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Association between biopsychosocial factors and self-reported COVID-19 clinical complications in a Brazilian city

Associação entre características biopsicossociais e complicações clínicas por COVID-19 autorreferidas em um município brasileiro

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ABSTRACT

Objective: This study aimed to analyze the existence of an association between the biopsychosocial profile of people affected and the number of self-reported clinical complications from COVID-19 in a Brazilian city. **Methods:** This is a cross-sectional (baseline) study, nested in a cohort study, carried out with 217 confirmed cases of COVID-19, interviewed from January to October 2021, during home visits, in a city in the south of Minas Gerais, Brazil. A structured questionnaire with the KoboToolbox resource was used. The independent variables were sociodemographic and clinical profile (comorbidities), quality of life, post-traumatic stress, anxiety, depression, and social support. The dependent variable was the number of self-reported clinical complications from COVID-19. The multivariate linear regression technique was adopted for the analyses. **Results:** The participants reported multiple clinical complications from COVID-19. There were "four or more" complications in 94.6% of the cases. Having a history of high blood pressure was associated with more complications post-SARS-CoV-2 infection, whereas having a caregiver and presenting with post-traumatic stress were associated with fewer COVID-19 complications. **Conclusion:** The multisystemic nature of the complications caused by COVID-19 and the associations identified emphasizes the need for an integrated approach to patients and for studies that monitor the effects of the disease on the demands placed on health systems, aiming to better understand and address them.

Keywords: COVID-19. Hypertension. Caregivers. Stress disorders, post-traumatic. Regression analysis.

INTRODUCTION

During the coronavirus pandemic, millions of people were infected with the SARS-CoV-2 virus and were affected by its clinical and social implications[1,2]. The natural history of the COVID-19 has proven to be highly variable, sometimes sparing elderly centenarians who do not even present with major respiratory symptoms, and sometimes claiming the lives of young people who develop severe clinical complications[3]. As knowledge about this disease expands, the post-infection clinical complications of the novel coronavirus have been recorded in the literature and represent a relevant contemporary public health problem, as they can lead to significant sequelae and/or death[2,4,5].

Among the major COVID-19 complications previously described are either respiratory failure or acute respiratory distress syndrome (ARDS)[6-8], cardiac and cardiovascular complications[6,9-11], thromboembolic[12-14], neurological[15,16], and inflammatory complications[17,18]. Such a body of evidence endorses, in this sense, that the factors that compose the health-disease process related to infections by the novel coronavirus SARS-CoV-2 and its impact on populations are diverse and multifaceted[1,19].

Therefore, there is a considerable registry of publications on systemic, organic, cellular, emotional, and mental health alterations, mostly in the hospital, educational, and work environments. However, the gap that has drawn attention is the fact that studies addressing jointly the relationship between COVID-19 clinical complications and the biopsychosocial profile of people in the community still need to be further expanded in the literature. Thus, for this work, the biopsychosocial profile was considered to be the set of sociodemographic and clinical traits (comorbidities), quality of life[20,21], post-traumatic stress[22], anxiety[23-25], depression[24,26], and social support[27-29].

This study aimed to analyze the existence of an association between the biopsychosocial profile of people affected and the number of self-reported COVID-19 clinical complications in a Brazilian city.

METHODS

This is a cross-sectional study (first recruitment visit), nested in the cohort study entitled "Longitudinal study of confirmed COVID-19 cases in Minas Gerais".

The city where the study was carried out has an area of 850.446 km^2 and an estimated population of 80,973 inhabitants in 2021. The prevalent age group is 20–24 years, with a similar distribution between males and females. In 2020, the average monthly income was equivalent to 2.4 times the minimum wage[30].

The reference population consisted of the first 1,923 confirmed COVID-19 cases residing in a Brazilian city located in the south of the state of Minas Gerais, diagnosed with COVID-19 between March 15 and October 26, 2020, and found in the compulsory notification registry of the City Health Department.

The following inclusion criteria were considered: an adult or elderly (aged 20 years or older), living in that city, confirmed COVID-19 cases through laboratory tests, not residing in a nursing home, and not deceased. Following the exclusion of 357 people for several reasons, a total of 1,566 people remained eligible.

The sampling process was developed by considering two strata, namely, hospitalized and community cases. For the sample calculation, stratified and proportional random sampling was considered, with the stratum based on the age group and admission (n=107) of patients hospitalized in the period and adding cases from the community who had not been admitted to a hospital in a ratio of 2.5:1. Thus, from the 1,566 eligible people, a sample size of 428 participants was estimated, already considering a 20% increase due to the possibility of losses by refusal or other causes. The estimated sample power $(1-\beta)$ was equivalent to 88%.

Among all 428 cases of COVID-19, which were allocated for interviews, 211 were lost for different reasons. Considering only the "refusals" (n=71) and "three or more unsuccessful attempts" (n=38), the nonresponse rate was equivalent to 25.5% (71+38)/428, discarding registration errors (n=80) in the database used for the source of allocation of the study population, false positives (n=09), deaths (n=10), and others (n=03). Thus, the response rate was 74.5%, corresponding to 217 participants aged 20 years or older.

In this study, the sample was not divided into community or inpatient cases.

Due to the pandemic, careful preparation was required for the fieldwork, with a series of training sessions involving 27 professors, undergraduate students, scientific initiation students, and graduate students who participated as interviewers. Pretesting of the instrument and a pilot study were also carried out before starting data collection. The pilot study was carried out between November and December 2020 with 23 interviews. The people interviewed in the pilot study were approached by the undergraduate and graduate students during home visits and invited to participate in the study. The respondents were kept as research participants, as there were no content modifications in the collection instrument.

Data collection was carried out between January 11 and October 5, 2021, i.e., 6 months after the COVID-19 diagnoses, and the following strategies were adopted for the application of questionnaires:
1. Home visits for face-to-face interviews and
2. Telephone calls and WhatsApp messages due to the circulation restrictions socially imposed within the state.

The interviewers used tablets and smartphones during home visits and laptops or desktop computers to collect data remotely. Consent to participate in the study was obtained using a printed and signed informed consent

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form, as well as by audio recording and screenshots during phone calls and WhatsApp messaging.

An electronic questionnaire was developed by the executive team using the KoboToolbox, which is a free toolkit for collecting and managing field research data. The questionnaire included the informed consent form as well as the following instruments: sociodemographic and clinical profiling instrument (26 questions); quality of life assessment instrument (WHOQOL-Bref) — 26 items[20,21]; Impact of Event Scale-Revised (IES-R) — 22 items[22]; Beck's Anxiety Inventory (BAI) — 21 items[23-25]; Beck's Depression Inventory (BDI-II) — 21 items[24,26]; and the Medical Outcomes Study (MOS), Social Support Scale (SSS) — 19 items and 5 factors[27-29].

Dependent variables were the number of self-reported COVID-19 clinical complications, related to 6 months after diagnosis. The clinical complications caused by COVID-19 were previously codified (yes/no) into six categories, namely, respiratory, cardiac, neurological, hematological, vascular, and others. This variable was a result of a sum of positive responses for those categories, numerical and discrete nature, and was treated in its original form without the application of any cutoff point. The "PNorm" graph test was used to assess adherence to the Gaussian curve.

Independent variables were grouped into three blocks, namely, sociodemographic; comorbidities, health service access, and caregiver assistance; and biopsychosocial profile (quality of life, post-traumatic stress, anxiety, depression, and social support).

Sociodemographic variables: Male and female participants who were ≥20 years of age were included. Age in completed years was grouped into six categories by 10 years. Education was regarded as the number of completed years of formal education. Marital status was defined according to the presence or absence of a partner, regardless of formal union. Household density was calculated by the number of people/number of rooms (living, diner, and bedroom). Per capita income was calculated by total family income/number of people and classified into three categories according to the cutoff points defined by tertiles of the distribution.

Comorbidities, health service access, and caregiver assistance: The number of diseases reported by the participants (diabetes, obesity, high blood pressure, heart failure, asthma/bronchitis, respiratory failure, and others) was treated by the sum of positive responses for those comorbidities; becoming sick with dengue fever in the past 2 years (yes/no); sought health services for the treatment of preexisting diseases (yes/no); and sought health services to treat COVID-19 complications (yes/no).

Biopsychosocial profile: This includes WHOQOL-Bref (26 items)[20,21] (global score and four domain scores: physical, psychological, social relationships, and environment); IES-R (22 items)[22] (global scores and three domains scores: intrusion, avoidance, and hyperstimulation); BAI (21 items)[23-25]; BDI-II (21 items)[24,26] (global scores and two classifications according to Beck[24]: mild, moderate, and se-

vere; and Gorenstein[26]: dysphoria and depression); and the MOS, SSS (19 items and 5 factors)[27-29] (five domain scores: material, affective, emotional, information, and positive social interaction).

Data processing

The information collected during the face-to-face and remote interviews was automatically transferred via electronic questionnaire to the KoboToolbox platform, where it was stored. Subsequently, the data were exported to a spreadsheet in Excel format and then transferred to Stata, version 13.1. At each batch of 50/100 records, the database was submitted to internal consistency tests (evaluation of the quality of information and missing data pattern). Once this phase was concluded, the final stage of data management was dedicated to the definitive categorization of the original variables and the generation of new variables.

Statistical analysis

Descriptive phase: Estimated frequencies were used for the characterization of the sample according to variables related to sociodemographic aspects; comorbidities, health service access, and caregiver assistance; biopsychosocial profile; and the number of self-reported COVID-19 complications.

Analytical phase: In this phase, all participants were considered, regardless of their stratum classification. To identify associated factors with the number of self-reported COVID-19 complications, crude and adjusted models were developed using multivariate linear regression. First, univariate analyses were run, according to each block of independent variables, excluding those that presented p-value >0.15 for Wald statistics. In the sequence, partially adjusted models, intra block, were run excluding those variables that presented p-value >0.10. The final model was run, and the variables with p-value <0.05 were retained. The final model was submitted to the goodness-of-fit test. All independent variables classified into more than two categories were treated as indicators (dummy variables). All analyses were run using Stata, version 13.1.

Ethical considerations

This study was approved by the Research Ethics Committee of the proposing institution, under CAAE number 34746620.6.0000.5142 and Legal Opinion number 4.317.149, on October 2, 2020. All participants registered their agreement to participate in the study, either physically or electronically, by signing the Informed Consent Form. The procedures used in this research were complied with the Ethics Criteria for Research with Human Beings.

RESULTS

This study's response rate was 74.5%, excluding filling errors in the registration of patients, deaths, addresses located in rural areas of the city, and others.

The median time elapsed between the COVID-19 diagnosis and the interview was 6.2 months (IQR=5.0) and the mean was 6.7 months (SD=2.9).

Regarding the main sociodemographic traits of the 217 participants, the mean age was 58.3 years (SD=14.8), with the youngest being 20 years and the oldest being 91 years. The most frequent age group was 60–69 years, with 65 (30.0%) participants, and the least expressive was 20–29 years, with 9 (4.1%) respondents. Among the participants, 121 (55.8%) respondents were female, 150 (69.1%) lived with a partner, 74 (34.2%) reported having an education of 4–7 years, and the average individual income was 1637.33 BRL (mean values and their respective SD are not shown). The participants reported multiple clinical complications from COVID-19. There were "four or more" complications in 94.6% of the cases (Table 1).

Regarding the association analysis, multiple linear regression and partial adjustment models were applied to help identify the role that biopsychosocial factors played in increasing or decreasing the mean of self-reported clinical complications among the positive cases of COVID-19. The evolution of the models with the contribution of sociodemographic, health, psychosocial, and care factors associated is presented in Tables 2-4.

The final model with the contribution of the three correlated factors with the modulation of the mean number of self-reported COVID-19 complications is presented in Table 5.

No associations were identified among sociodemographic factors, quality of life, anxiety, depression, social support, and the number of self-reported COVID-19 clinical complications in the final model. However, association was noted with the factors such as having a caregiver, a history of high blood pressure, and post-traumatic stress.

Regarding the types of associations identified, having a caregiver influences the reduction of the mean of these unfavorable outcomes by -0.66 points. Having a high blood pressure can increase the mean number of clinical complications among the participants by 0.23 points. As for post-traumatic stress, each point lower in the post-traumatic stress score contributes -0.01 points to the mean post-COVID-19 clinical complications score.

Table 1. Sample characteristics (Minas Gerais, Brazil, 2021).

Variables	n	%
Sex		
Female	121	55.8
Male	96	44.2
Age groups (years)		
20–29	09	4.1
30–39	21	9.7
40–49	34	15.7
50–59	38	17.5
60–69	65	30.0
70–79	38	17.5
≥80	12	5.5
Marital status		
Without partner	67	30.9
With partner	150	69.1
Education (years)		
0–3	30	13.8
4–7	74	34.2
8–12	63	29.0
≥13	50	23.0
Household density		
<0.5 people/room	69	31.8
0.5–1.0 people/room	125	57.6
>1.0 people/room	23	10.6
Per capita income*		
1st tertile (<R$ 712.66)	62	32.3
2nd tertile (R$ 712.66–1156.33)	64	33.3
3rd tertile (≥R$ 1156.33)	66	34.4
Number of self-reported clinical complications by COVID-19[†]		
None	01	0.5
2	01	0.5
3	09	4.4
4	37	18.2
5	65	32.0
6	90	44.4
Total	217	100

*According to the cutoff points defined by tertiles of the distribution, loss of information is 25. [†]According to the cutoff points defined by tertiles of the distribution, loss of information is 14.

DISCUSSION

The COVID-19 clinical complications have emerged as an important health problem[31] that needs to be studied in light of biopsychosocial determinants to be better understood and addressed. This study's main findings were that having a history of high blood pressure was associated with more self-reported post-SARS-CoV-2 infection complications and that both post-traumatic stress and having a caregiver were associated with fewer (self-reported) COVID-19 clinical complications.

Having a high blood pressure was positively associated with the number of (self-reported) coronavirus disease complications, indicating that high blood pressure could increase the average number of clinical complications among participants by 0.23 points. To date, the SARS-CoV-2 virus can directly infect target cells by coupling to the angiotensin-converting enzyme 2 (ACE 2) receptor and that such binding decreases the activity of this type of receptor, generating increased vascular permeability[32]. This receptor has a higher expression in the lungs and heart, which is vital for the functionality of these systems[33]. Despite these findings, according to a review study published in November 2021, questions remain regarding the actual mechanism by which a high blood pressure leads to unfavorable out-

Table 2. Crude and partially adjusted models of the number of self-reported COVID-19 complications, considering sociodemographic factors (Minas Gerais, Brazil, 2021).

Variables	Crude model		Partially adjusted model	
	β	95%CI	β	95%CI
Sex (female)	0.069	-0.177–0.315	–	–
Age (in years)	-0.004	-0.012–0.004	–	
Age groups (years)				
30–39	0.206	-0.486–0.899	–	–
40–49	-0.255	-0.916–0.405	–	–
50–59	-0.166	-0.814–0.481	–	–
60–69	-0.080	-0.701–0.540	–	–
70–79	-0.084	-0.736–0.566	–	–
≥80	-0.389	-1.155–0.377	–	–
Marital status (with a partner)	-0.144	-0.405–0.118	–	–
Education (in complete years)	0.006	-0.013–0.024	–	–
Household density (continuous)	0.176	-0.141–0.494	–	–
Per capita income (in R$)				
2nd tertile (712.66–1156.33)	-0.084	-0.413–0.246	–	–
3rd tertile (≥1156.33)	0.006	-0.332–0.319	–	–

CI: confidence interval.

Table 3. Crude and partially adjusted models of the number of self-reported COVID-19 complications, considering comorbidities, health service access, and caregiver assistance (Minas Gerais, Brazil, 2021).

Variables	Crude model		Partially adjusted model	
	β	95%CI	β	95%CI
Diabetes	0.082	-0.186–0.351	–	–
Obesity	0.089	-0.330–0.506	–	–
High blood pressure	**0.282**	0.038–0.525	**0.186**	-0.146–0.518
Heart failure	**0.331**	-0.076–0.737	0.230	-0.220–0.681
Asthma/bronchitis	-0.028	-0.447–0.391	–	–
Respiratory failure	0.261	-0.301–0.824	–	–
Others	0.137	-0.141–0.416	–	–
Number of comorbidities	**0.115**	0.012–0.218	0.299	-0.121–0.181
Sought health services for the treatment of preexisting diseases (No)	0.260	-0.254–0.774	–	–
Had dengue fever in the past 2 years	**-0.396**	-0.892–0.098	-0.332	-0.830–0.165
Sought health services to treat COVID-19 complications (Yes)	0.014	-0.372–0.401	–	–
Caregiver assistance (Yes)	**-0.818**	-1.399––0.236	**-0.818**	-1.399––0.236

CI: confidence interval. Bold indicates statistical criteria for variable selection.

comes in patients with COVID-19[34]. Thus, attention is still needed for future studies to evaluate the mechanisms responsible for the hypertension-related worsening of cases and mortality from COVID-19.

It was also found that having caregiver assistance, meanwhile, represented a -0.66 point reduction in the mean number of (self-reported) COVID-19 complications. A previous study with 16 patients and 25 caregivers, conducted between May and June 2020, pointed out that caregivers played an important role in protecting patients at risk of COVID-19 by ensuring patient self-care through direct and indirect interventions[35]. However, in a study with 139 caregivers with dementia during the pandemic, it was found that only a few of them knew of atypical presentations and how to recognize the warning signs of COVID-19 emergencies[36].

This study results indicate that having a caregiver can be a protective factor for COVID-19 complications, which refers to the importance of this social/caregiver factor in the current pandemic context. People who depend on the care of others are particularly more vulnerable to risk exposure due to the frailty of their care, the breaking of bonds, exclusion, abandonment, and worsening of survival, especially in moments of greater social frailty aggravated by the COVID-19 pandemic. Therefore, the caregiver can be a protective factor, as protection is indissociable from care and covers initiatives that support, welcome, provide help, and take actions that are intended to prevent something from

Table 4. Crude and partially adjusted models of the number of self-reported COVID-19 complications, considering psychosocial indexes (Minas Gerais, Brazil, 2021).

Variables	Crude model		Partially adjusted model	
	β	95%CI	β	95%CI
WHOQOL (global score)	**0.023**	0.012–0.034	**0.024**	0.001–0.038
Physical	**0.015**	0.009–0.021	**0.012**	0.004–-0.204
Psychological	**0.013**	0.006–0.020	0.007	-0.003–0.016
Social relationships	0.002	-0.004–0.008	–	–
Environment	**0.008**	-0.001–0.017	-0.007	-0.018–0.003
BDI-II (global score)	**-0.015**	-0.031–0.001	**0.017**	-0.003–0.038
Original classification				
Mild (10–18)	-0.126	-0.42–0.17	–	–
Moderate (19–29)	0.017	-0.552–0.587	–	–
Severe (30–63)	-0.282	-1.075–0.510	–	–
Gorenstein classification				
Dysphoria (16–20)	-0.337	-0.804–0.128	–	–
Depression (21–63)	0.028	-0.453–0.510	–	–
IES-R (global scores)	**-0.012**	-0.018–-0.006	**-0.001**	-0.017–-0.003
"Intrusion"	**-0.032**	-0.048–-0.016	**-0.037**	-0.071–-0.003
"Avoidance"	**-0.024**	-0.038–-0.009	0.000	-0.024–0.025
Hyperstimulation	**-0.042**	-0.066–-0.018	0.025	-0.022–0.072
SSS				
Material	-0.005	-0.047–0.036	–	–
Affective	-0.001	-0.058–0.056	–	–
Emotional	-0.013	-0.049–0.022	–	–
Information	-0.002	-0.039–0.034	–	–
Positive social interaction	0.015	-0.025–0.055	–	–

CI: confidence interval; BDI-II: Beck's Depression Inventory; IES-R: Impact of Event Scale-Revised; SSS: social support scale. Bold indicates statistical criteria for variable selection.

Table 5. Correlated factors of the number of self-reported COVID-19 complications. Final model (Minas Gerais, Brazil, 2021).

Correlated factors	β	95%CI
Caregiver (yes)	-0.662	-1.229–-0.095
Previous high blood pressure (yes)	0.228	0.006–0.463
IES-R (global score)	-0.011	-0.016–-0.004

CI: confidence interval; IES-R: Impact of Event Scale-Revised. Model parameters: $F_{3,199}$=8.22, p≤0.001, and R^2=13.3%. Goodness of fit: $F_{1,201}$=23.71, p≤0.001.

happening[37,38], which contributes to reducing vulnerability to COVID-19 complications[39].

Another important aspect regarding the association between having a caregiver and the reduction in the mean number of complications self-reported by COVID-19 is that the variable "having a caregiver" can also be a proxy for other sociodemographic and clinical factors, such as age, income, and multimorbidity, among other characteristics not controlled in the study. Therefore, as this control and/or adjustment were not performed, this hypothesis needs to be further investigated in future studies.

The overall score related to the impact of the event "sick with COVID-19" also had a negative association with the number of complications (self-reported) by the disease, indicating that each point in the post-traumatic stress classification would have contributed to -0.01 points in the mean of post-COVID-19 clinical complications. Regarding the development of post-traumatic stress disorder (PTSD), such a condition is not just related to traumatic events, but it also requires a combination of factors such as personality traits, inadequate social support, the presence of traumatic experiences in childhood, gender, genetic vulnerability to psychiatric illnesses, or recent stressful experiences that lead to life changes[40].

Studies carried out in China have shown that the prevalence of PTSD symptoms ranges between 3 and 7 percent of adults[41,42], being reported symptoms of intrusion, avoidance, negative changes in mood and cognition, and hyper-excitation[42]. Studies on the neurobiology of PTSD show that gaps to be clarified still exist, but there is an activation of the hypothalamic-pituitary-adrenal axis and, consequently, the release of glucocorticoids, in particular cortisol, which play an important role in the stress response. Glucocorticoids modulate stress-related physiological patterns, such as metabolic, brain, and immune functions, as their main function of regulation and restoration of the autonomic response to stress, assisting in the restoration of organ functions[40,43].

It is known that comorbidity rates are high in PTSD patients[44-46], with approximately two-thirds of those affected by post-traumatic stress experiencing at least two other illnesses[44]. In addition, studies have also shown that other conditions can increase vulnerability to PTSD[47]. In light of this evidence, the result found in this research that post-traumatic stress was associated with fewer clinical complications is not supported in the literature, especially considering that individuals with PTSD are more susceptible to chronic diseases.

It is believed that the instrument's questions, whose content refers to people's attention to "getting sick with COVID-19 as a stressing event" may have contributed to a situation where the individuals who were more attentive and concerned about the disease may have been people who performed self-care more often or sought care early, which is a hypothesis for their having experienced fewer complications after SARS-CoV-2 infection. However, without these answers, it is inferred that such an association may also have occurred by reverse causality or that the other health conditions of those with PTSD symptoms may have been uncontrolled confounding factors in this research, constituting a methodological limitation to be considered.

The movement restrictions carefully targeted as preventive measures in the context of the COVID-19 pandemic

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contributed significantly to the challenges inherent to advancing fieldwork. During the research period, there were losses, refusals, and problems with the location data of positive cases of COVID-19 used to access and invite the target audience of interest. Such conditions and situations meant that the total number of participants was lower than what had been originally expected.

The use of self-reported variables and the number of complications as dependent variables were also limitations of this study. It should be noted that the pandemic context contributes to justifying the adoption of questions developed by the project execution team, rather than a set of previously validated questions. In the first scenario of a health emergency triggered by the global spread of SARS-CoV-2, there were no published studies with the specific approach of interest, which rendered impossible in the selection of a validated instrument that could meet the objective of characterizing the clinical complications resulting from COVID-19 at that moment.

Therefore, by recognizing and discussing such limitations that hinder a more detailed understanding of the severity of the clinical conditions experienced by the participants and that may eventually compromise the generalization of the results, it is suggested to address the external validity of the findings and to develop other sequential research aiming to contemplate the aspects that were not possible to address in this study.

This study advances knowledge by concluding that among the biopsychosocial aspects analyzed, having a history of high blood pressure was associated with more self-reported clinical complications, while having a caregiver and presenting post-traumatic stress were associated with fewer unfavorable implications by COVID-19. The multisystemic nature with which the disease was presented among this study's participants emphasizes that the attention to this disease and to the people affected must also be based on a systemic approach, centered on the individual, from the perspective of integral care. Considering COVID-19 potential to generate persistent symptoms as well as acute and chronic complications, it is still necessary to move forward with studies on the effects of the disease, as these aspects tend to increase and modify the demands on health systems.

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RESUMO

Objetivo: Este estudo teve como objetivo analisar a existência de associação entre o número de complicações clínicas por COVID-19 autorreferidas e as características biopsicossociais de pessoas acometidas em um município brasileiro. **Métodos:** Tratou-se de um estudo transversal (primeira visita de seguimento), aninhado em uma coorte com 217 casos confirmados de COVID-19, entrevistados de janeiro a outubro de 2021, durante visitas domiciliares, em um município ao sul de Minas Gerais, Brasil. Foi utilizado um questionário estruturado com o recurso KoboToolbox. Características sociodemográficas, clínicas (comorbidades), qualidade de vida, estresse pós-traumático, ansiedade, depressão e apoio social compuseram o elenco de variáveis independentes. A variável dependente foi expressa pelo número de complicações clínicas autorreferidas decorrentes da COVID-19. Para as análises, utilizou-se técnica de regressão linear multivariada. **Resultados:** Os participantes referiram múltiplas complicações clínicas por COVID-19. Em 94,6% dos casos houve "quatro ou mais" complicações relatadas. Ter hipertensão arterial prévia esteve associado a maior número de complicações pós-infecção pelo SARS-CoV-2, enquanto ter um cuidador e apresentar estresse pós-traumático se associaram a menor número de complicações por COVID-19. **Conclusão:** Depreende-se que o caráter multissistêmico das multicomplicações por COVID-19 e que as associações identificadas reforçam a necessidade de uma abordagem integral às pessoas acometidas, bem como de estudos que acompanhem os efeitos da doença sobre as demandas dos sistemas de saúde, a fim de melhor compreendê-los e melhor enfrentá-los.

Palavras-chave: COVID-19. Hipertensão. Cuidadores. Transtornos de estresse pós-traumáticos. Análise de regressão.