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Level οf Trust of the Population in the Unified Health System in the Midst of the COVID-19 Crisis in Brazil

Juliana Soares Tenório de Araújo [1*], **Felipe Mendes Delpino** [1], **Thaís Zamboni Berra** [1], **Murilo César do Nascimento** [1], **Heriedreson Sávio Dias Moura** [1], **Antonio Carlos Vieira Ramos** [1], **Jonas Bondini Alonso** [1] **Titilade Kehinde Ayandeyi Teibo** [1], **Ruan Víctor dos Santos Silva** [1], **Giselle Lima de Freitas** [2], **Roxana Isabel Cardozo Gonzales** [3] and **Ricardo Alexandre Arcêncio** [1]

[1] University of São Paulo at Ribeirão Preto College of Nursing 1; julianastenorio17@gmail.com
[2] Federal University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil 2; giselleelf@ufmg.br
[3] Federal University of Goiás, Goiânia, Goiás, Brazil,3; roxanaisabel@ufg.br
[*] Correspondence: Juliana Soares Tenório de Araújo. Doctoral Student on the Interunit Nursing Graduate Program. University of São Paulo at Ribeirão Preto College of Nursing. Avenida dos Bandeirantes, 3900, Monte Alegre, Ribeirão Preto, São Paulo, Brazil, 14040-902. Phone: +551633151408. E-mail: julianasteno-rio17@gmail.com

Abstract: Objective: to assess level of trust in health services during COVID-19 pandemic in Brazil. **Methods:** Cross-sectional study, carried out between 2020 and 2021, among Brazilians over 18. A non-probabilistic sampling was used. Descriptive and inferential statistics were applied, using the Local Bivariate Moran's technique was used to verify the existence of spatial dependence between the incidence and mortality of COVID-19 and trust in health services. Furthermore, multinomial regression was also used to analyze the factors associated with the confidence level, with the calculation of the Odds Ratio and with a confidence interval of 95%. **Results:** 50.6% reported trust in hospital services while 41.4% did not trust Primary Health Care services. With the application of the Local Bivariate Moran, both for the incidence and mortality of COVID-19, the trust in tertiary care and primary care services showed a statistically significant spatial association predominant in the Midwest (High-Low) and North (Low-High) regions of Brazil. The level of trust was associated with education, religion, region of the country and income. **Conclusions:** The level of trust in hospital services, more than Primary Health Care services, may be related to the population's culture of prioritizing the search for hospital care at the detriment of health promotion and disease prevention.

Keywords: COVID-19; Confidence; Health services; Basic health Unit; Hospital; Public policy

1. Introduction

More than two years ago, the World Health Organization (WHO) declared COVID-19 - a disease caused by Sars-Cov-2 virus, as a pandemic, which has since devastated and significantly burdened health systems, especially in countries of low and middle income [1].

The pandemic has brought the most diverse problems to the country, directly influencing health services. The displacement of outpatient and elective care and increase in waiting for diagnoses and treatments, generate dissatisfaction among the population that needed to use such services. Dissatisfaction may be linked to trust in health services, which particularly during emergencies, is essential for maintaining effective care [2].

Research in Brazil carried out in 2020 showed that 54% of the population studied, trusted the health system of the country. Compared to other surveys, these were the lowest levels of confidence of the Brazilian population [3].

Understanding the level of trust in the era of COVID-19 is essential for a more positive effect, especially for collective actions to face the pandemic, such as adherence to the vaccine, use of masks and social distancing.

Through searches of databases, considering descriptors: population, confidence level, COVID-19 and Health services, no studies were found that addressed the subject in Brazil. Despite this, trust in health systems is an essential issue to produce evidence and contribute to the formulation of public policies and awareness for health managers. In this way, the present study aims to assess the population's level of trust in health services during the COVID-19 pandemic in Brazil.

2. Materials and Methods

Design

This is a cross-sectional survey, carried out in a hybrid modality between August 2020 and February 2021. The study was conducted in accordance with the recommendations of the "Strengthening the Reporting of Observational Studies in Epidemiology" [4]. As for the sample design, the study was based on convenience sampling, using the snowball technique, which is characterized by   non-adoption of margin of error calculations, since it is a non-probabilistic method [5].

Research scenario and epidemiological context

The pandemic made clear the health challenge to be faced. The insufficiency of adequate means to face the health crisis evidenced in the country's information networks culminated in the exorbitant number of cases and deaths from COVID-19. The epidemiological data of COVID-19 in Brazil are alarming, 34.4 million confirmed cases, more than 683 thousand deaths, an incidence rate of 16383.7 per 100 thousand inhabitants, second only to the United States of America and India [1,2].

Population

As the study population, we considered the general Brazilian population, who declared themselves resident in Brazil and foreigners (immigrants) who have resided in the country for at least 6 months. Both were 18 years of age or older.

As inclusion criteria, participants who responded to the dependent variable (trust in health services) were considered and as exclusion criteria, participants who did not respond to the date of birth field. The independent variables considered in the study are described in Table 1.

Table 1. Variables included in the present study

Variables	Categories
Independent Variables	
Sex	Male, Female
Age	Continuous
Region	North, Northeast, Midwest, Southeast, South
Education Level	<=Elementary school, Complete primary education, High school, Graduate, and Postgraduate degree
Income	Less than 1 Minimum Wage, from 1 to 2 Minimum Wages, From 2 to 5 Minimum Wages, From 5 to 10 Minimum Wages, Above 10 Minimum Wages, Don't Know/Prefer not to Inform
Skin color	White, Black/Brown, Yellow/Indigenous
Marital Status	Single, Married/Stable Union, Separated, Widowed
Religion	Catholic, Spiritism, Evangelical, Other Religions, No Religion
Occupation	Retired, Unemployed, Public employee, Private employee, Self-employed/Informal/Offers, Student, Other
Years of Residence	0 to 10 years, >10 to 20 years, >20 to 30 years, > 30 years
Number of people living at home	Continuous
Number of people contributing to the family income	Continuous
Area of residence	Urban, Rural
Type of Housing	Own, Rented/Leased, Other
Health insurance	Yes, No
Use of SUS	Yes, No

Receives a visit from the community agent	Yes, No
Health clinic where he lives	Yes, No, I do not know
Aid from the government	Yes, No
Sources of information	
International Organizations	Yes, No
Friends and/or Family	Yes, No
Social Support Networks	Yes, No
News newspapers	Yes, No

Data analysis

Exploratory data analysis was performed using descriptive statistics, position calculation and measures of central tendency. For qualitative variables, absolute and relative frequencies were counted. Pearson's Chi-Square test was used to analyze the association between the outcomes and the categorical variables of the study, while the Kruskal-Wallis test was used to compare the groups regarding numerical variables.

To perform the multinomial logistic regression analysis, the population's trust in health services in the face of COVID-19 was considered as the outcome variable of the study. As the dependent variables of the study are ordinal, we chose to use the cumulative logic model.

The variables were selected in two stages. First, the presence of multicollinearity between the independent variables was evaluated, through the Variance Inflation Factor measure, which is the most used. As the independent variables are the same for both outcomes, the result of this analysis will also be valid for both [6,7].

In the second stage, the variable selection procedure called stepwise was applied, using the Akaike Information Criterion (AIC) [8, 9] for the other variables of the first stage. This procedure was applied considering the proportional probability model for numerical reasons related to the number of parameters. For the variables selected by the AIC, the assumption that the model parameters were not proportional was tested individually by the Likelihood Ratio test [8, 10].

In the final model, the corresponding Odds Ratio (OR) was calculated from the parameters of the fitted models. The final non-consecutive models were separated into; little or more confident (:1), confident or more (:2) and very confident (:3). All analysis were performed using the R program (https://www.r-project.org/about.html) with a significance level of 5% ($\alpha = 0.05$) using the VGAM package [11].

To perform the spatial analysis, we chose to use all 5,568 Brazilian municipalities [12] as the unit of analysis, for which the incidence and mortality rates of COVID-19, TB and their outcomes were calculated between the years 2020 and 2021. The number of cases was the numerator while the population of the municipality was the denominator and the multiplication factor was per 1,000 inhabitants.

The Bivariate Moran Index[13] indicates the degree of association (positive or negative) between the value of the variable of interest in a given region and another variable in the same region, and in this way it is possible to map the statistically significant values, generating a map choropleth according to its classification. In the present study, we tested the spatial autocorrelation between the incidence and mortality rates of COVID-19 with the trust in primary (Basic Health Unit) and tertiary (Hospital) health services.

The classification can be given as; High-High (high values of incidence or mortality by COVID-19 with a high level of trust in health services (primary or tertiary). Low-Low (low values of incidence or mortality by COVID-19 with a low level of trust in health services (primary or tertiary).   Low-High (low values of incidence or mortality by COVID-19 with a high level of trust in health services (primary or tertiary) and High-Low (high values of incidence or mortality by COVID-19 with low level of trust in health services (primary or tertiary)). It is noteworthy that the high and low values were classified according to the average of the values of the variables of the neighboring regions [14].

3. Results

The study sample consists of 1018 people, most of them female (75.2%; n=766), with a mean age of 46.1 years. Most study participants were from the Southeast and South regions, 66% (n= 672) and 14.1% (n= 144), respectively. 69.5% (n= 708) of the sample declared themselves to be white, 49.8% (n=507) were married or in a stable union, 37.8% (n:385) working as a public servant. 54.6% (n=556) have a graduate degree, 29.3% (n: 298) hadf a monthly income of 5 to 10 minimum wages, 71.3% (n= 726) living in their own home and 97.1% (n=988) living in urban areas. Approximately 87.6% (n=892) of respondents did not receive any government assistance, while only 9.2% (n=94) benefited from pandemic rescue assistance.

Of the total sample, about 77.3% (n=787) had a health plan and used the SUS, while 85.1% (n=866) did not receive a visit from the community health agent and 84.9% (n=864) reported having a health center in their community or neighborhood (Table 2).

Table 2. Sociodemographic characteristics of the final study sample (N= 1,018).

Numerical variables	Mean	Standard deviation
Age	46.1	14.8
Residents at home	2.8	1.7
People who contribute to the family income	1.8	0.8
Categorical variables	**Frequency**	**%**
Sex		
Male	252	24.8
Female	766	75.2
Region		
Midwest	43	4.2
North East	94	9.2
North	65	6.4
Southeast	672	66
South	144	14.1
Color/race		
Yellow/Indigenous	21	2.1
White	708	69.5
Black/brown	289	28.4
Marital status		
Married/Stable union	507	49.8
Separated	143	14
Single	351	34.5
Windowed	17	1.7
Religion		
Catholic	389	38.2
Spiritism	122	12
Evangelical	114	11.2
Other	93	9.1
No religion	300	29.5
Occupation		
Retired	141	13.9
Autonomous/Informal/Offers	97	9.5
Unemployed	46	4.5
Private employee	146	14.3
Public employee	385	37.8
Student	124	12.2
Other	79	7.8
Education		
Incomplete elementary school	9	0.9
Complete primary education	16	1.6
High school	177	17.4
Graduated	260	25.5

Postgraduate studies	556	54.6
Income (in minimum wages)		
Less than 1	22	2.2
1 to 2	72	7.1
2 to 5	273	26.8
5 to 10	298	29.3
More than 10	286	28.1
Prefer not to inform/Do not know	61	6
No income	6	0.6
Type of housing		
Own	726	71.3
Rent/Lease	242	23.8
Granted	37	3.6
Other	13	1.3
Area of residence		
Rural	30	2.9
Urban	988	97.1

About 50.6% (n=515) of the total sample said they trust hospitals and 41.4% (n=421) do not trust basic health units and health centers (Table 3).

Table 3. Characteristics of the final study sample: Social Thermometer (N= 1,018).

Categorical variables	Frequency	%
Trust level in public health services to face COVID-19		
Hospital		
Nothing trust	74	7.3
Little trust	326	32
Trust	515	50.6
Very trust	103	10.1
Basic Health Unit/Health Center		
Nothing trust	143	14
Little trust	421	41.4
Trust	396	38.9
Very trust	58	5.7

Of the information sources most used to stay informed about COVID-19, 62.8% reported consulting international organizations, 67.3% universities, 41% social networks and 60.1% the internet.

Figure 1 shows the application of the local Bivariate Moran Index which refers to trust in tertiary health services (Figure 1 - A and B), there is a statistically significant spatial association predominant in the Midwest regions (High-Low), with high rates of incidence and mortality due to COVID-19 with low level of trust in health services. In the North region of the country (Low-High) the opposite is noted, i.e., low rates of incidence and mortality by COVID-19 with high level of trust in health services.

The same pattern is observed in Figure 1 – C and D, referring to trust in primary health services, in which there is also a statistically significant spatial association predominant in the Midwest regions, with the same High-Low pattern, that is, high rates of incidence and mortality due to COVID-19 with a low level of trust in health services. In the North region of the country, there is an opposite pattern, Low-High, showing low rates of incidence and mortality due to COVID-19 with a high level of trust in health services

Table 4 shows the final adjusted models, which corresponded to the level of trust in hospital institutions, including tertiary hospitals, field hospitals and emergency care units (UPA), in the context of the COVID-19 pandemic. It was found that residents of the Midwest region were 50.02% (95%CI: 0.26; 0.95) less likely to respond confidently or more, than residents of the Southeast region.

Table 4. Final models regarding the trust level toward hospital services (N=1,018).

	Odds Ratio (OR)	95% CI	P-value
Sex			
Female (Ref)			
Male	1.36	1.02-1.81	0.0340
Region			
Southeast (Ref)			
Midwest: 1	0.92	0.27-3.17	0.9032
Midwest: 2	0.49	0.26-0.95	0.0357
Midwest: 3	0.15	0.02-1.15	0.0689
North East: 1	2.18	0.75-6.33	0.1483
North East: 2	0.95	0.60-1.52	0.8589
North East: 3	1,21	0.62-2.38	0.5665
North: 1	0.52	0.22-1.20	0.1296
North: 2	0.43	0.24-0.74	0.0027
South: 1	3.18	1.11-9.11	0.0309
South: 2	2.06	1.13-3.17	0.0010
South: 3	0.90	0.49-1.65	0.7460
Age	0.97	0.96-0.98	0.0000
Religion			
Catholic (Ref)			
Spiritist	1.38	0.92-2.07	0.1162
Evangelical	0.65	0.43-0.98	0.0429
Other	0.68	0.44-1.07	0.1022
No religion	0.91	0.67-1.23	0.5562
Occupation			
Other (Ref)			
Retired	1.10	0.62-1.94	0.7363
Autonomous	1.24	0.70-2.20	0.4580
Private Employee	0.93	0.46-1.91	0.8616
Public employee	0.84	0.49-1.45	0.5519
Student	1.48	0.91-2.39	0.1085
Residential area			
Urban (Ref)			
Rural	0.45	0.22-0.91	0.0267
Sources of information to stay informed about COVID-19			
International Organization: No (REF)			
International Organization: Yes	1.41	1.09-1.82	0.0074
Education			
Graduated (Ref)			
Elementary School	3.05	1.29-7.22	0.0109
High school	1.15	0.77-1.71	0.4853
Postgraduate studies	1.32	0.98-1.78	0.0673
Income (in minimum wages)			
More than 10 (Ref)			
1 to 2	0.35	0.20-0.61	0.0003
2 to 5	0.69	0.49-0.98	0.0436
5 to 10	0.64	0.47-0.89	0.0089
Less than 1	0.36	0.15-0.83	0.0178
Prefer not to inform/Do not know	0.65	0.37-1.12	0.1247

Residents of the North region were 56.87% (95%CI: 0.24; 0.74) less likely to respond confidently or more, than residents of the Southeast region.   On the other hand, residents of the South region were 2.07 (95%CI: 1.34; 3.17) times more likely to respond confidently or more and 3.18 (95%CI: 1.11; 9.11) times more likely to respond with little confidence compared to residents of the Southeast region.

For each year of life, there was a reduction of 2.48% (95%CI: 0.96; 0.98) in responding less confident or more, confident or more, or very confident. People of evangelical religion were 34.64% (95%CI: 0.43; 0.98) less likely to respond less confident or more, confident or more or very confident than participants of the Catholic Christian religion. The student's occupation was associated with 2.09 (95%CI: 1.13; 3.85) times more likely to respond less confident or more, confident or more or very confident.

For participants with elementary schooling or less, it was found 3.06 (95%CI: 1.29; 7.22) times more likely to respond less confident or more, confident or more or very confident than those with higher education. Regarding the location of the residence, participants from rural areas were 54.67% (95%CI: 0.22; 0.91) less likely to respond less confident or more, confident or more or very confident than participants who live in the urban area.

Participants who sought information from international organizations were 1.35 (95%CI: 1.06; 1.72) times more likely to respond with little confidence than those who did not consult these sources. Participants who earn 1 to 2 times the minimum wage had 64.9% (95%CI: 0.20; 0.61) less likely to respond less confident or more, confident or more or very confident than participants who receive more than ten minimum wages.

Our final models corresponding to primary health care services (Table 5) showed that 41% of the Brazilian population has little confidence in primary health care services in coping with COVID-19.

Table 5. Final models regarding the trust level toward the primary care service (N=1,018).

	Odds Ratio (OR)	95% CI	P-value
Marital status			
Married (Ref)			
Separated	0.67	0.47-0.95	0.0274
Single	1.17	0.89-1.52	0.2417
Windowed	1.55	0.61-3.90	0.3503
Education			
Graduated (Ref)			
Elementary School	2.40	1.09-5.25	0.0283
High school	1.06	0.73-1.52	0.7484
Postgraduate studies	1.83	1.38-2.42	0.0000
Type of housing			
Own (Ref)			
Rent/Lease	1.45	1.10-1.92	0.0073
Other	1.51	0.88-2.60	0.1339
Sources of information used to stay informed about COVID-19			
International organizations: No (Ref)			
International organizations: Yes: 1	1.35	1.06-1.72	0.0151
Friends and/or family: No (Ref)			
Friends and/or family: Yes: 3	1.32	1.02-1.70	0.0312

Separated marital status was associated with a lower chance of responding less confident or more, confident or more, or very confident in relation to individuals who are married or in a stable union (OR: 0.67; 95% CI: 0.47; 0 .95).

Participants who have a postgraduate degree were 1.83 times more likely to respond less confident or more, confident or more, or very confident than those who had a degree. In the same way, those with elementary education or less were 2.40 (95% CI: 1.09; 5.25) times more likely to respond less confident or more, confident or more, or very confident than graduates. Those who live in rental/letting houses were 1.46 (95%CI: 1.10; 1.92) times more likely to respond less confident or more, confident or more or very confident than those who own a residence.

4. Discussion

This study aimed to assess the population's level of trust in the health system in providing care and support in the Covid-19 Era in Brazil. The data was collected at the first moment of the pandemic, when isolation measures were more restrictive, a lot of misinformation was circulating and health institutions were undergoing adjustments in services. The results points to greater confidence in the services of (tertiary) hospitals, field hospitals and emergency care units in the care of COVID-19 cases. There was also a lower trust in primary care services, probably related to the low resolution of these health institutions in the country.

The present study showed that 30.7% of the participants trusted some health measure instituted by government agencies. This differs from the trust observed in the Organization for Economic Co-operation and Development-OECD countries, where 51% of people said they trust their national government and 71% reported trust in their healthcare system [15]. In this sense, the average trust in the health system of OECD countries also exceeds the trust of Brazilians in hospital services (50.6%) and in basic health units (58.6%).

Low education, low income and living conditions are a proxy for social vulnerability. The most vulnerable population has less access to health services, greater difficulties in care, suffers more prejudice and mistreatment in services, affecting the levels of trust of this population [16].

The results of this study confirm this evidence, people with elementary education had less confidence than those with higher education, and those who received between 1 and 2 minimum wages were less confident than those who received more than ten minimum wages.

The results indicated that the younger population are 2.09 times more likely to respond with less confidence. This was also demonstrated in a study in the Netherlands, during the acute phase of the Covid-19 pandemic, the rigorous public health measures imposed in that country generated confidence in the institutions involved in their elaboration and implementation, especially among participants aged 65 and over. , that is, the impact on trust in the government and in institutions was greater among older people and those at greater risk of developing the severe form of the disease. In this study, people with less education trust health institutions 3.06 times less. As low education is an indicator of poverty, these people are more socially vulnerable, with less access to health services and, consequently, tend to trust less.

Although there is no statistical significance in the present study regarding race/color, lack of trust in health services remains a problem in individuals who identify as black, as pointed out by Deloitte Insights [17] Racist experiences in health care, drive users away from services, 80% of people who had a negative experience do not return for health care.

Rebuilding trust between this population and health services contributes to improving equity in health. In 2005, the WHO Commission on Social Determinants (CSD) cited racism as an intermediate factor in the production of health inequities, so the State developed some affirmative policies for greater inclusion and equity [18]. Although these aspects were not the objective of the present study, it is essential to highlight that discrimination and racism are factors associated with a lower level of trust, as evidenced in other studies.

In Brazil, there are significant socioeconomic discrepancies, about 25% of Brazilians are on the poverty line, almost half of the population (46.6%) has only a basic level of education and more than 70% depend exclusively on the Unified Health System, therefore, inequality assumes great importance in health issues and in the trust of the system [18].

According to the report prepared by CONASS (National Council of Health Secretaries) in 2003, 41.8% of the Brazilian population says that the SUS is a system that cannot be trusted, and when this assessment is based on education and income, it is shown that there is an inverse relationship between the level of education and positive evaluation of the SUS. According to the report, 64% of illiterates approve and trust SUS, while among

people with higher education, only 39% trust. It was found that in relation to income, the lower the income, the better the evaluation and confidence in the SUS [19].

Compared to our study, 64.9% of participants who receive between 1 and 2 minimum wages have little trust in the SUS, and with less education, they are 3.06 times more likely to trust little. A significant change when compared to the 2003 report.

Another finding from the current survey is that those who rented are more likely to be less trusting than those who live in their own home. As demonstrated in other studies, social determinants influence a more conservative assessment; the position of greater economic power is associated with a more reliable assessment and vice versa [16].

The study also showed a relevant level of confidence in relation to the Brazilian Unified Health System in the serious health crisis caused by COVID-19. The SUS historically suffers from a significant social stigma, especially from the middle class, which has always questioned the quality of its services, and believe that services in private entities were of better quality. During the pandemic however, it seems that this population appropriated the SUS more like a right, and it is starting to see a SUS that works, and appropriating it, different from a reality verified in 2018 [20].

Concerning religion, evangelicals trust health institutions more, which follows the pattern of trust in the actions of the federal government, considering issues of political ideology. Although Brazil is a secular state, religious orders interfere in politics and ethical projects [21].

Information sources also influenced the trust of the population studied, people who consulted international organizations, official government institutions to stay informed about COVID-19 showed little trust in health services compared to those who do not. One possibility for such an outcome is that the wide availability of information through online media (official websites, medical websites, social networks, portals, blogs, forums, etc.), as the spread of Fake News weakens the healthcare system worldwide [22]. The proper use of information technology tools plays an important role in strengthening confidence in information about COVID-19.

A key factor in facing the spread of the new coronavirus is mutual trust between people and their governments [23]. In this context, it is extremely important that citizens trust the recommendations they receive from public authorities.

This study revealed a varied pattern of trust of the Brazilian population in health institutions, for the primary and tertiary care levels, which can be explained geographically, culturally, according to religion and economic and social level. It has been shown that the population trusts hospital services more than primary care services, which may be related to emergency needs of health care during the first year of the pandemic.

We therefore emphasize the need to develop interventions in Primary Health Care (PHC) to better solve health problems and consequently increase the population's confidence in these services.

This study advances knowledge by highlighting the level of trust in health services during the first year of the COVID-19 pandemic. Still, as a reflection of a curative and hospital-centered model, the majority of the population has a culture of immediate care to the detriment of the conditions of prevention and health promotion actions.

In Brazil, a health policy was adopted, prioritizing the structuring of the hospital network to care for the most serious cases, with little emphasis on disease prevention actions and the strengthening of primary care.

Popular education, a contact surveillance plan, mass testing of the population, associated with the understanding that PHC is a low-cost ally in fighting and controlling an infectious disease, strengthens the health system.

We suggest in future studies, the continuity of this, with greater diversity of the population sample, as well as the development of a longitudinal methodological design, since it is important for monitoring the evolution of the level of confidence in the various phases of the pandemic.

Although the present study aims to obtain a representative sample of the Brazilian population, the snowball sampling technique excluded the population in a situation of

social vulnerability, which represented a limitation for this study. However, in the current literature, it has been reported that online surveys have a greater sample predominance of individuals who have more access to the Internet [26,27]. This opens a bias for the possibility that the research participants were composed mainly of people with a high level of education and higher income, as seen in other studies [24,25].

When it comes to online surveys, individuals with higher education participate the most, a fact that can be observed in surveys with this approach, a characteristic observed in the present study [24,25].

5. Conclusions

This study showed the level of trust of the Brazilian population in health institutions, verifying a varied pattern of trust for the levels of primary and tertiary care. The population trusts hospital services more than primary care services, which may be related to emergency care needs during the first year of the COVID-19 pandemic in the country.

Through spatial analyses, an association is demonstrated between trust in health services and the incidence of cases and the death rate. In regions where the population's level of trust in health services was higher, there was a lower incidence of cases and deaths.

Thus, the development of interventions in primary care to better solve public health problems and consequently increase the population's trust in these services has an impact on containing the spread of the virus.

Promotion and prevention measures must promote the engagement of society, so that citizens feel like partners in action and in the development of health policies, strengthening trust between authority and citizens.

Supplementary Materials:

Table 1, Table 2, Table 3, Table 4, Table 5.

Authors' Declaration of Participation

Araújo, JST participated in the design and writing of the manuscript. Delpino,FM and Nascimento, CM participated as the second reviewer of the article and writing of the manuscript. Moura,HSD; Silva,RVS; Freitas,GL; Gonzales,RIC; Ramos,ACV participated in the revision of the studies. Alonso,JB participated in the statistical analysis of the study. Teibo KAT participated in the language translation and Arcêncio RA, participated in the writing and revision of the final version of the article All authors reviewed and approved the final version to be published, assuming responsibility for all aspects of the work, including ensuring its accuracy and integrity.

Ethics approval and consent to participate

The parent study was approved by the Research Ethics Committee (REC) of ENSP-FIOCRUZ, with the Certificate of Ethical Appraisal Presentation (CEAP) number:32210320.1.0000.5240. However, due to the project's partnership with EERP USP, the-institution's REC assessed and approved the research project with CEAP:32210320.1.3001.5393. The participants accessed the link of the study, signed The Informed Consent Form (TICF) and then proceeded to questionnaire'squestions.

Competing interest statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability Statement:

The data from this study are stored in the REDCAp Platform, in the domain of the University of São Paulo.

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