



Letter to Editor

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Subnormal Clusters in the Context of the Current COVID-19 Outbreak: Challenges for Brazilian Public Health

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To the Editor,

The recent Coronavirus Disease 2019 (COVID-19) outbreak, caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), has rapidly become a worldwide public health concern. On February 3, 2020, the Brazilian government declared the COVID-19 pandemic as a public health emergency; thus, the following question is raised: What is the current situation in the Brazilian subnormal clusters popularly known as favelas seven months later?

São Paulo and Rio de Janeiro are the most populous states in the Southeast region of Brazil, and have presented the highest rate of cases and deaths caused by COVID-19 in the last months (Table 1). On September 13, 2020, São Paulo accumulated 892,257 cases and 32,606 deaths; while Rio de Janeiro presented 242,491 cases and 16,990 deaths (Table 1). Despite the higher rates of cases and deaths presented by São Paulo when compared to Rio de Janeiro, to date, the mortality rate/100,000 inhabitants in the Rio de Janeiro is 98.4 when compared to São Paulo with 71.0 [1]. Therefore, the current situation in the Rio de Janeiro has become an emergency public health problem, where a large portion of the population resides in poor living conditions in typical favelas (Figure 1).

Brazil is a large country marked by a fragile health system that has failed to offer an equal access to the public health services, which is highlighted mainly in areas of social exclusion such as in the Brazilian favelas. Illustrating that, Pereira, et al. [2] has published an article addressing the potential risks of transmission of the recent Coronavirus Disease 2019 (COVID-19) in Brazilian favelas. The authors showed that the health inequalities, overcrowding population, pollution and the lack of basic sanitary conditions can contribute to the high risk of transmission of the novel coronavirus.

According to a survey carried out in the Rio de Janeiro's favelas, about 75.5% of people with COVID-19 symptoms did not seek medical care, and 10% of deaths occurred at home, without any medical assistance [3]. Adding another layer of complexity to the public health crisis in Rio de Janeiro, nurses

and nursing technicians went on strike on July 23, 2020, after accumulating months of back wages [4].

Although 24% of the population of the city of Rio de Janeiro lives in about 1000 favelas, the Brazilian government has failed to collect the number of cases and deaths by COVID-19. Illustrating this, a recent study carried out in four Rio de Janeiro's favelas demonstrated that approximately 90,200 infected people never appeared on public panels [5]. In addition to underreporting cases, one of the most challenges for facing the COVID-19 outbreak in the favelas, the low number of deaths disclosed by official reports shows that the victims of this viral pandemic remain almost invisible to the health system [5]. Taken together, the underestimated reality faced by people living in these areas becomes a tremendous problem for the flexibilization process. As result, even without a real sense of the seriousness of the situation in the favelas, the Brazilian authorities have decided to open bars and restaurants, without taking into account the peculiarities of the poor conditions of the favelas to face the rapid spread of COVID-19 [6].

Due to the divergencies and lack of data disclosed by different levels of government, some non-governmental organizations together have proposed a "COVID-19-unifying panel in favelas" to consolidate more accurately the data on the cases and deaths caused by COVID-19 in the Rio de Janeiro's favelas [6,7]. On August 13, 2020, according to the COVID-19 panel were confirmed 9,641 cases and 1,415 deaths of fave-

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Table 1: Number of cases and deaths caused by COVID-19 in the Brazilian states of São Paulo and Rio de Janeiro during the months of March to September (2020) [1].

Date (2020)	São Paulo		Rio de Janeiro	
	Number of cases	Number of deaths	Number of cases	Number of deaths
03/March	2	0	0	0
03/April	4,048	219	1,074	47
03/May	31,772	2,627	11,139	1,019
03/June	123,483	8,276	59,240	6,010
03/July	310,702	15,694	118,956	10,500
03/August	560,218	23,365	168,064	13,604
07/September	837,978	30,905	230,271	16,394

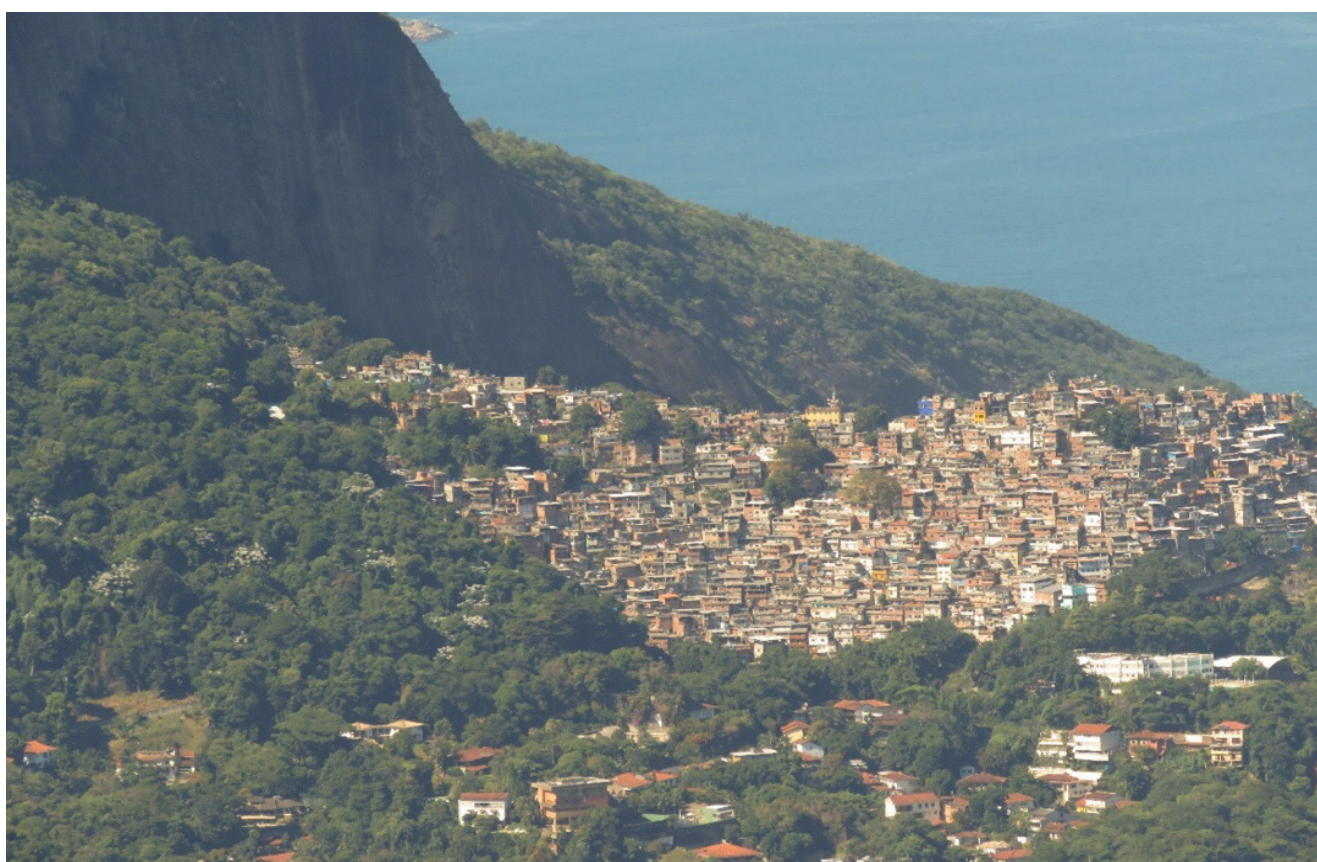


Figure 1: Typical favela surrounded by forest located at the base of a hill in the city of Rio de Janeiro, Brazil.

la residents. In addition, Table 2 shows the current numbers of cases and deaths caused by COVID-19 in the main Rio de Janeiro's favelas. Taken together, this panel aims to support preventive actions carried out by community movements, as well as to pressure the federal government to create public health policies to protect this vulnerable group, which has been marked by a historical neglect over generations by the public sector. Therefore, the fight against the current pandemic has been left to civil society [6].

After seven months that the current coronavirus pandemic has been declared a public health emergency by Brazil, to date, favela residents have yet to deal with a public system that has not offered minimal conditions to combat this viral disease. In Box 1, the main emergency problems and chal-

lenges have faced by Brazilian favelas are highlighted. It is known that, to mitigate the rapid spread of COVID-19, multifactorial public health measures are required, such as mass testing, population awareness, isolation, social distance and contact tracking [8]. However, these measures are far from being a reality to be achieved for people living in the favelas. Thus, the bleak situation in Brazilian favelas raises concerns and leaves doubts about the ways of COVID-19 in these places on the margins of public health services. Box 1 - Summarizes the current situation of Brazilian favelas in the context of the COVID-19 outbreak [5,6,9].

Conflicts of Interest

The author declares no conflict of interest.

Box 1: Summarizes the current situation of Brazilian favelas in the context of the COVID-19 outbreak [5,6,9].

- Lack of tests resulting in high lethality rates in favelas, where most people depend on the public health system.
- It takes about two weeks to schedule the exam and up to one month to receive the results.
- Underreporting in the number of cases and deaths masking the sad reality in the favelas.
- Divergencies between data disclosed by different levels of the Brazilian government, such as Ministry of Health, and State and Municipal Secretaries.
- Favela residents are plagued by fear of supply shortages.
- High rate of “community transmission”, where it is practically impossible to trace the route of infection.
- 60% of Rio's favela youths have lost more than half of their income.
- 60% of the favela residents, who are not working or relying on donations, have income to stay for a maximum of one week.
- The low family income has forced the residents of the communities to leave to work, usually in regions far from their homes.
- Both non-governmental organizations and resident-led initiatives have taken responsibility for mitigating the coronavirus pandemic in the face of insufficient public policies.

Table 2: Number of accumulated cases and deaths caused by COVID-19 in the Rio de Janeiro's favelas with the highest transmission rate. The data were obtained from COVID-19-unifying panel in favelas with last update on September 14, 2020 [7].

Rio de Janeiro's favelas	Number of cases	Number of deaths
Complexo da Maré	1,667	126
Comunidade do Engenho	873	128
Comunidade Sem Terra	553	189
Complexo da Penha	538	43
Morro do Carvão	532	126
Complexo do Jacaré	493	53
Complexo do Alemão	491	44
Comunidade de Chaperó	487	85
Rocinha	391	62
Vidigal	356	19
Cidade de Deus	347	65

Acknowledgments

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Ethical Approval

Not required.

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