiety disorders, such as: trauma, stress, genetics, physical illness and even depression. Such triggers to trigger a crisis could be related to the quarantine period adopted by the government of certain states in the country, generating great anguish for the living who want to know “when things will improve” or “when will I be able to return to my job”, and can also trigger sleep disorders due to routine change.

Therefore, according to the above data, it is clear that assessing the incidence of anxiety, depression and sleep disorders in regions of the country with more or less strict measures of social isolation during the SARS-CoV2 coronavirus (COVID-19) pandemic is essential. of extreme interest because, verifying the different measures adopted by each Brazilian state, in addition to the data obtained through the DEGASCoV study, we will have an excellent idea whether more arduous isolation measures could be related to more depressive, anxiety and sleep disorders in the population.

PROPOSAL

The study aimed to collect data on anxiety, sleep disorders and depression during social isolation due to the coronavirus pandemic, in order to relate them to the proportion of social isolation measures taken by each region of the country, in order to understand whether or not there is a relationship between the increase in cases of depression, anxiety and sleep disorders in areas with more vigorous

isolation measures, such as areas that have suffered the lockdown.

MATERIAL AND METHODS

This was an observational analytical study and had as a collection instrument the online research database, DEGAS-CoV. The survey consists of questions about socioeconomic status, as well as the modified Pittsburgh Sleep Quality Index, the original being composed of 19 self-classified questions and 5 questions that must be answered by bed or room partners, if any, being these used for clinical information only.

Such questions are categorized into 7 components: subjective sleep quality (C1), sleep latency (C2), sleep duration (C3), habitual sleep efficiency (C4), sleep disturbances (C5), use of sleeping medication (C6) and daytime dysfunction (C7). Each of the components has a rating that ranges from 0 to 3, and when added together, they generate an overall score, ranging from 0 to 21, where the highest indicates worse sleep quality. In addition to the HAD scale assessing the level of anxiety and depression, which contains fourteen questions where each one is classified with a range of points and the sum of them produces the result of anxiety and depression: unlikely (0 – 7 points); possible (8-11 points) or probable (12-21 points). In addition, a study was carried out of the restrictive measures incorporated by each state with their respective responses to the HAD scale and the Pittsburgh Index to prove the hypothesis that the greater the restrictive measures adopted, the greater the number of cases of anxiety, depression and disorders. of sleep in the population.

RESULTS

The DEGAS-COV questionnaire was answered by a total of 2,695 participants, located in all regions of Brazil. There was

a more expressive participation of the population of the Southeast region with 1,502 (55.7%) respondents, followed by the South regions with 493 (18.3%), Northeast with 322 (11.9%), Midwest with 208 (7.7%) and North with 170 (6.3%) respondents.

Evaluating the social isolation index of each region according to the InLoco Platform, we have that the highest isolation index was found in the North region with 0.47 followed by the Northeast Region with 0.45, Southeast with 0.44, South 0.42 and by the Midwest region with the lowest social isolation index of 0.40.

Region	Social Isolation Index in May 2020.
North	0.47
Northeast	0.45
Southeast	0.44
South	0.42
Midwest	0.40

A) ANXIETY BY REGION

Evaluating anxiety rates by region, we can see that in May 2020 in all regions of the country the Number of Anxious during the COVID-19 pandemic is greater than the Number of non-Anxious.

In the North region, it is observed that 98 participants (57.64%) were classified with symptoms of anxiety, of which 51.02% are among students. Of the economically active population, the highest number of anxiety disorders was found in workers hired with a formal contract, totaling 27%.

During data collection, the highest rate of social isolation was identified in the North region with an average of 47% of social isolation in the month of May 2020.

North region number= 170	Number of respondents	%
Anxious	98	57,64 %
Education		
Incomplete primary education	0	0 %
Concluded primary education	1	1 %
Incomplete high school	2	2 %
Completed high school or incomplete university education	50	51 %
Concluded Graduation	30	31 %
Concluded University Education / POS	15	15 %
Profession		
Unemployed for > 3 Months	0	0 %
Unemployed for < 3 Months	3	3,1 %
Freelancer	8	8,2 %
CLT (CONSOLIDATION OF LABOR LAWS)	26	27 %
Public worker	3	3,1 %
Student	56	57 %
Retired or pensioner	2	2 %
Student	98	
Not student	42	43 %
Student	56	57 %

In the Northeast Region the Number of Anxious totaled 198 out of 322 respondents (61.49%). Of this total, 44.44% have Completed high school or incomplete university education. Another large portion, 54.04% of the participants already had a Concluded Graduation, of which 23.23% had a postgraduate degree.

In the work category, it is observed that the Number of unemployed totals 7.6% of the participating population with anxiety disorder. Freelancers 18% of the total of Anxious and workers with a formal contract 26%. Students, on the other hand, account for 46% of the responding population with anxiety.

In the Northeast Region, the social isolation index was compared with the other regions of Brazil, the second place in isolation with an average of 45%.

Northeast Region, number= 322	Number of respondents	%
Anxious	198	61,49 %
Education		
Incomplete primary education	0	0 %
Concluded primary education	2	1 %
Incomplete high school	1	0,51 %
Completed high school or incomplete university education	88	44 %
Concluded Graduation	61	31 %
Concluded University Education / POS	46	23 %
Profession		
Unemployed for > 3 Months	11	5,6 %
Unemployed for < 3 Months	4	2 %
Freelancer	35	18 %
CLT (CONSOLIDATION OF LABOR LAWS)	51	26 %
Public worker	5	2,5 %
Student	91	46 %
Retired or pensioner	1	0,51 %
Student	198	
Not student	107	54 %
Student	91	49 %

In the Midwest region, the Number of Anxious was 108, with 208 respondents representing a total of 51.92%. Of this population, 50% are among students with complete high school and incomplete higher education and 44% among professionals with Concluded University Education.

In the work category, 17% of Anxious present themselves as Freelancers, 18% are hired with a formal contract and 4.7% are unemployed.

The Midwest region had the lowest national social isolation index, with an average for May 2020 of 40%.

Midwest region, number= 208	Number of respondents	%
Anxious	108	51,92 %
EDUCATION		
Incomplete primary education	1	0,93 %
Concluded primary education	1	0,93 %
Incomplete high school	4	3,7 %
Completed high school or incomplete university education	54	50 %
Concluded Graduation	27	25 %
Concluded University Education / POS	21	19 %
Profession		
Unemployed for > 3 Months	2	1,9 %
Unemployed for < 3 Months	3	2,8 %
Freelancer	18	17 %
CLT (CONSOLIDATION OF LABOR LAWS)	19	18 %
public worker	1	0,93 %
Student	63	58 %
Retired or pensioner	2	1,9 %
Student	108	
Not student	45	42 %
Student	63	58 %

The Southeast region had the highest number of participants in the survey with a total of 1502 participants, of which 852 had anxiety disorder, ie 56.72% of the total.

Of these, 51% have Completed University Education and 48% have Completed high school or incomplete university education.

The anxiety index found for the unemployed population was 5.6%, Freelancers 15% and formal workers 28%.

The Southeast region presented a social isolation index of 44% in May 2020.

South region, number= 493	Number of respondents	%
Anxious	267	54,15 %
Education		
Incomplete primary education	1	0,37 %
Concluded primary education	4	1,5 %
Incomplete high school	1	0,37 %
Completed high school or incomplete university education	141	53 %
Concluded Graduation	57	21 %
Concluded University Education / POS	63	24 %
Profession		
Unemployed for > 3 Months	6	2,2 %
Unemployed for < 3 Months	5	1,9 %
Freelancer	37	14 %
CLT (CONSOLIDATION OF LABOR LAWS)	70	26 %
Public worker	3	1,1 %
Student	139	52 %
Retired or pensioner	7	2,6 %
Student	267	
Not student	128	48 %
Student	139	52 %

The South region presented as number of anxious 267 of the 493 participants totaling 54.15%. Of these, 53% are students with Completed high school or incomplete university education and 45% with Concluded University Education.

In the labor area, unemployed with anxiety accounted for 4.1% of the responses, Freelancers 14% and contract workers with a formal contract 26%

The South region had a social isolation index in May 2020 of 42%.

South region, number= 493	Number of respondents	%
Anxious	267	54,15 %
Education		
Incomplete primary education	1	0,37 %
Concluded primary education	4	1,5 %
Incomplete high school	1	0,37 %
Completed high school or incomplete university education	141	53 %
Concluded Graduation	57	21 %
Concluded University Education / POS	63	24 %
Profession		
Unemployed for > 3 Months	6	2,2 %
Unemployed for < 3 Months	5	1,9 %
Freelancer	37	14 %
CLT (CONSOLIDATION OF LABOR LAWS)	70	26 %
Public worker	3	1,1 %
Student	139	52 %
Retired or pensioner	7	2,6 %
Student	267	
Not student	128	48 %
Student	139	52 %

B) DEPRESSION BY REGION

Analyzing the data obtained from the North region during the month of May 2020, 83 cases of depression among the 170 respondents were obtained through the survey, totaling 48.82%.

Among the total number of participants with depression, 48% are with Completed high school or incomplete university education and 48% with Concluded University Education.

In the work category, it was found that 29% of those with depression would be contract workers with a formal contract, unemployed with 11.4% of the cases and Freelancers with 8% and students with 57% of the cases.

During data collection, the highest rate of social isolation was identified in the North

region with an average of 47% of social isolation in the month of May 2020.

North region, number=170	Number of respondents	%
Depressive	83	48,82 %
Non-depressive	87	
EDUCATION		
Incomplete primary education	0	0 %
Concluded primary education	1	1.1 %
Incomplete high school	2	2.3 %
Completed high school or incomplete university education	42	48 %
Concluded Graduation	29	33 %
Concluded University Education / POS	13	15 %
Profession		
Unemployed for > 3 Months	0	0 %
Unemployed for < 3 Months	3	3,4 %
Freelancer	7	8 %
CLT (CONSOLIDATION OF LABOR LAWS)	25	29 %
Public worker	1	1,1 %
Student	50	57 %
Retired or pensioner	1	1,1 %
Student	83	
Not student	37	43 %
Student	50	57 %

In the Northeast region of the 322 respondents, 182 had depressive symptoms totaling 57.52%. Of these, 54% among not students and 46% among students. Of the workers, 7.7% of the depressive are unemployed, 27% with a formal contract and 15% Freelance workers.

In the northeast region, the social isolation index was compared with the other regions of Brazil, the second place in isolation with an average of 45%.

Northeast Region, number=322	Number of respondents	%
Depressive	182	56,52 %
Non-depressive	140	
Education		
Incomplete primary education	0	0 %
Concluded primary education	2	1,1 %
Incomplete high school	1	0,55 %
Completed high school or incomplete university education	86	47 %
Concluded Graduation	50	27 %
Concluded University Education / POS	43	24 %
Profession		
Unemployed for > 3 Months	10	5,5 %
Unemployed for < 3 Months	4	2,2 %
Freelancer	28	15 %
CLT (CONSOLIDATION OF LABOR LAWS)	49	27 %
Public worker	6	3,3 %
Student	83	46 %
Retired or pensioner	2	1,1 %
Student	182	
Not student	99	54 %
Student	83	46 %

In the Midwest region, depressives totaled 99 of the 208 respondents, totaling 47.59%. 51% of respondents have completed high school and incomplete higher education and 45% with Completed University Education. At Profession 6% are unemployed, 17% among Freelancers and 61% among students.

The Midwest region had the lowest national social isolation index, with an average for May 2020 of 40%.

Midwest region, number= 208	Number of respondents	%
Depressive	99	47,60 %
Non-depressive	109	
Education		
Incomplete primary education	1	1 %
Concluded primary education	0	0 %
Incomplete high school	3	3 %
Completed high school or incomplete university education	50	51 %
Concluded Graduation	23	23 %
Concluded University Education / POS	22	22 %
Profession		
Unemployed for > 3 Months	3	3 %
Unemployed for < 3 Months	3	3 %
Freelancer	17	17 %
CLT (CONSOLIDATION OF LABOR LAWS)	14	14 %
Public worker	1	1 %
Student	60	61 %
Retired or pensioner	1	1 %
Student	99	
Not student	39	39 %
Student	60	61 %

In the Southeast region there were a total of 845 participants with depressive symptoms totaling 56.25%. Of these at the Education level, 48% among university students and 51% among those with Concluded Graduation and/or postgraduate degrees. Evaluating the Profession of the participants 6% of the depressive are among the unemployed, 29% among the professionals with a formal contract and 45% among the students. The Southeast region presented a social isolation index of 44% in May 2020.

Southeast region n=1502	Number of respondents	%
Depressive	845	56,25 %
Non-depressive	657	
Education		
Incomplete primary education	1	0,15 %
Concluded primary education	6	0,91 %
Incomplete high school	3	0,46 %
Completed high school or incomplete university education	315	48 %
Concluded Graduation	163	25 %
Concluded University Education / POS	169	26 %
Profession		
Unemployed for > 3 Months	19	2,9 %
Unemployed for < 3 Months	19	2,9 %
Freelancer	97	15 %
CLT (CONSOLIDATION OF LABOR LAWS)	190	29 %
Public worker	10	1,5 %
Student	298	45 %
Retired or pensioner	24	3,7 %
Student	657	
Not student	489	74 %
Student	298	26 %

In the South region depressive symptoms were evidenced in 218 participants totaling 44.21%. At the Education level, 50% are among university students and 47% among professionals with complete higher education. In the Profession category, unemployed professionals totaled 4.2% Freelancers 16%, professionals with a formal contract 28% and students 49%. The South region had a social isolation index in May 2020 of 42%.

South region n=493	Number of respondents	%
Depressive	218	44,22 %
Non-depressive	275	
Education		
Incomplete primary education	1	0,46 %
Concluded primary education	4	1,8 %
Incomplete high school	1	0,46 %
Completed high school or incomplete university education	110	50 %
Concluded Graduation	45	21 %
Concluded University Education / POS	57	26 %
Profession		
Unemployed for > 3 Months	6	2,8 %
Unemployed for < 3 Months	3	1,4 %
Freelancer	34	16 %
CLT (CONSOLIDATION OF LABOR LAWS)	60	28 %
Public worker	2	0,92 %
Student	106	49 %
Retired or pensioner	7	3,2 %
Student	218	
Not student	112	49 %
Student	106	49 %

North region, number= 170	Number of respondents	%
Good sleep	84	49,42 %
Bad sleep	86	50,58 %
Education		
Incomplete primary education	0	0 %
Concluded primary education	1	1,2 %
Incomplete high school	2	2,3 %
Completed high school or incomplete university education	46	53 %
Concluded Graduation	25	29 %
Concluded University Education / POS	12	14 %
Profession		
Unemployed for > 3 Months	1	1,2 %
Unemployed for < 3 Months	4	4,7 %
Freelancer	6	7 %
CLT (CONSOLIDATION OF LABOR LAWS)	19	22 %
Public worker	1	1.2 %
Student	52	60 %
Retired or pensioner	3	3,5 %
Student	86	
Not student	34	40 %
Student	52	60 %

C) SLEEP DISORDERS BY REGION

In the North Region, 86 participants claim to have some type of sleep disorder, totaling 50.58%. Evaluating Education 53% are among university students and 43% among participants with Concluded University Education and/or postgraduate degrees.

In the work category, 5.9% are among the unemployed, 22% among professionals with a formal contract and 60% among students.

During data collection, the highest rate of social isolation was identified in the northern region with an average of 47% of social isolation in May 2020.

In the Northeast region of the 322 participants, 156 had some sleep disorder, totaling 48.44%. In terms of Education, 46% are among university students and 55% among those with Concluded University Education.

Regarding Profession, we can see that 7.0% are among the unemployed, 19% among Freelancers and 27% among those with a formal contract. Students accounted for 43% of participants with sleep disorders.

In the northeast region, the social isolation index was compared with the other regions of Brazil, the second place in isolation with an average of 45%.

Northeast Region, number= 322	Number of respondents	%
Good sleep	166	51,55 %
Bad sleep	156	48,44%
EDUCATION		
Incomplete primary education	0	0 %
Concluded primary education	0	0 %
Incomplete high school	0	0 %
Completed high school or incomplete university education	71	46 %
Concluded Graduation	48	31 %
Concluded University Education / POS	37	24 %
Profession		
Unemployed for > 3 Months	8	5,1 %
Unemployed for < 3 Months	3	1,9 %
Freelancer	30	19 %
CLT (CONSOLIDATION OF LABOR LAWS)	42	27 %
Public worker	4	2,6 %
Student	67	43 %
Retired or pensioner	2	1,3 %
Student	156	
Not student	89	57 %
Student	67	43 %

Midwest region, number= 208	Number of respondents	%
Good sleep	110	52,88 %
Bad sleep	98	47,11 %
Education		
Incomplete primary education	1	1 %
Concluded primary education	2	2 %
Incomplete high school	1	1 %
Completed high school or incomplete university education	48	49 %
Concluded Graduation	28	29 %
Concluded University Education / POS	18	18 %
Profession		
Unemployed for > 3 Months	3	3,1 %
Unemployed for < 3 Months	2	2 %
Freelancer	17	17 %
CLT (CONSOLIDATION OF LABOR LAWS)	16	16 %
public worker	0	0 %
Student	58	59 %
Retired or pensioner	2	2 %
Student	98	
Not student	40	41 %
Student	58	59 %

In the Midwest region, participants with sleep disorders totaled 98 of the 208 participants, 47.11%. Evaluating Education 49% have Completed high school or incomplete university education and 47% have Completed University Education and/or postgraduate education.

In the occupational aspect, 5.1% of the participants with sleep disorders are among the unemployed, 17% among the Freelancers and 16% among the workers with a formal contract. Students totaled 59%.

The Midwest region had the lowest national social isolation index, with an average for May 2020 of 40%.

In the Southeast region, 739 of the participants present with sleep disorders, being 49.20%. Of these, 46% are among university students and 53% among those with Concluded University Education. With a view to Profession, 4.9% are among the unemployed, 18% among Freelancers and 28% among professionals with a formal contract. Students make up 43% of participants with sleep disorders.

The Southeast Region presented a social isolation index of 44% in May 2020.

Southeast region, number = 1.502	Number of respondents	%
Good sleep	763	50,80 %
Bad sleep	739	49,20 %
Education		
Incomplete primary education	2	0,27 %
Concluded primary education	7	0,95 %
Incomplete high school	4	0,54 %
Completed high school or incomplete university education	339	46 %
Concluded Graduation	190	26 %
Concluded University Education / POS	197	27 %
Profession		
Unemployed for > 3 Months	19	2,6 %
Unemployed for < 3 Months	17	2,3 %
Freelancer	131	18 %
CLT (CONSOLIDATION OF LABOR LAWS)	206	28 %
Public worker	10	1,4 %
Student	318	43 %
Retired or pensioner	38	5,1 %
Student	739	
Not student	421	57 %
Student	318	43 %

In the South region, the total number of participants with sleep disorders was 246, making up a total of 49.89%. Of these, 49% have Completed high school or incomplete university education and 49% have Completed University Education and/or postgraduate degrees. In the occupational category, unemployed make up 4.8% of participants with sleep disorders, Freelancers 19% and workers with a formal contract 24%. Students make up 47% of participants with sleep disorders.

The South region had a social isolation index in May 2020 of 42%.

South region, number= 493	Number of respondents	%
Sleep disorder	246	49,89 %
No sleep disorder	247	50,10 %
Education		
Incomplete primary education	1	0,4 %
Concluded primary education	5	2 %
Incomplete high school	0	0 %
Completed high school or incomplete university education	121	49 %
Concluded Graduation	57	23 %
Concluded University Education / POS	63	26 %
Profession		
Unemployed for > 3 Months	7	2,8 %
Unemployed for < 3 Months	5	2 %
Freelancer	48	19 %
CLT (CONSOLIDATION OF LABOR LAWS)	60	24 %
Public worker	4	1,6 %
Student	115	47 %
Retired or pensioner	8	3,2 %
Student	247	
Not student	132	53 %
Student	115	47 %

DISCUSSION

Depression is a term used to refer to any of the depressive disorders, including: major depressive disorders, persistent depressive disorders (dysthymia) or other depressive disorders specified or not. Depressive disorders are characterized by: presence of predominantly sad, empty or irritable mood, associated with somatic and cognitive changes that significantly modify the individual's functional capacity. Differentiation of types of

depressive disorders occurs through aspects of duration, timing or presumed etiology.⁶

Currently, it is considered an important public health problem, which can affect people of all ages, especially the elderly population (DRAGO; ROSA, 2012). Furthermore, depression in the elderly population is not only considered a public health problem due to its prevalence, but also because of its impact on patient morbidity and mortality. (SOUSA et al, 2010).⁷ This occurs because depression is associated with biological and psychosocial factors, such as the experience of mourning due to loss of affective ties, relatives and friends, retirement, withdrawal from community activities, among others.

The pandemic caused by COVID-19 led to the installation of isolation and social distancing in order to contain the spread of the disease. As a result, the population began to experience a troubled and unpleasant period, which directly impacts the psychosocial health of the population, causing anxiety, fear and uncertainty. According to the study by da Silva et al. (2020)⁸ it was concluded that the coronavirus triggered changes directly related to the emotional integrity of the population, resulting in a high prevalence of psychological and psychiatric disorders.

In addition, it was found that sleep quality plays an important role in a person's mental health, that is, worse sleep quality is related to greater negative psychological and psychiatric effects, such as post-traumatic stress disorder (PTSD), anxiety, depression and suicide.

6. (DSM-5, 2014). (AMERICAN PSYCHIATRIC ASSOCIATION et al. DSM-5: Manual diagnóstico e estatístico de transtornos mentais. Artmed Editora, 2014.)

7. (SOUSA, Marlene et al. Depressão em idosos: prevalência e fatores associados. Revista Portuguesa de Medicina Geral e Familiar, v. 26, n. 4, p. 384-91, 2010.)

8. (DA SILVA, Joice Kelly et al. A relação entre a infecção por coronavírus e susceptibilidade a transtornos mentais e o risco de suicídio: o que a literatura tem evidenciado? Journal of Health & Biological Sciences, v. 8, n. 1, p. 1-7, 2020.)

9. (LEE, Sherman A. et al. Incremental validity of coronaphobia: Coronavirus anxiety explains depression, generalized anxiety, and death anxiety. Journal of anxiety disorders, v. 74, p. 102268, 2020.)

10. (HOFSTEDE, G. et al. **Comparing regional cultures within a country**: Lessons from Brazil. Journal of Cross-Cultural Psychology, v. 41, n. 3, p. 336-352, 2010.)

11. IBGE - INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA (Brazil). (Political Map of Brazil. 2015. Available in: <http://7a12.ibge.gov.br/images/7a12/mapas/Brasil/brasil_grandes_regioes.pdf>.

Another important aspect that was analyzed by Lee et al. (2020).⁹ is related to coronaphobia, that is, the fear and anxiety caused by COVID-19. These, reported that coronaphobia has been strongly associated with high levels of depression, generalized anxiety, hopelessness, suicidal ideation and functional impairments, being a unique predictor of psychological stress during the COVID-19 pandemic.

As the present study aims to correlate the presence of sleep disorders, anxiety and depression in different regions of the country, it is worth highlighting their singularities. The definition of culture and cultural dimensions does not only apply to the division of countries, but must also apply to different regions of a country, different tribes, different ethnic groups, different organizations and even different age groups (HOFSTEDE et al., 2010)¹⁰

Thus, in Brazil, a country of continental size, which presents geographic, climatic, economic, linguistic and ethnic composition differences, it is notable that Brazilian regions present notorious cultural differences between them. The country is conceptually divided into five socioeconomic macro-regions, and previous research shows that there are indeed significant cultural differences between these five regions (HOFSTEDE et al., 2010). The five regions are divided as shown in figure 1.¹¹



Figure 1: Map of Brazil with regions division.

Below is a brief summary of the regions of Brazil (MINISTRY OF FOREIGN AFFAIRS, 1997):

- North Region: is the region with the lowest population density. Its economy is based mainly on plant extractivism, products such as latex, açaí, wood and chestnut, on mineral extraction of gold, diamonds, cassiterite and tin, and on large-scale exploration of ores such as iron and manganese. There is one notable exception in Manaus, which shows great industrial activity due to tax incentives, mainly for electronics assemblers.
- Northeast Region: the region is home to approximately 30% of the country's population and has an economy based mainly on agribusiness, especially sugar and cocoa. On the coast there is significant oil extraction and the beaches are also a focus of tourism. It has different types of climate such as Zona da Mata, Agreste, Sertão and Polígono das Secas.
- Midwest: The region is home to the Brazilian federal capital. The economy that was previously based on mining for gold and diamonds was replaced by cattle ranching. The Pantanal has

attracted national and international tourist attention.

- Southeast Region: occupies only 10% of the territory, but is home to 40% of the population, being the region with the largest urban population. The region has a developed and industrialized economy, accounting for 50% of production in the country. It has significant livestock, agricultural production of sugarcane, oranges and coffee, iron and manganese reserves and oil extraction.
- South Region: it is the region with the smallest area in the country (6%). The economy is based on agriculture, wheat, soybeans, rice, corn, beans and tobacco; in industry, which received a new industrial park in recent years; in livestock specializing in herds of European lineages; in pig farming; and in the extraction of pine and mineral coal. There are striking traces of the influence of German, Italian and Azorean immigration in the region.

This way, the objective of the work was to evaluate the social isolation rates adopted in Brazil and correlate with the impact on cases of anxiety, depression and sleep disorders in each region of the country.

CONCLUSION

In short, the presence of mental disorders such as anxiety, depression and sleep disorders are of evident importance today and have had great relevance during the COVID-19 pandemic. However, comparing data between regions we have some divergences. The region with the highest rate of social isolation during the period evaluated was the North region, which came in 2nd place for cases of anxiety, 3rd place for depression and 4th place for sleep disorders. The Northeast region, with the

second highest social isolation during the data collection period, appears in 1st place in the ranking of anxious and depressive disorders, a fact of extreme relevance.

The Midwest region, which had the lowest rate of social isolation in the period collected, had the lowest rate of cases of anxiety and sleep disorders, followed by 4th place in cases of depression, which can be related to the lower population isolation, with measures less restrictive leisure activities to the lowest rate of mental disorders. The Southeast region, in 3rd place for social isolation, was also in 3rd place for cases of anxiety and sleep disorders and 2nd place for cases of depression. The southern region had the second lowest rate of social isolation with an average of 42%. For cases of anxiety and depression, it came in 4th place for cases of anxiety, it also had the lowest depression rate in the country, getting 5th place in the ranking of depression and 2nd place in terms of sleep disorders during the pandemic.

Thus, even though some regions have a lower number of cases of psychiatric disorders during the COVID-19 pandemic, we can point out that the evidence of these disorders is still extremely important for society. Evaluating the regions with the lowest rates of depression, anxiety and sleep disorders, we have, respectively, the South (44.21% depression), and Central-West regions for the last two, being (51.92% anxiety) and (47.11% of sleep). Given that all these values revolve around almost half of the population evaluated, mental disorders during the height of social isolation can be considered brutal and of high impact for the country.

According to the W.H.O. (World Health Organization), Brazil is the second country in the Americas with the highest number of depressed people, totaling 5.8% of the population, as we can see the prevalence of people with depressive symptoms during

the collected period is of high relevance, showing the high impact of the pandemic. of COVID-19 to society.

This way, despite some difficulties encountered in the study, as Brazil is a very comprehensive country in cultures and different locations have different resources for accessing an online questionnaire such as DEGAS-CoV, we can see the high impact of the pandemic on mental health and sleep. of the participants. Another relevant point to be discussed is that, when evaluating the respondent public by level of education and area of activity, it can be seen that a large part of the respondents are students and university students, that is, people more linked to the digital environment, which indicates that there may be a lack of coverage of responses for less educated people and with less access to digital resources. It is worth noting that according to the study, a large part of anxiety disorders, depression and sleep disorders were observed in the student population, a fact that can also be interpreted by the impairment of interpersonal activities of this group during the period of isolation where schools, courses and leisure activities were closed.

Finally, Brazil is an extremely large country with great cultural differences between its regions, but mental health is a factor of extreme need regardless of area, income or culture. Mental disorders such as anxiety, depression and sleep disorders are increasingly present in our environment and were evidenced during the pandemic and there must always be public policies to encourage mental health to improve the quality of life of the entire Brazilian population.