


## Between walls: Analysis of deaths from Covid-19 in the Brazilian prison system in 2020

 <https://doi.org/10.56238/emerrelcovid19-043>

### **Edna Maria Camelo Chaves**

PhD in Pharmacology from the Federal University of Ceará (UFC).

E-mail: edna.chaves@uece.br

### **Isabel Freitas dos Santos**

Master in Clinical Care in Nursing and Health from the State University of Ceará (UECE).

### **Mariane Menezes Melo**

Master's student in Clinical Care in Nursing and Health at the State University of Ceará (UECE).

### **Cicero Jordan Rodrigues Sobreira da Silva**

Master's student in Clinical Care in Nursing and Health at the State University of Ceará (UECE).

### **Paulo César de Almeida**

Post-doctorate in Public Health from the Federal University of Ceará (UFC). PhD in Public Health

### **Thereza Maria Magalhães Moreira**

Post-doctorate in Public Health from the University of São Paulo (USP).

### **Raymond Augusto Martins Torres**

PhD in Brazilian Education from the Federal University of Ceará (UFC).

### **ABSTRACT**

Objective: The objective of this study is to analyze the number of cases and deaths from COVID-19 in

the Brazilian prison system in 2020. Methodology: This is an observational, analytical and ecologically designed study of COVID-19 deaths in the Brazilian prison system in Apr/Dec/2020. Data were collected from epidemiological bulletins at the National Council of Justice website. As a unit of analysis, the number of confirmed cases and deaths from COVID-19 were selected for the months of exposure to SARS-CoV-2, in the regions of Brazil and Federative Units in the year 2020. Correlation analysis and linear regression of the COVID-19 lethality percentage per month were performed. Results: In the year 2020 the total number of confirmed cases of COVID-19 through RT-PCR testing and rapid testing in persons deprived of liberty was 41,971, including the two cases from the Federal Prison System. The total number of deaths was 129. The case fatality rate decreased every month and the Southeast region presented a higher number of reported cases and deaths. Final thoughts: The pandemic due to the novel coronavirus has played a revealing role in the unsanitary and inhumane conditions of the Brazilian prison system. It is believed that from the panorama of the pandemic in the prison system in the year 2020, they can subsidize comparative studies of the subsequent years.

**Keywords:** Mortality, SARS-CoV-2, prison system.

## **1 INTRODUCTION**

In December 2019 rumors of a new virus, known as SARS-CoV-2 was infecting thousands of people in China, however, it was still unknown how it behaved, but what was already known by everyone was its high transmissibility capacity. When it was observed that this virus could not be contained so easily and that infectivity rates only increased as the days went by around the world, the World Health Organization (WHO) declared a state of pandemic in March 2020.

From then on, everyone was hostage to COVID-19, a disease that has led to the death of thousands of people worldwide, regardless of race, color, age, sex and location. However, it is worth highlighting a population that is one of the most at risk of contagion in Brazil and other countries, due

to unhealthy conditions of survival and overcrowding, which are the people deprived of liberty who serve time in prison systems (MORAES et al., 2020).

The prison system is vulnerable to various diseases and injuries due to restricted spaces, high population density, humidity, dirt, poor lighting and ventilation that cause major impacts on health (BRAZIL, 2014). These can be classified as risk factors for the spread of the new coronavirus in the prison population, considering that it is a virus transmitted by respiratory route, disseminated in the air with high ease and difficult to be contained, which represents a risk for the population deprived of liberty in general, however, especially for the elderly and for those who have comorbidities (HEALTH COORDINATION; NATIONAL PENITENTIARY DEPARTMENT, 2021).

It is noteworthy that until July 2020, Brazil, along with Peru, the United States, India and Mexico, was among the countries with the most contaminated prisoners in the world. In Brazil, as of November 2020, 122 deaths have been recorded. Thus, measures were adopted such as suspension of visits, release of prisoners, hearings by videoconference, sanitization of prisons and isolation wards for respiratory symptomatics (SANTOS; FILE; SANTOS, 2021 *apud* BORGES, 2020).

In Brazil, COVID-19 prevention measures were adopted to contain the contagion within the prison system, guaranteed through the right to health with equity, integrality and universality, recommended by the Federal Constitution and the Penal Execution Law No. 7210, and this system is supported by Primary Care, which orders care through the Prison Primary Care Teams, who provide, however, assistance to this population (SANTOS; FILE; SANTOS, 2021 *apud* BORGES, 2020; BARSAGLINI, 2016; BRAZIL, 2014).

Thus, given the context presented, it is possible to identify the vulnerabilities found in the prison system and that these provide easy contagion by SARS-CoV-2 and the high probability of the outcome for deaths. Thus, the objective of this study is to analyze the number of cases and deaths from COVID-19 in the Brazilian prison system in 2020.

## **2 METHODOLOGIES**

This is an observational, analytical and ecologically designed study of deaths from COVID-19 in the Brazilian prison system of Apr/Dec/2020. This type of study aims to compare the occurrence of a disease/condition associated with health, as well as the exposure of interest among aggregates of individuals to verify the existence of an association between them, however, in ecological studies there is no information about the disease and exposure of the individual, but of the population group as a whole. Among the advantages of this study is the possibility of examining associations between exposure and disease/condition related to the community (LIMA-COSTA; BARRETO, 2003).

Data were collected from epidemiological bulletins at the National Council of Justice website. These were recorded fortnightly in the prison and socio-educational system of people deprived of liberty, based on information from the executive and judicial branches of the state, including data passed on by the Prison System Monitoring and Inspection Groups (GMF), epidemiological bulletins from state secretariats and data reported by the National Penitentiary Department (DEPEN).

As a unit of analysis, the number of confirmed cases and deaths from COVID-19 for the months of exposure to SARS-CoV-2 in the regions of Brazil and Federative Units (UF) in 2020 was selected.

Data were processed using *the* Statistical Package for the Social Sciences (SPSS) 20 software, license 101011131007. These were organized in cross-tables with absolute and percentage frequencies, according to the month of exposure, region and FU. Correlation analysis and linear regression of the COVID-19 lethality percentage per month were performed.

### 3 RESULTS

In the year 2020 the total number of confirmed cases of COVID-19 through RT-PCR testing and rapid testing in persons deprived of liberty was 41,971, including the two cases from the Federal Prison System (SPF). The total number of deaths was 129.

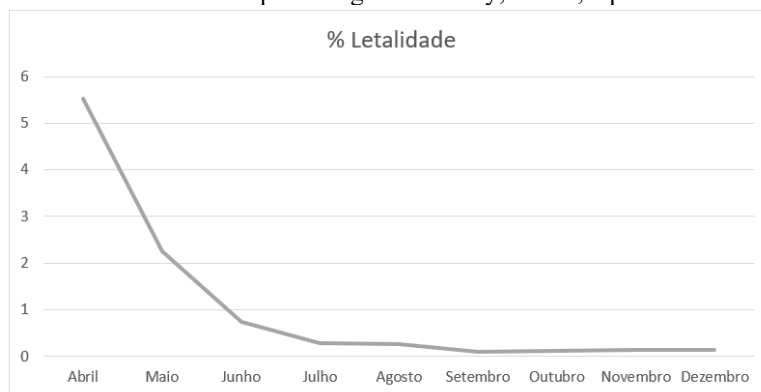
There was an increase in COVID-19 cases and deaths between the periods of April to August 2020, with a considerable decrease in subsequent months (Table 1). However, the case fatality rate decreased every month (Graph 1). When analyzing it, it was found that a strong and inversely proportional linear correlation was found ( $r = -0.739$ ;  $Y = 3.51 - 0.488X$ ;  $p = 0.023$  (Table 1)).

Table 1. Distribution of the number of cases and deaths, according to the month, Brazil, 2020

Month	Number of cases	Number of deaths	% Lethality
April	199	11	5,52
May	1108	25	2,25
June	2949	22	0,75
July	4409	13	0,29
August	12214	33	0,27
September	7354	7	0,1
October	6901	8	0,12
November	3253	5	0,15
December	3584	5	0,14

Source: National Council of Justice (2020).  $r = -0.739$ ;  $p = 0.023$ ;  $y = 3.51 - 0.488X$

Figure 1. Distribution of the percentage of lethality, Brazil, April/December, 2020



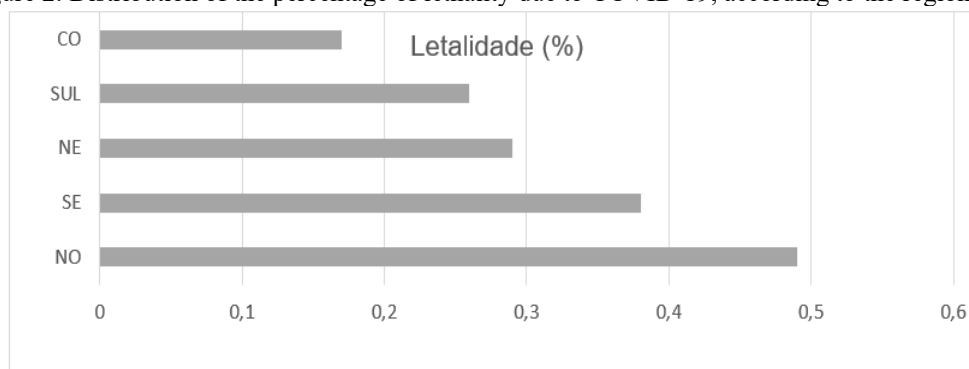
Regarding the distribution of the number of cases and deaths according to the region, the Southeast was the region with the most reported cases and deaths, and the Midwest region was second (Table 2). However, the percentage of the lethality rate was higher in the Northeast region and lower in the Midwest region (Graph 2).

Table 2. Distribution of the number of cases and deaths, according to the region, Brazil, 2020

Region	Number of cases	Number of deaths	Lethality (%)
N	2881	14	0,49
HERSELF	17040	64	0,38
NOT	6292	18	0,29
S	6430	17	0,26
CO	9326	16	0,17

Source: National Council of Justice (2020)

Figure 2. Distribution of the percentage of lethality due to COVID-19, according to the region, Brazil, 2020



Regarding the distribution of the number of cases and deaths according to the UF, São Paulo was the state with the most reported cases and deaths, followed by Minas Gerais. Alagoas was the state with the lowest number of cases. Regarding the reported deaths, São Paulo had the highest number, followed by Rio de Janeiro.

However, the states that did not present any death and consequent percentage of lethality null were Alagoas, Amapá, Bahia, Pará, Rio Grande do Norte and Tocantins. Roraima, Rio de Janeiro and Acre were the FUs with the highest COVID-19 case fatality rate (Table 3).

Table 3. Distribution of the number of cases and deaths, according to Federative Unit, Brazil, 2020

Federative Unit	Number of cases	Number of deaths	Lethality %
RR	203	8	3,94
RJ	484	16	3,31
AND	265	3	1,13
HERSELF	230	2	0,87
PB	271	2	0,74
On the	220	1	0,45
IT	911	4	0,44
ON	1924	8	0,42
GO	1801	6	0,33
BUT	320	1	0,31
SP	11423	35	0,31
THAT	1385	4	0,29
RO	708	2	0,28
DF	1946	4	0,21
MG	4222	9	0,21
PR	2397	5	0,21
MT	2046	3	0,15
SC	2248	3	0,13
PI	805	1	0,12
RS	1785	9	0,5
MS	3533	3	0,08
To the	72	0	0
AP	242	0	0
THREE	713	0	0
AND THE	703	0	0
RN	572	0	0
TO	540	0	0

Source: National Council of Justice (2020)

#### 4 DISCUSSIONS

Based on the analyses, it was found that the nature of the deaths showed an increasing curve until the month of August and then decreased until the last month of analysis of the study – December 2020. It was identified that the peak in the number of infections (n= 12214) occurred in August, as well as the number of deaths (n= 33).

In contrast, April was the month with the lowest number of cases (n=199), however, the number of deaths in November (n=5) and December (n=5) were lower than in April (n=11). It is observed, therefore, that the percentage of lethality decreased about 0.488 each month.

It is also possible to highlight the lethality due to COVID-19 in the North region, which among the regions of Brazil, presented the highest percentage (0.49%). To the detriment of this, it should be noted that the state of Roraima, located in this region, presented the highest percentage of lethality

(3.94%), which corroborates with data presented by Barros (2021), which demonstrates that this state had a mortality rate of 235.7 in the prison population.

The results of this research corroborate the identification of spatial risk for the occurrence of COVID-19 cases among Persons Deprived of Liberty (PPL), with the regions with high risk for lethality, concentrated beyond the north, in the Southeast and in the Northeast, although there has been a decrease in the number of cases, which may be associated with the measures implemented (CARVALHO; SAINTS; SAINTS, 2020).

Faced with this problem, still during the beginning of the pandemic, on March 17, 2020, the National Council of Justice published Recommendation No. 62, which dealt with preventive measures to prevent the spread of SARS-CoV 2 infection, regarding the criminal justice and socio-educational systems.

From this, the Monitoring System of the National Council of Justice (MCNJ) was created, with the objective of monitoring the cases of COVID-19 in the prison system. Thus, the first confirmed case among the prison population and the first death occurred in April 2020 (CNJ, 2020). Since then, measures through the justice system have been implemented in order to reduce the number of contaminations and agglomerations, but that in the face of overcrowding in prison units, and the epidemic outbreak, have had greater visibility.

An analysis of the pandemic scenario in the prison system in the first months of the pandemic revealed that the rate of infection by the novel coronavirus was 62% higher than the overall rate in Brazil; a mortality rate of 15.1 deaths per 100,000 inmates and 0.4% of COVID-19 cases in prison resulting in death, while in the general population of Brazil this percentage was 3%.

From the collection of these data, it was observed that there could be probable underreporting of cases and deaths and that lower mortality and mortality rates could be associated with the predominance of young people in the prison population (BARROS, 2021).

Given the underreporting landscape and the Federal Government's low investment in mass testing policy, the reported number of infected in the prison system may not be exactly the real number. Such statements are consistent with information from the GMF, published on October 5, 2020, in which it reported that to date 70,519 tests for diagnosis of COVID-19 have been performed on incarcerated persons. Unfortunately, this represents only 9.42% of the prison population in the country (DUARTE, 2021).

Several factors that are intrinsic to the Brazilian prison system have implications for the high rates of spread of the virus within prisons, as well as the increase in its lethality. It is important to highlight that there is an abstention from structural conditions and human resources, overcrowding,

hygiene, inadequate food, unhealthiness, lack of energy, water and sanitary surveillance, diseases considered worrisome, since they directly influence the incidence of diseases (SÁNCHEZ et al, 2020).

The low visibility given to the Brazilian prison system and the absence of public debates about COVID-19 in this population, even with favorable conditions for the spread of the pathology, people deprived of liberty have rights to the same conditions of prevention and assistance as the rest of the population, as recommended in the Federal Constitution (DUARTE, 2021).

In addition, it is important to emphasize that the prison population is underserved in the health field. The number of health professionals and the precariousness surrounding employment contracts show the infeasibility of prisons accessing medical care within the prison system. The health teams and the working conditions, although outdated, are largely inserted in the units located in the urban centers of the capitals.

This fact results in the concrete infeasibility of access to health policy for people imprisoned in inland or small units, mainly because there is a disparity between the number of people deprived of liberty and the number of professionals (COSTA et al, 2020; BRAZIL, 2020).

Other countries, such as the United States at the beginning of the pandemic, have already stressed the importance of medical care within the country's prisons. Hawks et al. (2020) reported the importance of social distancing within the prison system at the expense of the high risk of infection. In addition, the importance of inmates having access to quality medicines and food within prisons.

The increase in the number of deaths of inmates due to COVID-19 expresses the violation of rights, permanent and structural, that historically constitutes the Brazilian prison system. It is an announced pandemic revealed by the public unveiling that focuses on society and the State in the perpetration of these rights violations (DUARTE, 2021).

It is believed that from the panorama of the pandemic in the prison system in the year 2020, they can subsidize comparative studies of subsequent years, in addition to opening spaces to foster discussions about urgent and effective solutions and public policies, so that the government, civil society and the scientific community can change the reality of vulnerable populations.

## **5 FINAL CONSIDERATIONS**

The conception of the dignity of the human person cannot be linked to the criminal practices of the individual, but to his inherent condition as a human being. The novel coronavirus pandemic has shown that the unsanitary conditions and crowding of the Brazilian prison system may have contributed to the spread of the virus.

Regarding deaths, it is concluded that the Southeast region has the highest number of cases and deaths, while the North Region has the highest fatality rate. It should, however, be taken into account

that the results presented in this study may present bias, considering the influence of the population size of each penitentiary, the number of tests performed or not per prison unit.

## REFERENCES

Barros, betina warmling. O sistema prisional em 2020-2021: entre a covid-19, o atraso na vacinação e a continuidade dos problemas estruturais. Anuário brasileiro de segurança pública. 2021. Disponível em: <https://forumseguranca.org.br/wp-content/uploads/2021/07/11-o-sistema-prisional-em-2020-2021-entre-a-covid-19-o-atraso-na-vacinacao-e-a-continuidade-dos-problemas-estruturais.pdf>.

Acesso em: 10 de janeiro de 2022.

Barsaglini, reni. Do plano à política de saúde no sistema prisional: diferenciais, avanços, limites e desafios. Rio de janeiro: physis rev saúde col. 2016. 1429-1439. Disponível em: <https://www.scielo.br/j/physis/a/qwhdsyzkccsszc5d3mlnhpb/?format=pdf&lang=pt> acesso em: 17 de janeiro de 2022.

Brasil. Conselho nacional de justiça (cnj). Recomendação nº 62 de 17/03/2020. Brasília (df), cnj, 2020. Disponível em: <https://atos.cnj.jus.br/atos/detalhar/3246>. Acesso em: 10 de janeiro de 2022.

Brasil. Departamento penitenciário nacional. Levantamento nacional de informações penitenciárias (infopen): período de julho a dezembro de 2019. Brasília: df, 2020. Disponível em: <https://app.powerbi.com/view?r=eyJrijoimmu4odawntaty2iyms00owjilwe3ztgtzgnjy2zhntyzzdliiiwidci6imvimdkwndiwlq0ngmntndmny05mwyyltriogrnmjzmthlmsj9>. Acesso em: 17 de janeiro de 2022.

Brasil. Ministério da saúde. Ministério da justiça. Política nacional de atenção integral à saúde das pessoas privadas de liberdade no sistema prisional. Brasília: df, 2014.

Borges, juliana. Prisões: espelho de nós. 1ª ed. São paulo: todavia, 2020.

Carvalho, Sérgio Garófalo de; santos, Andreia Beatriz silva dos; santos, Ivete Maria. A pandemia no cárcere: intervenções no superisolamento. Ciência & saúde coletiva [online]. Rio de janeiro, v. 25, n. 9, p. 3493-3502, set, 2020. Disponível em: <https://www.scielo.br/j/csc/a/gcbxvplqvyyq7kxz7ssvcjvs/abstract/?lang=pt>. Acesso em: 17 de janeiro de 2022.

Conselho nacional de justiça (cnj). Registro de contágios e óbitos, Brasília, 2020. Disponível em: <https://www.cnj.jus.br/sistema-carcerario/covid-19/registros-de-contagios-obitos/>. Acesso em: 25 de novembro de 2021.

Coordenação de saúde. Atuação do departamento penitenciário nacional na pandemia da covid-19 com foco na prevenção e na atenção à saúde no sistema prisional: coordenação de saúde. revista brasileira de execução penal - rbep, v. 2, n. 1, p. 109-132, 8 abr. 2021. Disponível em: <http://rbepdepen.depen.gov.br/index.php/rbep/article/view/333>. Acesso em: 24 de dezembro de 2021.

Duarte, joana das flores. Covid-19 e sistema prisional no brasil: crônica de uma pandemia anunciada. Argum. Vol. 13, n. 1, p. 95-107. 2021. Disponível em: <https://periodicos.ufes.br/argumentum/article/view/32988>. Acesso em: 17 de janeiro de 2022.

Hawks, laura; woolhandler, steffie; mccormick, danny. Covid-19 in prisons and jails in the United States. Jama intern med. Vol. 180, n.8, p. 1041-1042. 2020. Disponível em: <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2765271>. Acesso em: 17 de janeiro de 2022.

Lima-costa, maria Fernanda; Barreto, sandhi maria. Tipos de estudos epidemiológicos: conceitos básicos e aplicações na área do envelhecimento. *Epidemiologia e serviços de saúde*. Vol. 12, n.4, p. 189-201. 2003. Disponível em: <http://scielo.iec.gov.br/pdf/ess/v12n4/v12n4a03.pdf>. Acesso em: 24 de dezembro de 2021.

Moraes, Rogério Nascimento de; *et al.* Sistema prisional brasileiro e os direitos fundamentais em tempos de pandemia de covid-19. *Etic- encontro de iniciação científica*, vol. 16, n.16, anais, presidente prudente, 2020. Disponível em: <http://intertemas.toledoprudente.edu.br/index.php/etic/article/view/8739/67650160> acesso em: 24 de dezembro de 2021.

Sánchez, Alexandra; *et al.* Covid-19 nas prisões: um desafio impossível para a saúde pública? *Cad saúde pública*. Vol. 26, n.5, p. 1-5. Disponível em: <https://www.scielo.br/j/csp/a/thq4bfjyngfjxv8xhwkckg/?format=pdf&lang=pt> acesso em: 17 de janeiro de 2022.

Santos, paulo roberto felix dos; lima, izy rebeka gomes; santos, maria Suelen. Sistema prisional brasileiro: covid-19 e os reflexos em um ambiente de “pandemia estrutural”. *Rev políticas públicas*. Vol. 25, n.1, p. 1-18. 2021. Disponível em: <http://www.periodicoseletronicos.ufma.br/index.php/rppublica/article/view/17287/9352> acesso em: 24 de dezembro de 2021.